

REPATRIATES AND REVERSE KNOWLEDGE TRANSFER IN MNCs¹

Sanchez-Vidal, Maria Eugenia

Associate Professor of Management. Polytechnic University of Cartagena (Spain)

Sanz-Valle, Raquel

Associate Professor of Management. University of Murcia (Spain).

Barba-Aragon, Maria Isabel. University of Murcia (Spain).

Corresponding author

Associate Professor of Management. University of Murcia (Spain).

Department of Management and Finance

Facultad de Economía y Empresa

Campus de Espinardo. Espinardo 30100

Murcia (Spain)

E-mail: isabarba@um.es

Tel.: +34 868884285

¹ The authors acknowledge the funding received from the Spanish Ministry of Science and Technology (research project ECO2009-12825) to undertake this research.

REPATRIATES AND REVERSE KNOWLEDGE TRANSFER IN MNCs

Abstract

There is widely-held assumption that knowledge is one of the most important drivers of firm's performance. Multinational companies (MNCs) have the potential advantage of acquiring and utilizing knowledge across borders. But for this potential advantage to become real, the knowledge generated in any of their units around the world should be transferred to their other units. This paper adopts an innovative approach for the study of intra-MNC knowledge transfer by focusing on the role of repatriates as transferors of knowledge from foreign subsidiaries to the headquarters, which is an under-research topic. In particular, the paper studies the impact of repatriates' abilities and motivation to share knowledge (disseminative capacity) on the transfer of knowledge from subsidiaries to headquarters (reverse knowledge transfer). In addition, the paper examines the determinants of repatriates' disseminative capacity. After reviewing the relevant literature and proposing the hypotheses, this paper presents an empirical research with a sample of Spanish MNCs. The findings provide evidence that repatriates' disseminative capacity is positively associated to reverse knowledge transfer. The paper also identifies some drivers of this: the knowledge the repatriates acquired during the expatriation and the firm's international assignments policy.

Keywords: knowledge transfer, reverse knowledge transfer, repatriates, disseminative capacity, organizational support.

1. Introduction

Over the last decades, there has been a general recognition that knowledge is one of the most strategic resources (Grant, 1996). For MNCs, knowledge is even more important (Gupta and Govindarajan, 2000; Lazarova and Tarique, 2005; Rabbiosi and Santangelo, 2013) since they face more intense competition and a higher number of changes in the countries they operate in.

According to the literature, MNCs are considered to have more opportunities to leverage their knowledge-based resources than domestic firms. Furthermore, today, the main advantage of MNCs is considered to lie in their ability to acquire and utilize knowledge across borders

(Kogut and Zander, 1993; Gupta and Govindarajan, 2000; Bonache and Zarraga-Oberty, 2008; Michailova and Mustaffa, 2012).

For this potential advantage to become real, knowledge generated in any unit of the MNC should be transferred to the other units. However, knowledge transfer is far from being an easy process (Kostova, 1999), especially when there is a geographical and cultural distance between the firm's units, as in the case of MNCs (Szulanski, 1996). This is because some knowledge is of tacit nature, that is, it cannot be codified or easily communicated through files, emails, manuals, etc. (Nonaka, 1991) but needs interaction between people. Due to its characteristics, tacit knowledge is more valuable to organizations because it is difficult for competitors to imitate (Larazova and Tarique, 2005) but, at the same time, it is more complex for the international companies to transfer among their different organizational units. In this line, some studies provide evidence that for intra-MNC knowledge transfer, person-to-person communication is better than other communication mechanisms (Piscitello and Rabbiosi, 2006; Schotter and Bontis, 2009). Recent literature defends that international assignments are one of the most effective ways to facilitate knowledge transfer within MNCs (Berthoin Antal, 2001; Bonache and Brewster, 2001; Minbaeva et al., 2003; Suutari and Brewster, 2003; Minbaeva and Michailova, 2004; Lazarova and Tarique, 2005; Bonache and Zarraga-Oberty, 2008; Oddou et al., 2009; Nery-Kjerfve and McLean, 2012; Gonzalez and Chakraborty, 2014; Burmeister et al., 2015).

Research on the relationship between international assignments and knowledge transfer within MNCs has focused on the role of expatriates in the transfer of knowledge from the headquarters to their foreign subsidiaries (Bonache and Brewster, 2001; Minbaeva et al., 2003; Minbaeva and Michailova, 2004; Riusala and Suutari, 2004; Bonache and Zarraga-Oberty, 2008; Fang et al., 2010). Recent literature indicates that expatriation is a very enriching experience with allows employees to acquire new and highly valuable knowledge (Brewster and Suutari, 2005; Fink et al., 2005; Furuya et al., 2009; Oddou et al., 2009; Oddou et al., 2013) and that it is critical that expatriates transfer this knowledge to the parent company when they return from international assignments, that is to say, when they are repatriated. However, the contribution of repatriates to the process of knowledge transfer within the MNCs is still an under-researched topic (Nery-Kjerfve and McLean, 2012; Huang et al., 2013; Burmeister et al., 2015). Few papers focus on this issue, and most are conceptual articles (Lazarova and Tarique, 2005; Sanchez-Vidal and Lemmergaard, 2008; Oddou et al., 2009; Nery-Kjerfve and McLean, 2012; Gonzalez and Chakraborty, 2014). Empirical research

is very limited and mainly qualitative (Berthoin Antal, 2001; Fink et al., 2005; Oddou et al., 2013; Burmeister et al., 2015)

The purpose of this research is to fill this gap in the literature. The paper focuses on the role of repatriates in the process of knowledge transfer within MNCs. In particular, it studies the impact of their abilities and their motivation to share knowledge, known as disseminative capacity (Minbaeva and Michailova, 2004), on the degree of knowledge transferred from the subsidiaries to the headquarters. In addition, this paper examines the main factors that could encourage repatriates' disseminative capacity.

The paper is structured as follows. It begins with a review of the literature and the formulation of the hypotheses. Next, we test the hypotheses using a sample of Spanish MNCs. Finally, we discuss our findings together with an examination of the main contributions, limitations and future research lines deriving from the study.

