Expatriate utilization, subsidiary knowledge creation and performance: the moderating role of subsidiary strategic context

Article

Accepted Version

It is advisable to refer to the publisher's version if you intend to cite from the work. See Guidance on citing.

To link to this article DOI: http://dx.doi.org/10.1016/j.jwb.2018.09.003

Publisher: Elsevier

www.reading.ac.uk/centaur

CentAUR

Central Archive at the University of Reading

Reading's research outputs online

**Expatriate Utilization, Subsidiary Knowledge Creation and Performance:
The Moderating Role of Subsidiary Strategic Context**

Norifumi Kawai[1]
Department of Business & Management, University of Sussex
Falmer, Brighton, UK BN1 9QF
Tel: +44 (0)1273 872983
Email: N.Kawai@sussex.ac.uk

Chul Chung
Henley Business School, University of Reading
Whiteknights, Reading, UK RG6 6UD
Tel: +44 (0)1183 787751
Fax: +44 (0)1183 784029
Email: c.chung@henley.ac.uk

[1] Corresponding author

Expatriate Utilization, Subsidiary Knowledge Creation and Performance:

The Moderating Role of Subsidiary Strategic Context

ABSTRACT

Little research examines the mechanisms for the relationship between expatriate utilization and subsidiary performance. Building on the knowledge-based view of the firm, we propose a multi-stage mediation model to explain how expatriate staffing promotes subsidiary financial performance. Our results underscore that expatriate utilization has an indirect, mediated effect on subsidiary financial performance through its links with subsidiaries' knowledge creation and product performance. Adopting a moderated mediation approach, we also find that the indirect relationship between expatriate utilization and subsidiary product performance via subsidiary knowledge creation is strengthened by the context of transnational strategy as a moderating contingency.

Introduction

Access to distinctive knowledge assets transferred from a parent firm to its subsidiaries has traditionally been considered a key requirement to overcome liabilities of foreignness in foreign markets (Dunning, 1980; Kogut & Zander, 1993; Zaheer, 1995). A more recent view of MNCs has highlighted the importance of recognizing dispersed knowledge sources in an MNC, orchestrating knowledge flows from subsidiaries as well as headquarters (HQ) and leveraging such knowledge across an MNC network (Bartlett & Ghoshal, 1989; Ghoshal & Bartlett, 1988). According to this view, the ability of a subsidiary to create valuable and unique knowledge assets – not just to harness knowledge transferred from its parent firm – is a core part of the subsidiary-specific advantages that enable the subsidiary to perform effectively in the local market (Rugman & Verbeke, 2001). Thus, identifying the potential sequential processes through which a subsidiary creates valuable knowledge is increasingly important in enhancing the sustained competitive advantage of the entire MNC (Colakoglu, Yamao & Lepak, 2014; Fang, Fang, Jiang, Makino & Beamish, 2010).

While the significance of understanding the knowledge creation capability of a subsidiary has been widely acknowledged in the MNC literature, relatively few empirical studies have been conducted in this line of enquiry (Andersson, Björkman, & Forsgren, 2005; Belderbos & Heijltjes, 2005; Colakoglu et al., 2014). First, with regard to antecedents to subsidiary knowledge creation, research has suggested that external knowledge flows to a subsidiary are a key factor enhancing the knowledge creation capability of the subsidiary, alongside other factors that facilitate the utilization of the sourced knowledge in the knowledge creation process (Almeida & Phene, 2004; Andersson et al., 2005; Colakoglu et al., 2014; Phene & Almeida, 2008). However, empirical studies did not fully support this view as they found that only external local knowledge inflows are conducive to subsidiary knowledge creation (e.g., Colakoglu et al., 2014; Phene & Almeida, 2008). It is unclear whether and how knowledge

inflows from an MNC network contribute to subsidiary knowledge creation. Second, with regard to the impact of subsidiary knowledge creation capability, the performance impact of subsidiary knowledge creation has rarely been examined.

Informed by the knowledge-based view (Grant, 1996; Kogut & Zander, 1993), our study addresses these gaps by examining how the utilization of expatriates[2] competent in knowledge transfer (henceforth, expatriate utilization) (Wang, Tong, Chen & Kim, 2009) – a particular mechanism for knowledge transfer from an MNC network and knowledge integration – affects subsidiary knowledge creation capability across different subsidiary strategic contexts and, in turn, subsidiary performance. More precisely, we focus on the influence of expatriates as a key antecedent to subsidiary knowledge creation instead of general knowledge inflows from an MNC's internal network, which were examined in prior studies (e.g., Colakoglu et al., 2014; Phene & Almeida, 2008). We posit that more tacit forms of knowledge from HQ, which can be embodied and transferred mainly through human agents such as home-country expatriates, are more effective if adapted to specific local contexts and combined with locally sourced knowledge, thus contributing to knowledge creation in subsidiaries (Hansen, Nohria & Tierney, 1999; Subramaniam & Venkatraman, 2001). However, more explicit forms of knowledge transferred from other MNC units may reduce the need for subsidiary knowledge creation if it is readily reusable. In addition, expatriates play an important role in enhancing the absorptive capacity of a subsidiary by identifying, assimilating and applying knowledge relevant to the subsidiary context (Hong, Snell, & Mak, 2016).