2. Literature review

2.1. Reverse knowledge transfer and repatriates' disseminative capacity

MNCs have been defined as dispersed knowledge systems with the ability to transfer and exploit knowledge across borders (Fang et al., 2010) and as organizations whose advantage derives from their ability to acquire and utilize knowledge across borders (Gupta and Govindarajan, 2000; Michailova and Mustaffa, 2012). Traditionally, literature on knowledge transfer within MNCs has seen the knowledge flow process as unidirectional, from the parent firm to its foreign subsidiaries. However, in recent years, an increasing number of studies have pointed to the strategic relevance of going abroad not only to exploit the knowledge generated at home but also to explore for new knowledge and to bring it back home (Ambos et al., 2006; Eden, 2009; Michailova and Mustaffa, 2012, Najafi-Tavani et al., 2012; Kumar, 2013; McGuinness et al., 2013; Rabbiosi and Santangelo, 2013; Chung, 2014; Mudambi et al., 2014). The limited empirical research on this issue provides evidence that knowledge transfer from foreign subsidiaries to the parent organization, which is known as reverse knowledge transfer (Eden, 2009; Oddou et al., 2009), has a positive impact on the competitive advantage of the MNCs (Ambos et al., 2006; Phene and Almeida, 2008; Rabbiosi and Santangelo, 2013; Mudambi et al., 2014).

Reflecting the growing interest on the study of reverse knowledge transfer, recent work has drawn attention to the role in this process of expatriates who are sent on overseas assignments and then return to the parent unit, that is to say, the repatriates (Eden, 2009; Oddou et al., 2009). This approach defends that expatriation offers the opportunity to acquire knowledge abroad and, thus, repatriation creates the opportunity to transfer and apply this knowledge in the firm (Lazarova and Tarique 2005; Nery-Kjerfve and McLean (2012). But, as Lazarova and Tarique (2005) note “successfully harvesting knowledge upon repatriation is not automatic”.

Oddou et al., (2009) propose a model comprising the key components in the repatriates' knowledge transfer process. Like other researchers who utilize communication theory to model knowledge flows within a single unit (Gupta and Govindarajan, 2000), or from headquarters to their subsidiaries (Minbaeva, 2007; Bonache and Zarraga-Oberty, 2008; Fang et al., 2010), Oddou et al., (2009) conceive repatriate knowledge transfer as a process of sending and receiving information whose main components are the knowledge transferors (the repatriates), the knowledge recipient (the parent organization), and the relationships between them.

This paper focuses on the transferors of the knowledge, that is to say, the repatriates. Their role in the reverse knowledge transfer is highlighted in the literature (Berthoin Antal, 2001; Eden, 2009; Oddou et al., 2009; Gonzalez and Chakraborty, 2014; Burmeister et al., 2015). First, because during expatriation, the employees are exposed to a wide variety of experiences, new ideas, different business practices, markets and cultures that can benefit the headquarters after the termination of the international assignment (Fink et al., 2005; Furuya et al., 2009; Oddou et al., 2009; Nery-Kjerfve and McLean, 2012; Oddou et al., 2013). Thus, repatriates are potential sources of knowledge for the whole company. Second, because the process of knowledge transfer from the repatriate to the parent unit is usually initiated by the repatriates. Berthoin Antal's (2001) study of reverse knowledge transfer in two German companies confirms this assumption. Oddou et al., (2013) obtained the same conclusion from their research based on the interviews to forty seven repatriates.

Thus, repatriates' characteristics are expected to influence the degree in which they transfer the knowledge they acquired abroad, in particular, their ability and motivation to transfer knowledge. Minbaeva and Michailova (2004), which focuses on the role of expatriates in the knowledge transfer process from headquarters to their foreign subsidiaries, refer to the ability and motivation of knowledge senders as “disseminative capacity”.

The idea that knowledge senders need to be able and motivated to perform successful knowledge transfer is widely accepted in the literature on the role of expatriate in intra-MNCs knowledge transfer (i.e. Gupta and Govindarajan, 2000; Minbaeva and Michailova, 2004; Bonache and Zarraga-Oberty, 2008). In this line, Minbaeva and Michailova (2004) suggest that knowledge sharing depends on the ability of the transferor to communicate his/her knowledge in a way the receiver can understand, and also on their willingness to transfer. The latter is relevant because individuals are often reluctant to share knowledge (Zarraga-Oberty and Bonache, 2005). Hence, it is possible that repatriates fail to efficiently transfer knowledge not because they are incapable, but because they are unwilling. Husted and Michailova (2002) explains six reasons for knowledge sender's hostility towards sharing their knowledge, among them, the fear of losing value and bargaining power, the protection of individual competitive advantages, the fear of hosting "knowledge parasites" or, just, to avoid spending time on knowledge sharing.

The study of Minbaeva and Michailova's (2004) provides some empirical support for the idea that expatriates disseminative capacity is related to knowledge transfer from headquarters to their subsidiaries. As far as we know, there are no quantitative study examining the relationship between repatriates disseminative capacity and reverse knowledge transfer. However, conceptual research on this topic (Oddou et al., 2009; Nery-Kjerfve and McLean, 2012) defends that repatriates disseminative capacity is a determinant of reverse knowledge transfer and the findings of the qualitative research developed by Oddou et al., (2013) provides initial support for this idea. Based on these studies, we propose that:

H₁: The higher the repatriates' disseminative capacity, the higher the reverse knowledge transfer.

2.2. Determinants of repatriates' disseminative capacity

If repatriates' disseminative capacity is expected to affect the degree of reverse knowledge transfer, it is important to study how to enhance it. We focus on organizational factors and, based on literature review, we propose that repatriates' disseminative capacity is driven by the level of knowledge the repatriates have gained abroad as well as by the company' international assignments policy and practices.

2.2.1 Knowledge acquired and repatriates disseminative capacity

In the field of International human resource management, there is a widely-held assumption that expatriation is a very enriching experience which provides employees with knowledge of high value for the firm (Fink et al., 2005; Oddou et al., 2013). Fink et al., (2005) identified five categories of knowledge acquired during expatriation: 1) market-specific knowledge, 2) personal skills, 3) job-related management skills, 4) networking skills, and 5) general management capacity.

Regarding market knowledge, the literature suggests that an expatriation assignment allows employees to learn about the local political, social, and economic environments the subsidiaries are located in (Lazarova and Caligiuri, 2001; Subramaniam and Venkaytaman, 2001; Fink et al., 2005; Lazarova and Tarique, 2005). Thus, the expatriate learns how to conduct business in the foreign country and about the differences between home and local cultures and customs. Expatriates also become aware of the international opportunities deriving from the global market, as they are able to examine and understand the current trends/markets conditions, and they know how to compete by their ability to match the international standards (Jokinen, 2004).

Personal skills are a second category of knowledge that expatriation provides employees. Among them, Fink et al. (2005) find broader mentality, intercultural skills, greater tolerance, openness, more self-assurance, and higher levels of flexibility. These soft personal skills are a consequence of a cross-cultural experience that requires emotional maturity and self-learning rather than simply logical or intellectual learning (Jokinen, 2004), and they are closely linked to the personality of the individual. This is an important aspect in today's competitive world, as employees need to be flexible and communicate easily with people coming from different backgrounds (Oddou and Mendenhall, 1991).

Job-related skills are another type of knowledge the employee acquires during the expatriation. During the international mission, expatriates need to develop or improve job-related management skills as they have to deal with a new job abroad and perform different type of tasks (Jokinen, 2004). Upon their return, repatriates may use these technical knowledge and professional skills in daily management at home and, may transfer them to their colleagues.

Expatriation also provides employees with network knowledge (Caligiuri and Santo, 2001; Lazarova and Caligiuri, 2001; Lazarova and Tarique, 2005). By sharing experience, physical

proximity, and extended face-to-face interaction, during assignment, expatriates create strong ties that, on average, are richer and longer-term than other cross-border relationships. When employees are repatriated, they still have their business and foreign contacts, which it should be in the interests of the company to maintain.

Finally, expatriation can help to improve general management capacity. According to several authors the international experience increases one's knowledge about the world wide business structure of the organization and helps to create a better understanding of the international organization (Caligiuri and Santos, 2001; Lazarova and Tarique, 2005). Moreover, the literature highlights the importance of being able to see the business as a whole, as this constitutes a key qualification for future top-management positions (Bonache and Brewster, 2001; Bossard and Petterson, 2005).

In sum, the expatriation allows the employees acquire a number of knowledge and behavioural skills that are tacit and difficult to develop without immersion experiences in other cultures. These knowledge and skills are a potentially valuable to their firms but they also imply a significant personal growth for the own employees (Oddou et al., 2013) which can improve their disseminative capacity.

In this line, Oddou et al. (2009) suggest that the expertise the repatriates acquired abroad increases their "ability to draw attention to their knowledge". Furthermore, among the skills the repatriates interviewed in the qualitative research developed by Oddou et al. (2013) reported to have gained during the internationals assignments are self-confidence, effective communications abilities, and ability to influence others. These skills can improve repatriates disseminative capacity. Thus, we propose:

H₂. The higher the knowledge acquired by the repatriates abroad, the higher their disseminative capacity.

2.2.2. International assignments policy and practices and repatriates disseminative capacity

Apart from having acquired knowledge abroad, the scarce literature on the repatriates' abilities and motivation to transfer such knowledge suggests other variables as their antecedents. Some of them are related to employee characteristics: intercultural personality characteristics and self-adjustment (Furuya et al., 2009); ability to develop social networks at work and commitment toward the work unit and the organization (Oddou et al., 2009). Organizational policies and practices are also considered to affect repatriates disseminative

capacity. Among them, some studies focus on the international assignments practices, that is to say, on how the firms manage the expatriation and repatriation processes and the support they provide to their international employees (Berthoin Antal, 2001; Furuya et al., 2009; Oddou et al., 2013). Finally, other studies centre their attention on the adoption of knowledge management mechanisms (Huang et al., 2013).

Since the later mechanisms have an influence not only on the repatriates' disseminative capacity but also on the organization absorptive capacity, this paper focuses on how the firm manages their international assignments practices. Furthermore, the literature in the field of repatriates' adjustment difficulties shows that the lack of organizational support during the expatriation and repatriation processes usually leads to problems in repatriates' adjustment once they have returned from a international assignment, which affects their performance and can even lead them to leave the firm (i.e. Lazarova and Caligiuri, 2001; Sanchez-Vidal et al., 2007; Kraimer et al., 2009). For instance, Furuya et al. (2009) note that practices facilitating the smooth re-entry of repatriates will encourage and assist them to use and apply the skills, knowledge or competences acquired abroad. That is to say, the expatriation and repatriation practices and the support the firms provide to their international employees can affect repatriate's disseminative capacity.

Research on the relationship between international assignments practices and repatriates' knowledge transfer is very scarce. We have only found one quantitative study on this issue, that developed by Furuya et al. (2009). This paper analyses the factors affecting repatriates' knowledge transfer based on a survey of 305 repatriated employees of five Japanese MNCs. According to their results, organizational support to employee before and after the repatriation can enhance readjustment to the home office, as well as the ability of repatriates to engage in knowledge transfer activities upon return. Other researches also suggest that international assignments practices facilitate or hinder repatriate's ability and motivation to transfer the knowledge acquired abroad (Berthoin Antal, 2001; Nevy-Kjerfve and McLean, 2012; Oddou et al., 2013).

Regarding the practices that should be adopted before the employee 'repatriation, one that is considered very important is that firms foster communication between employees and headquarters during the expatriation (Berthoin Antal, 2001; Furuya et al., 2009; Oddou et al., 2013). In this line are the findings of the case study developed by Berthoin Antal (2001), which show that insufficient communication with the expatriate abroad means that the home organization is not in touch with what the expatriate is learning and could contribute on his or

her return. In addition, maintaining a close communication with the employees while they are abroad may reduce the “out of sight, out of mind” syndrome that a number of repatriates mentioned and, as a consequence, it may facilitate their re-entry (Oddou et al., 2013) and, therefore, their ability and motivation to share the knowledge they acquired abroad.

The repatriation practices are also considered to have an effect on the ability and motivation of repatriates to transfer knowledge (Berthoin Antal, 2001; Furuya et al., 2009; Nery-Kjerve and McLean, 2012; Oddou et al., 2013). First, the support the firm provides to the repatriate in this process is suggested to facilitate repatriate’s disseminative capacity through its positive effect on his/her re-entry (Furuya et al., 2009). The selection of the post to which the expatriate will return is also an essential factor according to the literature. When this post is not related with the job the employee had abroad the opportunity to transfer the knowledge acquired during the expatriation is lower (Nery-Kjerve and McLean, 2012; Oddou et al., 2013). Another factor the literature highlights as determinant of the repatriates’ knowledge transfer is how much the firm values the international experience and the knowledge and skills they have acquired abroad (Berthoin Antal, 2001; Lazarova and Tarique, 2005; Furuya et al., 2009; Nery-Kjerve and McLean, 2012; Oddou et al., 2013). In this line, Nery-Kjerve and McLean (2012) suggest that repatriates will be more willing to share their knowledge when they “feel valued by the organization and are seen by others as valuable reservoirs of knowledge”.