Our study makes three novel contributions to the literature. First, it contributes to the literature on subsidiary knowledge creation (e.g., Almeida & Phene, 2004; Andersson et al., 2005; Colakoglu et al., 2014; Phene & Almeida, 2008) by theorizing expatriate utilization as a

---

[2] In this study, we define expatriates as home-country nationals (excluding third-country nationals) assigned by HQ to positions in subsidiaries.

novel antecedent to subsidiary knowledge creation and testing the relationship between the two constructs. While the role of expatriates in knowledge transfer in MNCs has been well acknowledged in the extant literature (e.g., Harzing, Pudelko, & Reiche, 2016), our understanding of the role of expatriates in subsidiary knowledge creation remains limited. Theoretically, the findings of the study highlight the importance of examining specific mechanisms for both tacit knowledge inflows from MNC networks and the integration and application of the relevant knowledge for knowledge creation (Fang et al., 2010). Thus, our study complements and extends the existing view on subsidiary knowledge creation, which has mainly focused on the sources and directions of knowledge flows and the role of subsidiary absorptive capacity, by suggesting expatriation as a more specific determinant of subsidiary knowledge creation.

Second, our study extends the expatriate knowledge transfer and performance literatures (Chang et al., 2012; Wang et al., 2009) by identifying the indirect influence of expatriate utilization on subsidiary financial performance via subsidiary knowledge creation capability and subsidiary product performance as mediating mechanisms.

Finally, our study shows the relevance of considering a subsidiary strategic context to better explain the relationship between expatriate utilization and subsidiary knowledge creation. To respond to calls for the empirical analysis of the link between expatriate utlization and subsidiary strategy (e.g., Caligiuri & Colakoglu, 2007), this study explores a specific strategic context of subsidiaries – transnational strategy (Ghoshal & Bartlett, 1988; Bartlett & Ghoshal, 1989) – as a potential condition that moderates the effect of expatriate utilization on subsidiary knowledge creation. We theorize and empirically show that the positive effect of expatriate utilization on subsidiary knowledge creation is strengthened when a subsidiary is positioned in the transnational strategic context.

This paper is organized as follows: Section 2 provides the theoretical background and

formulates several testable hypotheses. Section 3 describes the study's methodology, including the sample and variables. Section 4 presents the empirical results, followed by a discussion of the findings, implications for theory and practice, and the study's limitations. The final section concludes with a summary based on our findings.

Theory and hypotheses

The knowledge-based view suggests that MNCs can be conceptualized as "social communities that specialize in the creation and internal transfer of knowledge" (Kogut & Zander, 1993: 625). Knowledge is the most critical resource for an MNC's sustained competitive advantage; however, sharing knowledge across its worldwide organizations, which requires specific mechanisms and capabilities, is very challenging for a firm (Fang et al., 2010; Kogut & Zander, 1993). As MNC subsidiaries have been considered to play an important role in the innovation process within an MNC (Almeida & Phene, 2004), how MNC subsidiaries create valuable knowledge has been an important question in terms of the knowledge-based view of MNCs. In this line of enquiry, a key premise is that knowledge can be created through the recombination of existing knowledge from different sources (Grant, 1996; Verbeke, 2009). Informed by absorptive capacity and organizational learning theories (Cohen & Levinthal, 1990), subsidiary knowledge creation has been viewed as a function of (1) external knowledge inflows and (2) the absorptive capacity of a focal knowledge creating unit in the literature (Colakoglu et al., 2014; Phene & Almeida, 2008). With regard to knowledge inflows to a subsidiary, the diversity and the amount of knowledge resources, from the MNC network and from the host country, matters (Almeida & Phene, 2004). In addition, the subsidiary should be able to recognize the value of external knowledge resources and assimilate and apply them to make novel associations between external knowledge and its existing internal knowledge (Kogut & Zander, 1993; Phene & Almeida, 2008).

6

Empirical studies have found evidence that largely supports this theoretical view by identifying factors for subsidiary knowledge creation. These include, for example, (1) knowledge flow factors such as local knowledge inflows through local network embeddedness (Andersson et al., 2005), MNC and host-country knowledge base and subsidiary local linkages (Almeida & Phene, 2004), knowledge assimilated from host-country firms (Phene & Almeida, 2008), and host country knowledge inflows (Colakoglu et al., 2014) and (2) subsidiary capability factors such as knowledge sourcing capability and combinative capability (Phene & Almeida, 2008). However, the role of knowledge inflows from MNC networks has been less clear in this line of study. Unlike local knowledge inflows, knowledge inflows from MNC networks have not been found to be conducive to subsidiary knowledge creation, which is counter-intuitive to the theoretical view (e.g., Colakoglu et al., 2014; Phene & Almeida, 2008).

To address the inherent shortcomings in the extant literature, we consider expatriation as an important mechanism for knowledge inflows from HQ as well as knowledge integration in relation to subsidiary knowledge creation. We theorize the relationships between expatriation, subsidiary knowledge creation and performance by integrating insights from a knowledge-based view (Kogut & Zander, 1993) and the literature on expatriate knowledge transfer (Chang et al., 2012; Wang et al., 2009).

Expatriation, knowledge creation, and subsidiary product performance

Home-country expatriates have been acknowledged as an important source of managerial and technological knowledge from MNC HQ (Bonache & Brewster, 2001; Chang et al., 2012). Expatriate assignment is an effective way to increase the knowledge stocks of a subsidiary by "grafting" knowledge from HQ (Wang et al., 2009: 1186). Expatriates increase knowledge flows from HQ to the focal subsidiary when they seek out information and knowhow through their social ties to solve a problem in the subsidiary (Bonache & Brewster, 2001; Chang et al.,

2012).