In addition to the adoption of specific expatriation and repatriation practices, in order to foster the transfer of repatriates’ knowledge, the literature recommends that the expatriation and repatriation processes be treated as a whole cycle (Oddou et al., 2013). That is to say, that the different decisions regarding expatriation and repatriation are not made “in an ad hoc and fragmented way” (Berthoin Antal, 2001) but that firms show a consistent and systematic policy regarding international assignments (Furuya et al., 2009), and that career planning be a strategic aspect on the international assignments (Oddou et al., 2013).

Hence, we propose the following hypotheses:

H₃. The higher the organizational support during the expatriation and repatriation, the higher the repatriates’ disseminative capacity.

H₄. The higher the consistency of the international assignment policy, the higher the repatriates’ disseminative capacity.

The four hypotheses proposed in this paper are summarized in the theoretical model set out in figure 1.

INSERT FIGURE 1

3. Methodology

3.1. Sample and data collection

As the focus of this paper is reverse knowledge transfer, that is to say, the benefits the MNCs can obtain from the knowledge their repatriates acquired during their assignments abroad, the unit of analysis in this research is the company. In particular, this research focuses on Spanish MNCs. Inclusion criteria were having at least one subsidiary in a foreign country, having more than 100 employees, and tenure over 5 years. According to the Amadeus database, the number of MNCs fulfilling these requirements in Spain was 1397.

To collect the information required for testing the hypotheses, a questionnaire survey methodology was chosen. The questionnaire was designed in English, translated into Spanish, and back-translated to check its accuracy (Brislin, 1970). Selecting appropriate respondents was critical to obtain reliable information. It was decided to address the questionnaire to the HR (human resources) manager of the headquarters because they are usually the responsables of the expatriation and repatriation processes. Thus, when the company needs to assign an employee abroad, they are who select that employee and who manage all the expatriation process, as well as the employee repatriation, and, as a consequence, they know both, the firm's international assignments practices and the main characteristics of the employees that are expatriated. The research of Minbaeva and Michailova (2004), which examines the link between expatriate disseminative capacity and knowledge transfer from headquarters to subsidiaries, uses the HR managers of the subsidiaries (the knowledge recipient unit in that study) as respondents.

A specialized market research company collected the data through phone interviews. The company called the target respondent and explain him/her the purpose of the survey and the research process. The company also provided the respondent with authors' emails and telephones and offers the respondent to contact with them to ask for a report of the research

main findings. Quality of data collection was monitored by contacting with a randomly selected sample of the firms that had answered the questionnaire. Surveying took place over a period of 4 months, from September to December 2012.

A total of 193 completed questionnaires were obtained (a response rate of 13.84%). However, not all of these companies in the sample had repatriates that had returned to the parent unit in the previous 3 years. Thus, these companies were discarded and hypotheses were tested using data from the 115 companies that had at least one repatriate. 38% of the participants belong to industrial sector, 56 to the service sector and 6% to the construction sector. The mean of employees in the sample is 2530. The mean of foreign countries in which the companies had subsidiaries is 16.43. In the moment we collected data, they had a mean of 22.48 expatriates and the mean of repatriates they had that had returned in the previous three years were of 11.34. It is interesting to say that this number was lower than 10 for almost 80% of the companies in the sample.

3.2. Measures

The key variables in this study were measured using 5-point Likert scales based on previous literature. Respondents were asked to respond to the questions about repatriate's disseminative capacity, knowledge acquired abroad, and reverse knowledge transfer, regarding the parent unit employees that had made an expatriation and had been repatriated in the previous 3 years.

Reverse knowledge transfer was operationalized as a composite measure. Based on the studies of Rabbiosi and Santangelo (2011 and 2013), we asked the respondents for the degree to which different firm's operations had benefit from the use of the knowledge and skills the repatriates had acquired abroad. These activities were: purchasing, manufacturing and process, R&D, logistics and distribution, marketing and sales, human resource management, quality management, finance, alliance management and general management. This scale were constructed from the scales used in previous studies (Gupta and Govindarajan, 2000; Minbaeva and Michailova, 2004; Rabbiosi and Santangelo, 2011 and 2013). After the scale depuration process, through both exploratory and confirmatory factor analyses, this construct included six items.

Repatriates disseminative capacity. Following Minbaeva and Michailova (2004) research, this variable was measured using a 2-item scale. The respondents were asked to evaluate the

ability and willingness of repatriates (those who has returned to the parent company within the last three years) to share their knowledge.

Knowledge acquired abroad. To measure this variable we asked respondents to what degree they perceived that employees had acquired different types of knowledge during expatriation: market specific knowledge, personal skills, job-related management skills, network knowledge and general management capacity. Items were taken from Fink et al. (2005). After scale deputation, the construct was composed of two items: market specific knowledge and general management capacity.

Organizational support during expatriation and repatriation was measuring using a 6-item scale based on the study of Furuya et al., (2009). This scale assessed the level of organizational support given to employees during the expatriation and when they were repatriated. The items comprised in this scale were: the company fosters communication between employees and headquarters during the expatriation; the company informs them about the repatriation conditions; firm provides employees with training before repatriation to facilitate their adjustment; firm supports employees in the repatriation process; the post the repatriates are assigned are similar to those they had abroad; and the company values the international experience acquired. After scale deputation, the construct included five items. The item regarding the post the repatriates were assigned at their return was eliminated.

International assignments policy. Based on Furuya et al., (2009) this variable was measured using a 2-item scale, which assessed whether the company shows a consistent and systematic international assignment policy and whether expatriations are associated to employees' career development.

Control variables. Since the international experience of the company may affect reverse knowledge transfer, it was included in the analysis as a control variable. In this paper, we measure it by the number of foreign countries in which the company had subsidiaries and by the number of subsidiaries the company had abroad. The meta-analysis developed by Baush and Krist (2007) show that these variables have been used in the international management field to measure the international experience of a MNC. A third variable that was included as a control variable in this study is the percentage of employees in the parent unit that have international experience. This variable has been used in the literature to capture the receptivity of the employees in the knowledge recipient unit and it has been proved to affect knowledge transfer (Bonache and Brewster, 2001; Minbaeva et al., 2003; Fang et al., 2010). The variable

number of subsidiaries was taken from the AMADEUS database. The control variables were recoded on the same scale as the rest of the variables.

3.3. Reliability and validity check

According Anderson and Gerbing (1988), a two step procedure is necessary to assess the measurement model. In the first stage, confirmatory factor analysis (CFA) is used to test the goodness of fit of the measurement scales. In the second one, the proposed hypotheses are analysed with structural equation models (SEM).

To test the single dimensionality of each construct, a confirmatory factor analysis was conducted employing all the items so as to analyse their dimensionality (Montoya-Weiss and Calantone, 1994; Alegre et al., 2006).

CFA adjustment measures were estimated using EQS v.6.1 for Windows. The results of the confirmatory factor analysis to test the validation of the measures ($\chi^2_{(109)}=152.67$; BNNFI=0.944; CFI=0.955; IFI=0.956; RMSEA=0.058) show a good fit for the measurement model. The indicators are within the parameters indicated in the literature (Fornell and Larcker, 1981; Anderson and Gerbing, 1988; Podsakoff et al., 2003).

Reliability of the measures was calculated with the indicators proposed by Fornell and Larcker (1981) and Bagozzi and Yi (1998 and 2012) of Average Variance Extracted Index (AVE) and Composite Reliability Index (SCR), respectively. The analyses indicate that all the scales have a suitable value of composite reliability (SCR), higher than 0.7. With respect to the average variance extracted (AVE), all scales value is higher than the recommended limit of 0.5. In table 1 Cronbach alpha, SCR and AVE are presented about each factor.

INSERT TABLE 1

Finally, discriminant validity is showed first since the confidence interval (± 2 standard error) around the correlation estimate between any two latent indicators never includes 1.0. Discriminant validity also was tested by comparing the square root of the AVEs for a particular factor to its correlation with the other factors. Following the recommendations of Fornell and Larcker (1981), discriminant validity was confirmed.

4. Results

Table 2 shows the means and standard deviations and correlations between variables of the model.

INSERT TABLE 2

The theoretical model was tested with structural equation model (SEM) using the statistical program EQS 6.1 for Windows (Bentler, 1995). Results are presented in Figure 2 and Table 3. They show that the measures of fit of the SEM are within the parameters recommended in the literature, so there is an adequate fit ($\chi^2_{(151)}=230.998$; BNNFI=0.900; CFI=0.920; IFI=0.923; RMSEA=0.068). This is another indicator that supports the validity of these scales (Churchill, 1979).

INSERT FIGURE 2

INSERT TABLE 3

Empirical findings provide support to Hypothesis 1, which proposes that the repatriates' disseminative capacity has a positive effect on reverse knowledge transfer ($\beta = 0.360$; $p < 0.01$).

The findings also support Hypothesis 2 ($\beta = 0.795$; $p < 0.01$), showing that the degree in which repatriates acquired knowledge abroad has a positive effect on their disseminative capacity.

Hypothesis 3, contrary to our expectations, is not supported by our findings. That is to say, they do not show that the degree of organizational support the international employee receive both, in the expatriation process and in the repatriation process, is associated with its disseminative capacity.

On the contrary, according to our findings, disseminative capacity is related to the whole international assignments policy of the firm ($\beta = 0.279$; $p < 0.01$), which provide support to hypothesis 4.

5. Discussion

The purpose of this paper was to study the relationship between repatriates' disseminative capacity and reverse knowledge transfer, and to analyze how to enhance that capacity. Although recent literature highlights the role of repatriates in the process of knowledge transfer within the MNCs, the empirical research on this issue is still very limited and mainly qualitative (Berthoin Antal, 2001; Fink et al., 2005; Oddou et al., 2013; Burmeister et al., 2015). This paper shows the findings of a quantitative study designed to test the hypotheses proposed from the review of previous literature.

First, this study provides evidence supporting the idea that repatriates' disseminative capacity plays a key role in the reverse knowledge transfer process, meaning that repatriates are key elements for international companies to obtain benefits from their international exposure to knowledge. The relationship between transferor disseminative capacity and knowledge transfer had found support in previous studies focusing on the role of the expatriate in the process of knowledge transfer from the headquarters to the subsidiary (Minbaeva and Michailova, 2004) and is consistent with conceptual research on repatriates' knowledge transfer (Oddou et al., 2009; Nery-Kjerfve and McLean, 2012) and the findings of the qualitative research developed by Oddou et al. (2013).

Second, the findings allow the identification of some drivers of repatriates' disseminative capacity. On the one hand, as also propose previous research (Oddou et al., 2009), we found that the knowledge acquired by the repatriates during the expatriation affects their disseminative capacity. As far as we known, no previous research has examined empirically this relationship before but literature has suggested that the knowledge and skills the international experience provides the employees may improve their disseminative capacity.

Our findings also show that repatriates' disseminative capacity is higher when the firm has a consistent and systematic international assignment policy and whether expatriations are associated to employees' career development, what is consistent with previous research (Berthoin Antal, 2011; Furuya et al., 2009; Oddou et al., 2013). In spite of that, our findings do not provide support to the hypothesis that organizational support during the expatriation and repatriation fosters repatriate's disseminative capacity. This result is in contrast with conceptual articles on the topic (Lazarova and Tarique, 2005; Furuya et al., 2009; Nery-Kjerfve and McLean, 2012) as well as with the few empirical studies that examine the repatriates' knowledge transfer (Berthoin Antal, 2001; Furuya et al., 2009). One likely

explanation for this result is that in order to increase the ability and motivation of repatriates to transfer their knowledge the expatriation and repatriation processes should not be made “in an ad hoc and fragmented way” (Berthoin Antal, 2001) but they should be treated as a whole cycle. That is to say, that firms should have a consistent and systematic policy regarding international assignments (Furuya et al., 2009) in which career planning is a strategic aspect on an international assignment (Oddou et al., 2013). Future research should study this idea more in depth.

5.1. Contributions to the literature

This paper contributes, first, to the literature on intra-MNC knowledge transfer, in particular to the recent research which highlights the relevance that reverse knowledge transfer has for MNCs and that tries to identify its main drivers (Ambos et al., 2006; Eden, 2009; Michailova and Mustaffa, 2012, Najafi-Tavani et al., 2012; Kumar, 2013; McGuinness et al., 2013; Rabbiosi and Santangelo, 2013; Gonzalez and Chakraborty, 2014). This paper provides evidence that repatriates may facilitate the transfer of knowledge from the subsidiaries to the headquarters. As it was mentioned before, although recent research defends this idea, as far as we know, this is the first quantitative research examining the link between reverse knowledge transfer and repatriate’s disseminative capacity.

In addition, this paper contributes to the field of repatriation management. Research on the repatriation process has been increased during the last decade. However most of the studies have focused on the problems of adjustment the employee suffers when he/she returns from an international assignment, the effect these problems have on repatriate’s retention and what international assignments practices and policies improve repatriate’s adjustment (i.e. Lazarova and Caligiuri, 2001; Sanchez-Vidal et al., 2007; Kraimer et al., 2009). This paper suggests that those practices and policies may also facilitate that MNCs benefit from the knowledge and skills their repatriates acquire during the expatriation. Furthermore, our findings provide evidence of the importance of having an international assignment policy that is consisted and linked to the career development of the individual.