Considering expatriate assignment as an important mechanism to transfer knowledge that contributes to the competitiveness of a subsidiary, researchers have examined the impact of expatriation on subsidiary performance (Berry, 2015; Gong, 2003). However, prior studies have shown mixed results, finding a positive impact (Li, Wang, & Liu, 2013), no impact (Colakoglu & Caligiuri, 2008), or a negative impact (Andersson, Buckley, & Dellestrand, 2015; Fang et al., 2010; Gaur, Delios, & Singh, 2007) of expatriation on various measures of subsidiary performance. Most prior studies have measured the role played by expatriates in foreign subsidiaries with indirect indicators such as the expatriate ratio (e.g., Colakoglu & Caligiuri, 2008; Gaur et al., 2007) or dichotomous measures of expatriation (Belderbos & Heijltjes, 2005). They tend to take it for granted that expatriate staffing reflects the intensity of knowledge transfer from the parent to foreign subsidiaries. However, the presence of expatriates does not necessarily indicate their actual role in transferring and integrating home-specific knowledge to the foreign subsidiary (Chang et al., 2012; Wang et al., 2009). Adopting a direct measure of expatriates' involvement in cross-border knowledge transfer (Chang et al., 2012; Wang et al., 2009) would thus help us understand the interplay between expatriates' knowledge transfer and subsidiary knowledge creation more precisely (Berry, 2015; Harzing, Pudelko, & Reiche, 2016; Michailova & Mustaffa, 2012; Reiche, 2011, 2012). This approach may also help resolve the prevailing cause of the inconsistent results in the relationship between expatriate utilization and the performance of MNC subsidiaries.

Wang et al. (2009: 1186) claim that "what matters to knowledge transfer and subsidiary performance may be the types of expatriates rather than the sheer number of expatriates assigned". They identify expatriates' skills, motivation and adaptability for knowledge transfer and show that these factors are associated with transferred knowledge and, in turn, subsidiary performance. A recent study also shows that expatriates' competencies in seeking knowledge

transfer, such as ability, motivation and opportunity, affect a subsidiary's performance through knowledge transferred to the subsidiary (Chang et al., 2012).

In this study, we consider expatriate utilization as an important driver that facilitates subsidiary knowledge creation. We theorize that expatriates who are competent and motivated in knowledge transfer play an important role in subsidiary knowledge creation by fulfilling the following three conditions of subsidiary knowledge creation in terms of the type, integration and relevance of knowledge: First, knowledge creation requires the externalization, sharing, and combination of diverse tacit knowledge embodied within people with different knowledge sources (Kogut & Zander, 1993; Nonaka & Von Krogh, 2009). Expatriation acts as an important factor that contributes to the transfer of tacit knowledge from an MNC network to a focal subsidiary (Berry, 2017; Li et al., 2013). A tacit form of knowledge from HQ is more effective than explicit knowledge that is adapted to specific local contexts and combined with locally sourced knowledge, thus contributing to subsidiary knowledge creation. Tacit knowledge can be embodied and transferred mainly through human agents, such as expatriates (Hansen et al., 1999). Subramaniam and Venkatraman (2001) show that project members' ability to source tacit knowledge from different locations is critical for the product innovation performance of an MNC. Extensive support from expatriates to host-country nationals, such as face-to-face communication, hands-on collaboration, immediate feedback, and mutual trust, promotes the dissemination of tacit knowledge at the subsidiary level (Gonzalez & Chakraborty, 2014).

Second, to share, assimilate and combine diverse tacit knowledge in order to generate new knowledge (Cohen & Levinthal, 1990), direct social interactions among the people who can access different knowledge sources are necessary (Hansen et al., 1999; Nonaka & Takeuchi, 1995). Co-location with local employees allows expatriates to directly interact with the locals. Competent, strongly motivated, and adaptable expatriates collaborate with local employees more willingly. Assigning expatriates also facilitates the creation of a common

frame of reference that is necessary for the collaboration between HQ and subsidiaries (Belderbos & Heijltjes, 2005). In this way, expatriates participate in the knowledge creation process, and create more learning opportunities to make novel associations between internal and external knowledge from different sources (Hong et al., 2016; Gonzalez & Chakraborty, 2014). It should be noted that local employees are also important in knowledge creation in subsidiaries because they act as important sources of local tacit knowledge.

Third, to identify relevant source knowledge and increase the relevance of created knowledge to apply (Cohen & Levinthal, 1990), the role of gate keepers, who channel various knowledge sources and screen created knowledge to justify as valid, is important (Hong et al., 2016). Expatriates can play the role of gate keepers for a subsidiary to increase the relevance of sourced knowledge and created knowledge (Berry, 2017; Hong et al., 2016; Li et al., 2013). Expatriates who are motivated and competent in knowledge transfer may identify the best people or units to consult and may enable access to foreign knowledge of specific relevance to a subsidiary's needs via expatriates' social ties across the MNC (Berry, 2015; Plourde, Parker, & Schaan, 2014). They guide the subsidiary knowledge creation process so that it is aligned with HQ's overall strategic direction and can increase the amount of attention and relevant resources that their subsidiary receives from HQ (Berry, 2015; Li et al., 2013; Plourde et al., 2014). They also help foreign knowledge from HQ be translated, adapted, and effectively utilized in the process of problem solving in particular local contexts (Chang et al., 2012). Accordingly, we anticipate the following:

Hypothesis 1: Expatriate utilization is positively associated with subsidiary knowledge creation capability.

Drawing from the knowledge-based view (Grant, 1996; Kogut & Zander, 1993), we suggest that a subsidiary's ability to create new knowledge is a valuable and inimitable resource for the subsidiary, and thus leads to sustained competitive advantage in its local market in two ways.