5.2. Implications for practitioners

The findings of this paper have also implications for practitioners.

On the one hand, they show that repatriates' ability and motivation to transfer their knowledge determines the degree in which the company may benefit from the knowledge and skills they acquired during the expatriation. The implication of this result is that companies should view repatriation as an opportunity to leverage their knowledge-based assets and that, in order to benefit from the knowledge employees acquire during their international assignments, they should try to enhance repatriates' disseminative capacity.

On the other hand, the findings of this paper provide some ideas regarding how to improve that disseminative capacity. According to them, it is enhanced by the knowledge and skills the repatriate acquired abroad, those that are related to the subsidiary market and with the general management capacity. Thus, practitioners should try to assign the employee to a position within the subsidiary which allows he/she acquires such a knowledge and skills.

Finally, paper' findings suggest that other factor that improves repatriates ability and motivation to transfer their knowledge is the international assignment policy as a whole. In particular, that it is consistent and that links expatriation to the career development of the employee.

5.3. Limitations and future research lines

The results and implications of this paper should not be interpreted without recognizing the potential limitations of this study.

First, the cross-sectional design of this study may constrain both the observation of multiple long-term effects of each variable and the elucidation of causal relationships between the variables. This limitation could be avoided by employing in the future a longitudinal study design. Another limitation is that the availability of only one source of information, which may result in a bias. Furthermore, it would have been better measuring repatriates' disseminative capacity and knowledge acquired abroad by asking to the own repatriates. Third, the process of depuration of scales used to measure the variables of the model make us to erase some expatriation and repatriation practices that literature considers important determinants of the ability and motivation of repatriates to transfer their knowledge, being post after return one of the most important. This has prevented the analysis of the effect of these variables on repatriate' disseminative capacity and, in addition, may have affected the findings regarding hypothesis 3.

Future research should not only broach the limitations indicated herein, but we also consider that it would be of interest to go deeper into the relations addressed in the model. In this line, we propose to add to our model some individuals of repatriates that the literature suggests that affect repatriates disseminative capacity as intercultural personality and self-adjustment (Furuya et al., 2009), ability to develop social networks at work, and commitment toward the work unit and the organization (Oddou et al., 2009).

Another way to enrich the model is by analysing whether the effect of repatriates' disseminative capacity on reverse knowledge transfer is moderated by some factors the literature considers as determinants of reverse knowledge transfer. For instance, the role of the foreign subsidiary the employee was assigned to (Rabbiosi and Santangelo, 2013) or headquarters' managerial intentionality regarding knowledge transfer (Chung, 2014). Related with this, the paper of Huang et al (2014) is very interesting and shows that the use of formal and informal knowledge governance mechanisms influences repatriate's knowledge sharing behaviour.

In addition, following Oddou et al. (2009), it would help to advance in the research of repatriates' knowledge transfer to consider also the parent unit' ability and motivation to receive knowledge, that is to say, its absorptive capacity, as well as the relationship between repatriates and the parent unit.

Apart from enrich the model by adding other variables that can explain reverse knowledge transfer, another challenge for future research is engaging in multi-level studies. As Michailova and Mustaffa (2012) note they would help to "capture most of the nested complexity of knowledge flows".

References

- Alegre, J., Lapidra, R., Chiva, R. (2006). A measurement scale for product innovation performance, *European Journal of Innovation Management*, 9 (4), 333-346.
- Ambos, T.C., Ambos, B. & Schlegelmilch, B.B. (2006). Learning from foreign subsidiaries: An empirical investigation of headquarters' benefits from reverse knowledge transfers, *International Business Review*, 15(3): 294-312.
- Anderson, J.C. & Gerbing, D.W. (1988). Structural Equation Modeling In Practice: A Review And Recommended Two-Step Approach, *Psychological Bulletin*, 103, 411-423.

- Bagozzi, R.P. & Yi, Y. (1998). On The Evaluation Of Structural Equation Model, *Journal of the Academy of Marketing Science*, 16, 74-94.
- Bagozzi, R.P. & Yi, Y. (2012). Specification, evaluation, and interpretation of structural equation model, *Journal of the Academy of Marketing Science*, 40, 8-34.
- Bentler, P.M. (1995). *Eqs Structural Equations Program Manual*, Encino, Ca, Multivariate Software Inc.
- Berthoin Antal, A. (2001). Expatriates' contributions to organizational learning, *Journal of General Management*, 26(2): 32-51.
- Bonache, J. & Brewster, C. (2001). Knowledge Transfer and the Management of Expatriation, *Thunderbird International Business Review*, 43(1): 145-168.
- Bonache, J. & Zarraga-Oberty, C. (2008). Determinants of the success of international assignees as knowledge transferors: a theoretical framework, *The international Journal of Human Resource Management*, 19(1): 1-18.
- Bossard, A.B. & Petterson, R.B. (2005). The Repatriate Experience as Seen by American Expatriates, *Journal of World Business*, (40): 9-28.
- Brewster, C. & Suutari, V. (2005). Global HRM: Aspects of a Research Agenda (Editorial, Special Edition). *Personnel Review*, (34): 15-21.
- Brislin, R (1970). Back-translation for cross-cultural research. *Journal of Applied Psychology*, 1(3):185-216.
- Burmeister, A.; Deller, J.; Osland, J.M Szukudlarek, B.; Doddu, G & Blakeney, R. (2015). The micro-processes during repatriate knowledge transfer: the repatriates' perspective, *Journal of Knowledge Management*, 19(4):735-755.
- Caligiuri, P.M. & Santo, V.D. (2001). Global Competence: What is it and can it be developed through global assignments?, *Human Resource Planning*, 24(3): 27-25.
- Chung, L. (2014). Headquarters' Managerial Intentionality and Reverse Transfer of Practices, *Management International Review*, 54(2): 225-252.
- Churchill, J.L.C. (1979). A Paradigm For Developing Better Measures Of Marketing Construct, *Journal of Marketing Research*, Xvi, 64-73.
- Eden, L. (2009). Letter form the Editor-in-Chief: Reverse knowledge transfers, culture clashes and going international, *Journal of International Business Studies*, 40:177-180.