First, Nonaka and Takeuchi (1995) argue that innovation would never occur without the effective use of organizational knowledge creation mechanisms. When a subsidiary has knowledge creation capability, it can produce more innovative products, services, or managerial practices, which contributes to its competitive advantage in the local market (Su, Ahlstrom, Li, & Cheng, 2013). Second, an organization's ability to produce new knowledge and inventions involves social complexity, in terms of intensive interactions among multiple actors and interplays of knowledge flows from various sources (Nonaka, 1994), which could be a barrier to imitation by competitors (Wright, McMahan, & McWilliams, 1994). Thus, the ability of a subsidiary to create knowledge assets is at the heart of the subsidiary-specific advantages that enable the subsidiary to effectively introduce new and creative products or services in the local market (Rugman & Verbeke, 2001):

> **Hypothesis 2:** *Subsidiary knowledge creation capability is positively associated with subsidiary product performance.*

As knowledge can be created through extensive interactions between competent expatriates and local employees and through the complex process of translating MNC and local knowledge, it is more difficult for competitors to copy (Chang et al., 2012; Choi & Johansson, 2012). The results of a recent study (Berry, 2015, 2017) indicate that the combination of transfers of parent firm knowledge through expatriation and local research investments positively affects subsidiary competitive advantage because expatriate managerial knowledge can enable a subsidiary to better realize the full potential of subsidiary knowledge creation to improve product/service quality. In essence, the presence of expatriates who are competent, motivated, and adaptable for knowledge transfer is important for a subsidiary's competitive advantage; however, what is more important is whether they can capitalize on the knowledge they transfer to enhance subsidiary knowledge creation capability (Belderbos & Heijltjes, 2005), which is the primary source of value creation for an MNC subsidiary (Kogut & Zander,

1993). Put differently, the actual value of expatriate managerial knowledge capacity may not be optimized unless the receiving subsidiary has the ability to convert valuable knowledge resources into differentiated products and services. Thus, we hypothesize the following:

Hypothesis 3: *Subsidiaries' knowledge creation capability mediates the relationship between expatriate utilization and subsidiary product performance.*

Moderating role of subsidiary strategic context: transnational strategy

We consider a moderating condition to further support our theoretical arguments in relation to the conditions of subsidiary knowledge creation. We chose subsidiary strategic contexts as a moderating condition, as the significance of the conditions of subsidiary knowledge creation we theorized earlier could vary depending on subsidiary strategic contexts. In particular, the transnational strategic context requires a subsidiary to source relevant tacit knowledge from MNC networks (the first and third conditions of subsidiary knowledge creation we posited) as well as local parties and integrate them through direct interactions between actors embodying such knowledge (the second condition) (Caligiuri & Clakoglu, 2007; Lam, 2003).

A subsidiary of an MNC operates within the particular strategic context of the MNC, such as transnational, global, or multi-domestic strategies (Bartlett & Ghoshal, 1989). When a subsidiary is positioned in the context of global strategy – which refers to a worldwide approach to businesses with globally standardized products and processes and the minimal consideration of specific local contexts – it may focus on knowledge exploitation sourced from HQ rather than subsidiary-level knowledge creation. As global strategy attaches importance to scale economies and cost efficiency under centralized control, local subsidiary managers might not always perceive a sense of urgency to quickly innovate unique products in changing market environments (Lin, 2014; Qu & Zhang, 2015). Therefore, the lack of explorative learning in subsidiaries may prevent them from converting the tacit knowledge that resides among

expatriate managers into the realization of significant product innovation.

In contrast, in the context of multi-domestic strategy, a subsidiary may focus on knowledge creation based on locally sourced idiosyncratic knowledge through its strong commitment to developing close relationships with local business partners. Knowledge transfer through expatriates may not necessarily facilitate the subsidiary's engagement with the generation of new ideas, as expatriates possess less distinctive expertise in the local business conditions than host-country nationals (Andersson et al., 2005; Colakoglu & Caligiuri, 2008). Given the nature of the subsidiary strategy that requires high levels of local embeddedness, the positive impact of expatriate knowledge utilization on subsidiary innovative behaviors can be marginal. Moreover, multi-domestic subsidiaries are less likely to exhibit a willingness to recombine the HQ's knowledge with their knowledge stocks owing to a high degree of independence (Harzing, 2000; Meyer & Su, 2015) and the potential risk of the "not-invented-here" syndrome (Szulanski, 1996).

However, in the context of transnational strategy, whereby a foreign subsidiary pursues both global integration within its MNC network and local responsiveness to its unique local condition simultaneously, a subsidiary of the MNC is required to create knowledge that is relevant to the wider MNC strategic context as well as to the particular local context (Ghoshal & Bartlett, 1988; Bartlett & Ghoshal, 1989). In the transnational strategic context, a subsidiary is considered a semi-autonomous unit that is strongly connected to the MNC network and uniquely contributes to the implementation of the MNC strategy through knowledge creation and adaptation (Harzing, 2000). Transnational subsidiaries should leverage knowledge assets developed by both HQ and other subsidiaries and transform them into value-creating activities. Based on knowledge flows from their local environment, they also need to adapt and modify their products or services to address unique local demands (Subramaniam & Venkatraman, 2001). To create knowledge in the transnational strategic context, the subsidiary relies heavily

on knowledge exchanges with the MNC network and on the capacity to assimilate and integrate knowledge from various sources.

In the transnational strategic context, the role of expatriates is particularly important for subsidiary knowledge creation. Expatriates should frequently access corporate knowledge sources to ensure subsidiaries' activities are aligned with the firm's global agenda, while they must also adapt the "bigger-picture" corporate knowledge to the "smaller-picture" context of the subsidiary to address the local responsiveness (Hocking, Brown, & Harzing, 2007: 517). If they are competent in knowledge transfer, they can understand the wider MNC strategic context, gain deep expertise in particular areas, access dispersed knowledge sources through their social networks, and assimilate and adapt knowledge to fit local contexts. Thus, we argue that the impact of expatriate utilization on subsidiary knowledge creation is even stronger in the transnational strategic context than in other strategic contexts:

Hypothesis 4a: The positive impact of expatriate utilization on subsidiary knowledge creation capability is stronger if the MNC is pursuing a transnational strategy.

Combining all the theoretical arguments elaborated on above, we summarize a moderated mediation model (Preacher, Rucker, & Hayes, 2007) as presented in Figure 1. The indirect effect of expatriate utilization on subsidiary product performance through knowledge creation capability is likely to vary depending on the strategic context of a subsidiary. In the transitional strategic context, owing to the subsidiary's stronger dependency on both MNC and local knowledge sources, it becomes more important to meet the conditions of subsidiary knowledge creation, such as tacit knowledge transfer from MNC networks, direct personal interactions among employees who can access different knowledge sources, and the role of gate-keepers in increasing the relevance of sourced knowledge and produced knowledge. Thus, the impact of expatriate utilization on subsidiary product performance through subsidiary knowledge creation capability is stronger. In other words, the mediation effect of subsidiary knowledge

creation capability between expatriate utilization and subsidiary product performance is stronger when a subsidiary is pursuing a transnational strategy. Thus, we propose the following summary hypothesis:

Hypothesis 4b: *The indirect and positive impact of expatriate utilization on subsidiary product performance is stronger if the MNC is pursuing a transnational strategy.*

There is widespread consensus in the literature that product performance and financial performance are closely intertwined. An organization's continuous commitment to offering higher product/service quality has been viewed as a vital factor that creates superior value for customers (Kleinschmidt & Cooper, 1991). It is argued that launching and commercializing differentiated products, services and methods contributes to establishing entry barriers for major competitors (Chandy & Tellis, 2000; Lee, 2010). Firms with unique products and greater technological breakthroughs can capture new market demands and prohibit competitive imitation by competitive rivalries, in turn bolstering their financial strength (Lieberman & Montgomery, 1988). The introduction of new products, services, and methods signals to consumers and industrial clients that firms emphasize the importance of enhancing customer loyalty (Calantone, Chan, & Cui, 2006). Evidence indicates that high market newness of products and services likely improves MNC subsidiary performance (Lee, 2010; Venaik, Midgley, & Devinney, 2005). Given the above considerations, we predict the following:

Hypothesis 5: *Subsidiary product market performance has a positive effect on subsidiary financial performance.*

***** INSERT FIGURE 1 ABOUT HERE *****

Methodology

Sampling and data collection

In this study, we gathered data from subsidiary leaders of European-based subsidiaries of

15

Japanese MNCs, operating across various functional areas. We chose Europe as the research setting for several reasons. First, many Japanese MNCs have endeavored to capitalize on Europe's huge market potential and its population of about 500 million (Tôyô Keizai, 2015a). Second, Japanese MNCs have made significant contributions to not only job creation but also knowledge development in the European market. It should be noted that a total of 454,160 local employees worked for 4,083 Japanese-owned subsidiaries in Europe in 2014 (Tôyô Keizai, 2015a, 2015b). Third, Europe exhibits the strategic relevance for Japanese MNCs in acquiring cutting-edge knowledge assets (Lehrer & Asakawa, 1999). Fourth, the role of expatriates in transferring and integrating knowledge for a subsidiary would be crucial owing to cultural and institutional differences between the home and host countries.

Japanese MNC subsidiaries fit the objective of our study owing to their high levels of strategic and organizational dependency on expatriates (Harzing, 2001; Kawai & Strange, 2014; Kopp, 1994). For example, Tungli and Peiperl's (2009) survey reports that Japanese MNCs employed more parent country nationals (98.8%) than their American (67.4%), British (55.9%), and German (79.4%) counterparts. Belderbos, Tong, and Wu (2014) argue that Japanese MNCs send expatriates overseas to be assigned to senior leadership positions (e.g., president, vice president, senior general director, managing director, etc.). This ethnocentric staffing tendency represents the vital role of Japanese expatriates in controlling local operations and developing tacit and explicit knowledge that can be shared with the parent company as well as with peer subsidiaries within Japanese MNCs' global value chain system (Belderbos & Heijltjes, 2005). In particular, it has been argued that Japanese MNCs with a high level of technological knowledge tend to rely on expatriate as agents of this knowledge transfer in order to enhance subsidiary performance (Fang et al., 2010). Finally, our exclusive focus on Japanese MNCs allows us to reduce potential biases reflected by variations in MNCs' multiple home-country characteristics.

We used the *Kaigai Shinshutsu Kigyô Sôran* [Directory of Japanese Companies Abroad] (Tôyô Keizai, 2014) as the primary source for identifying the names of European-based Japanese subsidiaries with expatriates. We also contacted the Japanese Chamber of Commerce and Industry in the respective European countries and asked them to encourage their member companies to voluntarily take part in our research project. Three Japanese Chambers of Commerce and Industry collaborated with the first author to distribute questionnaire surveys. The questionnaire, based on a thorough literature review, was originally prepared in English and then translated into Japanese. We used a back-translation technique to inspect the accuracy of the survey content (Dawson & Dickinson, 1988). The Japanese version of the questionnaire was carefully proofread by two Japanese language speakers. No significant differences between the original English version and the back-translated version were observed. Furthermore, we carried out a pilot test with five subsidiary managers to ensure the quality of the draft and to lower the possibility of misinterpretation. Based on their feedback, ambiguous questionnaire items were amended before the data collection began.