- Fang, Y., Jiang, G. L., Makino, S., & Beamish, P. W. (2010). Multinational firm knowledge, use of expatriates, and foreign subsidiary performance. *Journal of Management Studies*, 47: 1-28.
- Fink, G., & Meierewert, S. (2005) The Use of Repatriate Knowledge in Organizations, *Human Resource Planning*, 28 (4): 30-36.
- Fornell, C. & Larcker, D.F. (1981). Evaluating Structural Equation Models With Unobservable Variables And Measurement Error, *Journal of Marketing Research*, 18 (1): 39-50.
- Furuya, N., Stevens, M., Bird, A., Oddou, G. & Mendenhall, M. (2009): Managing the learning and transfer of global management competence: antecedents and outcomes of Japanese repatriation effectiveness, *Journal of International Business Studies*, 40: 200-215.
- Gonzalez, J.A. & Chakraborty, S. (2014). Expatriate knowledge utilization and MNE performance: a multilevel framework, *Human Resource Management Review*, 24(4): 299-312.
- Grant, R.M., 1996. Toward a knowledge-based theory of the firm, *Strategic Management Journal*, 17(2): 109-122.
- Gupta, A, y Govindarajan, V. (2000). Knowledge flows within multinational corporations, *Strategic management journal*, 21 (4): 473-496.
- Huang, M.C.; Chiu, Y.P & Lu, T.C (2013). Knowledge governance mechanisms and repatriate's knowledge sharing: the mediating roles of motivation and opportunity, *Journal of Knowledge Management*, 17(5): 677-694.
- Husted, K. & Michailova, S. (2002). Diagnosing and Fighting Knowledge Sharing Hostility, *Organizational Dynamics*, 31(1): 60-73.
- Jokinen, T. (2004). Development of global competencies during a foreign work assignment: the impact of challenges, *Paper presented at the EIASM Workshop on Expatriation*, Brussels, October.
- Kogut, B. & Zander, U. (1993). Knowledge of the firm and the Evolutionary Theory of the multinational corporation, *Journal of International Business Studies*, 24(4): 625-45.

- Kostova, T. (1999). Transnational transfer of Strategic organizational practices: a contextual perspective, *Academy of Management Review*, 24(2):308-324.
- Kraimer, M.L., Shaffer, M.A., & Bolino, M.C. (2009). The influence of expatriate and repatriate experiences on career advancement and repatriate retention, *Human Resource Management*, 48(1): 27-47.
- Kumar, N. (2013). Managing reverse knowledge flow in multinational corporations, *Journal of Knowledge Management*, 17(5): 695-708.
- Lazarova, M. & Caligiuri, P. (2001). Retaining repatriates: the role of organizational support practices, *Journal of World Business*, 36 (4): 389-401.
- Lazarova, M. & Tarique, I. (2005): Knowledge Transfer upon Repatriation, *Journal of World Business*, 40(4): 361-373.
- McGuinness, M.; Demirbag, M. & Bandara, S. (2013): Towards a multi-perspective model of reverse knowledge transfer in multinational enterprises: a case study of Coats plc., *European Management Journal*, (31), pp. 176-195.
- Michailova, S. & Mustaffa, Z (2012). Subsidiary knowledge flows in multinational corporations: Research accomplishments, gaps, and opportunities, *Journal of World Business*, (47): 383-396.
- Minbaeva, D. (2007). Knowledge transfer in multinational corporations, *Management International Review*, 47(4): 567-593.
- Minbaeva, D. & Michailova, S. (2004). Knowledge transfer and expatriation in multinational corporations. The role of disseminative capacity, *Employee Relations*, 26(6): 663-679
- Minbaeva, D., Pedersen, T., Bjorkman, I., Fey, C.F. & Park, H.J. (2003): MNC knowledge transfer, subsidiary absorptive capacity and HRM, *Journal of International Business Studies*, 34, pp. 586-599.
- Montoya-Weiss, M.M & Calantone, R. (1994). Determinants of new product performance: a review and meta-analysis, *Journal of Production Innovation Management*, 11 (5), 397-417.
- Mudambi, R.; Piscitello, L.; Rabbiosi, L. (2014). Reverse Knowledge Transfer in MNEs: Subsidiary Innovativeness and Entry Modes, *Long Range Planning*, 47: 49-63.

- Nery-Kjerfve, T; McLean, G.N. (2012). Repatriation of expatriate employees, knowledge transfer, and organizational learning: What do we know? *European Journal of Training and Development*, 36(6): 614 - 629.
- Nonaka I. The knowledge-creating company. *Harvard Business Review*, 1991; 68: 96-104.
- Oddou, G. & Mendenhall, M. (1991). Succession planning for the 21st century: How well are we grooming our future business leaders? *Business Horizons*, September-october, pp 26-34.
- Oddou, G., Osalnd, J.S. & Blakeney, R.N. (2009). Repatriation knowledge: variables influencing the “transfer” process, *Journal of International Business Studies*, 1-19.
- Oddou, G.; Szkudlarek, B.; Osland, J.S.; Deller, J.; Blakeney, R. & Furuya, N. (2013): Repatriates as a source of competitive advantage: how to manage the transfer, *Organizational Dynamics*, 42: 257-266.
- Phene, A. & Almeida, P. (2008). Innovation in multinational subsidiaries: The role of knowledge assimilation and subsidiary capabilities, *Journal of International Business Studies*, Vol. 39 No. 5, pp. 901–19.
- Pisticello & Rabbiosi (2006). How does knowledge transfer from foreign subsidiaries affect parent companies’ innovative capacity?, *paper presented at the DRUID Summer Conference*, Copenhagen, Denmark.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y. & Podsakoff, N.P. (2003). Common method biases in behavioural research: a critical review of the literature and recommended remedies, *Journal of Applied Psychology*, 88, 879-903.
- Rabbiosi, L. (2011). Subsidiary roles and reverse knowledge transfer: An investigation of the effects of coordination mechanisms, *Journal of International Management*, 17(2): 97-113.
- Rabbiosi, L. & Santangelo, G.D. (2013). Parent company benefits from reverse knowledge transfer: The role of the liability of newness in MNEs, *Journal of World Business*, 48(1): 160-70.
- Riussala, K. & Suutari, V. (2004) ‘International knowledge transfers through expatriates, *Thunderbird International Business Review*, 46(6): 743-770.
- Sanchez Vidal & Lemmergaard, J. (2008). Repatriates as knowledge transferors, *paper presented at the IV Workshop on Expatriation*, EIASM, Gran Canaria.