From December 2014 to March 2015, subsidiary presidents completed and returned the questionnaires with reliable responses to us via email or post. As noted by the cross-border knowledge transfer literature (e.g., Dyer & Hatch, 2006; Perez-Nordtvedt et al., 2008), the single-key-informant approach employed in our survey has been widely accepted and the quality of the self-reported information shared by respondents in an executive-level position is as reliable as that of a multiple respondent survey method. In the survey, we limited our key informants to the expatriates who served as subsidiary presidents, as their names were revealed by Tôyô Keizai (2014). Following Dyer and Hatch (2006), we believe that our respondents were qualified to sufficiently evaluate the quality of expatriates in knowledge transfer because they were responsible for enhancing the efficiency of cross-border knowledge transfer as one of their central tasks during international assignments (Hocking et al., 2004; Wang et al., 2009).

Thirty-four questionnaires were returned unanswered to the sender owing to address changes, complete ownership transfer to local firms, or subsidiary closure. We received responses for 125 out of 938 questionnaires. After we deleted 11 MNC subsidiaries owing to incomplete answers, we retained 114 usable surveys for the partial least square (PLS) analyses, yielding an effective response rate of 12.2%, which is comparable to that of other empirical analyses of expatriate knowledge transfer – for example, Colakoglu et al. (2014) at 12.3% and Noorderhaven and Harzing (2009) at 8%. The response rate was suitable as indicated by Harzing's (1997) study on response rates in international mail surveys. To curb non-response biases in our empirical analysis, we performed a two-tailed t-test between early respondents and late respondents (Armstrong & Overton, 1977) using Stata 12. It has been argued that late respondents and non-respondents are likely to share some similar traits in responding to academic surveys (Armstrong & Overton, 1977). The test revealed no significant differences between the two groups in the mean values along the variables of interest in this study.[3] Furthermore, we examined differences between the responding firms and non-responding firms concerning subsidiary size and subsidiary age. Consistent with Lovett, Perez-Nordtvedt, and Rasheed (2009), 20 anonymous participants were treated as non-responding firms. No statistically significant differences in the mean values were observed (subsidiary size: t-statistic = -1.20, p = 0.23; subsidiary age: t-statistic = 1.45, p = 0.15). Accordingly, non-response bias is not a critical concern in our study.

The 114 European subsidiaries that participated in the survey belong to 82 Japanese MNCs (1.39 subsidiaries per MNC).[4] The participating subsidiaries that operated in the manufacturing industry account for 53.51% of the whole population, followed by wholesale

---

[3] Detailed results of t-test (early respondents vs. late respondents) are available upon request.
[4] Following the literature on the advantage of group-mean centering for the nested structure of the data (Enders & Tofighi, 2007), we created the dataset by aggregating subsidiary-level data to an MNC mean. According to our analyses, the findings remain qualitatively the same in the empirical estimation using this distinct dataset.

(21.93%), logistics (6.14%), retail (5.26%), finance (5.26%) and other services (7.90%) industries. On average, the MNC subsidiaries in the sample have 476.5 local employees and have been in operation for 21.1 years. Each subsidiary had eight Japanese expatriates on average. Of the 114 valid responses, 48.2% of the sample firms operated in Western Europe. Our sample firms were from 12 European countries: Germany (39); the Czech Republic (32); Poland (15); the United Kingdom (14); France, Russia, and the Netherlands (two each); Romania (4); Austria, Belgium, Hungary, and Spain (one each).

Measures

A concrete discussion on the operationalization and specific measures of the variables in the analyses is presented below (see Table 1).

***** INSERT TABLE 1 ABOUT HERE *****

The dependent variables

The financial performance scale developed by Andersson, Forsgren and Holm (2002) consists of three items that ask respondents to evaluate the subsidiary's financial performance in terms of sales growth, market share growth, and profitability against their company's own targets. This construct was measured using a seven-point Likert-type scale ranging from 1 ("far inferior") to 7 ("far superior").

The independent variable

In our study, following the conceptualization developed by Wang et al. (2009), the construct of expatriate utilization refers to the extent to which the expatriates that the MNC assigned to work in a subsidiary have the skills, motivation and adaptability to transfer a variety of knowledge. To gauge the intensity of knowledge transfer, this measure is more accurate than

the ratio or number of expatriates in a subsidiary, as employed in prior relevant research. We consider expatriates in a subsidiary as a group rather than an aggregate of entirely autonomous individuals and thus consider the utilization of the expatriates a group-level phenomenon that can be measured at the subsidiary level. Because they have the same nationality, similar experiences in their home country and the host country, the same language, and wide communication channels within the MNC network, expatriates in a subsidiary may share a strong identity as members of the expatriate group (Chang et al., 2012; Fang et al., 2010; Gonzalez & Chakraborty, 2014; Sanchez et al., 2000). Since an expatriate group tends to show collective attitudes and behavioral patterns in each subsidiary based on a common ingroup identity and shared experiences (Michailova et al., 2017), we believe that there might be collective dimensions of expatriate utilization. In this study, expatriate utilization is measured by eight items consistent with the expatriate utilization scale originally developed by Wang et al. (2009). The scores of the seven items from the original eight items (see Table 1) that represent expatriates' skills, motivation, and adaptability regarding knowledge transfer were averaged into a composite measure, as our research aim is to examine the impacts of the overall level of expatriate utilization rather than those of specific dimensions of the construct (sample items are "The expatriates unreservedly transfer knowledge to employees" and "The expatriates adapt knowledge transfer approaches to the local environment"). A seven-point Likert scale (1 = "strongly disagree" to 7 = "strongly agree") was used for measurement. The average was 4.91 with a standard deviation of 0.91. The Cronbach's alpha was 0.83 for this measure, which exceeds the 0.70 cut-off value (Nunnally, 1978).

The mediating variables

Subsidiary-level data on the degree of knowledge creation capability are not publicly available, and hence this variable was assessed in the survey by a set of five items, adapted from prior

studies (Andersson et al., 2005; Colakoglu et al., 2014). A seven-point Likert scale, ranging from 1 ("strongly disagree") to 7 ("strongly agree"), was used for measurement. The sample statements used were "This subsidiary has the capacity to create new knowledge in management techniques" and "This subsidiary has the capacity to create new knowledge in technology". The scores of these five knowledge creation capability items were averaged into a composite measure. Cronbach's coefficient alpha for this measure ($\alpha = 0.83$) was deemed acceptable since it exceeds the broadly used cut-off value of 0.70 (Nunnally, 1978). The average was 4.12 with a standard deviation of 1.17. Subsidiary product/service performance was measured with a three-item scale adapted from Lee (2010). On a seven-point Likert-type scale (1 = "strongly disagree" to 7 = "strongly agree"), the respondents were asked to rate their new product/service performance in terms of the following: (1) the level of creativity, (2) the degree of product differentiation and (3) the success rate of their new products/services compared to their major competitors. The Cronbach's coefficient alphas for the two variables of subsidiary performance were deemed acceptable since they all exceed the 0.70 cut-off point (Nunnally, 1978). The average scores for subsidiary financial performance and subsidiary product performance were 3.70 and 4.27, respectively.

The moderating variable

We adapted the transnational strategy variable developed by Meyer and Su (2015). The respondents were asked to evaluate their degree of agreement with the following four statements: (1) "The parent company has centralized many functions such as R&D, finance & procurement", (2) "The parent company has to a large extent standardized products & services worldwide", (3) "This subsidiary conducts many major functions locally", and (4) "This subsidiary has adopted its products and services to a high degree to the local context". The first two questionnaire items indicate the degree of global integration, while the latter two items

represent the degree of local responsiveness. These statements were measured on a seven-point Likert-type scale (1 = "strongly disagree" to 7 = "strongly agree"). Following Meyer and Su (2015), if the average of items (1) and (2) was greater than 4.0, we considered that MNC subsidiaries attempt "high global integration". Similarly, if the average of items (3) and (4) was greater than 4.0, we defined MNC subsidiaries as highly responsive in local markets. A value of "1" for transnational strategy was assigned when both global integration and local responsiveness were greater than 4.0. In contrast, MNC subsidiaries with a non-transnational strategy were coded "0". Thirty-six percent of the surveyed MNC subsidiaries reported that they operated within the context of transnational strategy.

The control variables

Our model included several control variables: subsidiary size, subsidiary experience, entry mode, expatriate ratio, type of subsidiary, and subsidiary absorptive capacity. *Subsidiary size* captures the extent to which subsidiaries are resourceful in leveraging knowledge and information from the parent company (Colakoglu et al., 2014). We operationalized subsidiary size as the natural logarithm of the total number of local employees. *Subsidiary experience* was measured by the duration of local operations. It represents the stock of locally acquired knowledge that helps MNC subsidiaries strengthen their innovative capabilities. Similarly, older MNC subsidiaries may rely less on internal MNC knowledge (Minbaeva, Pedersen, Björkman, & Fey, 2014). We used the number of years since establishment as a proxy for subsidiary experience. The third control variable is *entry mode*, which is operationalized as a binary dummy variable; a value of "1" is assigned when MNC subsidiaries are acquired and "0" otherwise. One could argue that MNC subsidiaries can access and gain more unique firm-specific assets from acquired local units than wholly owned units, which may ultimately enhance knowledge creation capability (Björkman, Barner-Rasmussen, & Li, 2004). Following

the literature on expatriate management (Berry, 2015; Colakoglu & Caligiuri, 2008; Gaur et al., 2007), we also included the intensity of expatriate involvement, which was measured by the ratio of the number of Japanese expatriates to that of total employees in the foreign subsidiary. The level of expatriate deployment comprises the degree of strategic importance and visibility within the MNC network so that the expatriate ratio can be a proxy for access to key information from the parent company (Plourde et al., 2014). We also predict that the effectiveness of knowledge transfer from other MNC units may be determined by the number of expatriate managers in a subsidiary (Chang et al., 2012; Minbaeva et al., 2014). We included a dummy variable as a proxy for subsidiary type: "production" (coded as 1) and "non-production" (coded as 0). Finally, we measured *subsidiary absorptive capacity* as a control variable using Chang et al.'s (2012) six-item scale. This variable was measured by asking the respondents to rate the level of local employees' absorptive capacity on a seven-point Likert scale ranging from 1 ("strongly disagree") to 7 ("strongly agree"). Two sample items are "This subsidiary's employees have the ability to convert knowledge of the practices from the parent company." and "This subsidiary's employees have the ability to convert knowledge of the practices from the parent company." The Cronbach's coefficient alpha for this construct was 0.85, which was much greater than 0.7 (Nunnally, 1978).