- Sanchez-Vidal, M.E.; Sanz-Valle, R.; Barba-Aragon, M.I. (2007). Antecedents of repatriates' job satisfaction and its influence on turnover intentions: evidence from Spanish repatriated manager, *Journal of Business Research*, 60(12): 1272-1281.
- Schotter, A. & Bontis, N. (2009). Intra-organizational knowledge exchange. An examination of reverse capability transfer in multinational corporations, *Journal of Intellectual Capital*, 10(1): 149-164.
- Subramaniam, M. & Venkaytaman, N. (2001). Determinants of transnational new products development capability: testing the influence of transferring and deploying tacit overseas knowledge, *Strategic Management Journal*, 22 (4):359-378
- Suutari, V. & Brewster, C. (2003). Repatriation: Empirical evidence from a longitudinal study of careers and expectations among Finnish expatriates, *The International Journal of Human Resource Management*, 14 (7): 1132-1151.
- Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practices within the firm, *Strategic Management Journal*, 17:27-43.

Figure 1. Theoretical Model

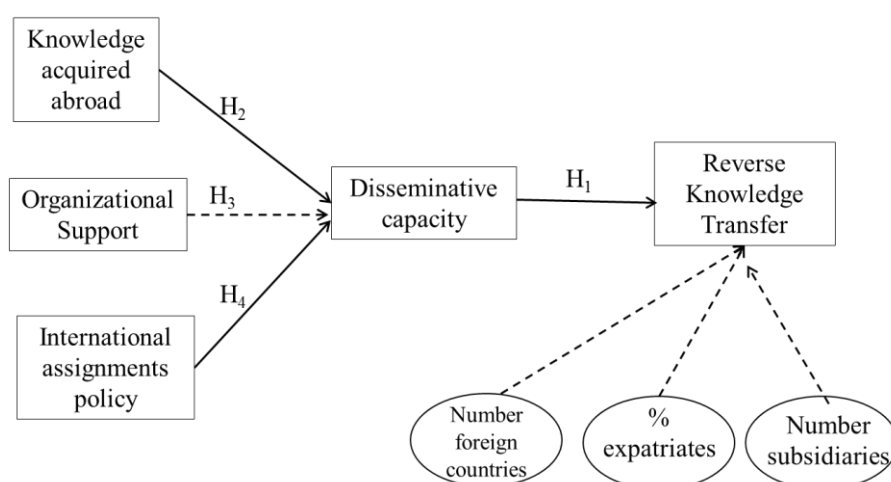


Table 1. Reliability, validity and measurement model

Factor	Cronbach alpha	SCR*	AVE**
Knowledge acquired abroad	0.721	0.702	0.542
Organizational support	0.823	0.853	0.539
International assignments policy	0.792	0.804	0.675
Repatriates disseminative capacity	0.820	0.840	0.729
Reverse knowledge transfer	0.877	0.882	0.556

Notes: CFA Goodness of Fit: $\chi^2_{(109)}=152.667$; BNNFI=0.944; CFI=0.955; IFI=0.956; RMSEA=0.058
 * Scale composite reliability ($qc=(Aki)^2 \text{ var}(n)/[(Aki)^2 \text{ var}(n) + Ahii]$) (Bagozzi and Yi 1988)
 ** Average variance extracted ($qc=(Aki)^2 \text{ var}(n)/[(Aki)^2 \text{ var}(n) + Ahii]$) (Fornell and Larcker 1981)

Table 2. Mean values, standard deviations and correlations

Variables	Mean	SD	1	2	3	4	5	6	7
1. Knowledge acquired abroad	4.11	0.78	1						
2. Organizational support	4.08	0.73	0.516**	1					
3. International assignments policy	3.49	1.13	0.346**	0.462**	1				
4. Disseminative capacity	4.03	0.61	0.486**	0.472**	0.334**	1			
5. Reverse knowledge transfer	3.17	0.71	0.297**	0.277**	0.463**	0.295**	1		
6. N. foreign countries	14.47	21.64	0.188*	0.128	0.393**	0.286**	0.224**	1	
7. % expatriates	0.052	0.23	-0.017	-0.002	0.354**	-0.018	0.043	0.226**	1
8. N. subsidiaries	12.65	21.73	0.079	0.006	0.063	0.188**	0.050	0.238**	-0.119

**<0.01; *<0.05

Figure 2. Model estimation results

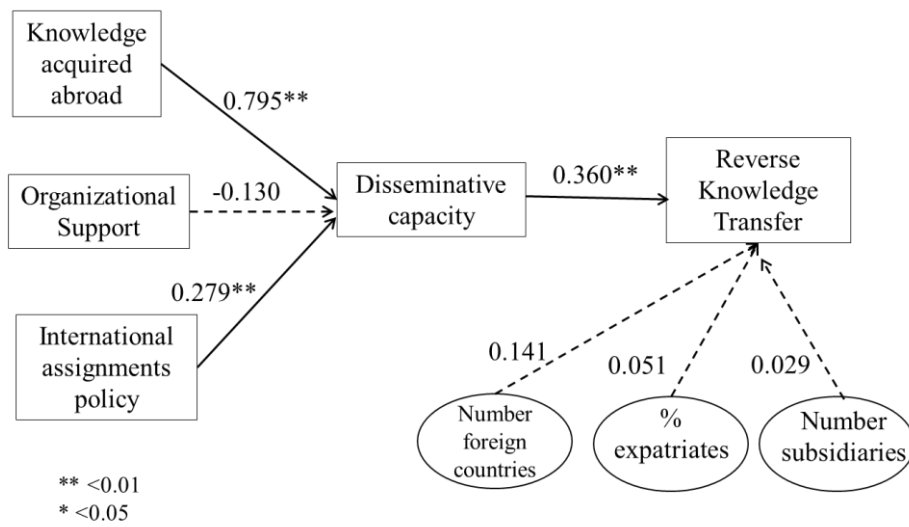


Table 3. Model estimation results

Main relationships	Coefficient	td
Main paths		
Disseminative capacity → Reverse Knowledge transfer	0.360**	3.083
Knowledge acquired abroad → Disseminative capacity	0.795**	3.431
Organizational support → Disseminative capacity	-0.130	-0.751
International assignments policy → Disseminative capacity	0.279**	2.578
Control variables		
Number of foreign countries → Reverse Knowledge transfer	0.141	1.355
% expatriates total employees → Reverse Knowledge transfer	0.051	0.514
Number of subsidiaries → Reverse Knowledge transfer	0.029	0.279
Goodness of Fit: $\chi^2_{(151)}=230.998$; BNNFI=0.900; CFI=0.920; IFI=0.923; RMSEA=0.068		

**<0.01; *<0.05