Common method bias

Using self-reported data may increase the risk of common method variance (CMV) which affects the validity and reliability of parameter estimates (Podsakoff & Organ, 1986; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In order to eliminate the CMV problem, we applied several procedural measures in the questionnaire design and analytic phases of our empirical research. First, as recommended by Chang, van Witteloostuijn, and Eden (2010), all questions were presented in a random order so as to reduce the possibility that the respondent would

rationally perceive the logic of interrelationships in our conceptual model. Furthermore, consistent with William, Cote, and Buckley (1989), we placed the dependent variables after the independent, mediating, and moderating variables. Second, the cover letter explicitly stated not only the nature of our research project but also the protection of the anonymity and confidentiality of the respondents (Podsakoff et al., 2003; Randall & Ferdandes, 1991). Third, following the ex-ante research strategy recommended by Podsakoff et al. (2003) and Richman, Kiesler, Weisband, and Drasgow (1999), significant attention was dedicated to the clarity of wordings of all questionnaire items used for the constructs in order to enhance the respondents' comprehension and retrieval of information from memory, in the research design stage. Fourth, the inclusion of the moderating and mediating variables in our study prevents the respondents from cognitively visualizing interaction terms (Chang et al., 2010). Fifth, our estimation results are not confounded with the cluster effect since the vast majority of our sampled subsidiaries are from a single MNC (Keupp, Palmié, & Gassmann, 2011). To further verify the absence of response bias, we investigated whether our self-reported subsidiary performance data were statistically correlated with the three-year-average of subsidiaries' accounting-based measures return on equity (ROE) using P/L before tax (%) and earnings before interest and taxes (EBIT) margin (%) sourced from the Bureau van Dijk FAME and Orbis databases[5]. We identified a moderate positive relationship between the subjective and objective performance measures (Spearman's rho = 0.34, p < 0.01, N = 56; Spearman's rho = 0.35, p < 0.01, N = 58, respectively) using the Spearman's rank correlation test with Stata 12.

This study also employed additional post hoc statistical measures against common method variance. First, we adopted Lindell and Whitney's (2001) marker variable technique. A marker variable should be theoretically unrelated to the other variables in our model

---

[5] This approach was previously used in the international business literature to validate the data reliability (Isobe, Makino, & Montgomery, 2000; Wang et al., 2009).

(Conway & Lance, 2010; Lindell & Whitney, 2001; Malhotra et al., 2006). The respondents were asked to rate the level of agreement with the following question: "To what extent do managers in your subsidiary not want their 'view of the world' to be questioned?". This question was adapted from the survey of Li and Lee (2014). We found that the marker variable was not statistically related to the relevant variables in our model ("expatriate utilization" = -0.05, "subsidiary knowledge creation" = -0.10, "subsidiary product performance" = 0.10, "subsidiary financial performance" = -0.04 and "transnational strategy" = 0.14) (see Table 2). Second, this study used Rönkkö and Ylitalo's (2011) PLS marker variable approach to detect the probability of CMV. In this statistical test, we treated the marker variable as a predictor for all key constructs and compared the results from the baseline model with those from the model that includes the marker variable. The significance level of all the PLS path coefficients remained qualitatively similar in both models.[6] Finally, we examined the level of collinearity among latent variables. Consistent with Kock (2015), none of the VIFs were greater than 3.3 for all latent variables. Taken together, our statistical analyses confirm that CMV inherent in the cross-sectional survey instrument should not be a serious issue.

Estimation methodology

We used partial least squares structural equation modeling (PLS-SEM) to compute the direct, indirect, and moderating effects in our complex model specification. The number of researchers applying the PLS-SEM approach has been growing in the disciplines of strategic management and international business (Birkinshaw, Morrison, & Hulland, 1995; Hair, Sarstedt, Ringle, & Mena, 2012; Hulland, 1999). The reasoning behind the application of the PLS-SEM technique is multifold: First, PLS-SEM yields reliable parameter estimates regardless of whether small sample size is or the models are complex (Chin, Marcolin, & Newsted, 2003; Fornell &

---

[6] Detailed results are available upon request.

Bookstein, 1982). Second, unlike LISREL or SPSS AMOS, PLS-SEM, via a bootstrapping method, is not constrained by restrictive assumptions with regard to multivariate normality distribution (Fornell & Bookstein, 1982). Third, PLS-SEM generates outer factor loadings equivalent to principal component factor analysis (Chin, 1998). Finally, the PLS-SEM method enables simultaneous assessment of statistical significance when multiple dependent and independent variables exist in the theoretical model (Birkinshaw et al., 1995). To test the hypothesized links between the constructs, we use SmartPLS 3.0 software to perform the PLS regression analyses (Hair, Hult, Ringle, & Sarstedt, 2017).

The composite reliability values of all the constructs were greater than the threshold of 0.70, suggesting adequate internal reliability. The standardized outer loadings on 18 out of 19 individual items were statistically significant at the 0.01 level and greater than 0.60 (Bagozzi & Yi, 1988; Hair, Black, Babin & Anderson, 2010), demonstrating a satisfactory degree of individual item reliability for all factors. One item for expatriate utilization ("The expatriates delegate important tasks to employees.") was eliminated because this outer loading was lower than the required cut-off value and its removal also improved the average variance extracted (AVE) value from 0.47 to 0.51 (Hair et al., 2017). The AVE values were well-above the 0.50 benchmark (Fornell & Larcker, 1981; Henseler, Ringle, & Sinkovics, 2009) and ranged from 0.51 to 0.80. Our discriminant validity evaluation demonstrated that the square root of each construct's AVE was greater than its correlation with any other construct. The discriminant validity in the model is thus considered appropriate. The results are presented below.

Results

Table 2 presents the means, standard deviations, and correlation coefficients among all study variables of our complex model. As predicted, the correlation matrix shows two moderate correlations: (1) between expatriate utilization and subsidiary knowledge creation capability

and (2) between subsidiary knowledge creation capability and subsidiary product performance. None of the correlation coefficients were beyond the threshold value of 0.70, a value that is a clear indication of the risk of multicollinearity in a regression (Tabachnick & Fidell, 1996). To further inspect multicollinearity issues, we also examined the variance inflation factors (VIF). All VIF factors fell far below 10, which represents the broadly accepted cut-off value (Myers, 1990). The highest mean value was 2.72, while the lowest mean value was 1.53. Accordingly, all measures were included in our analyses. Considering the evaluation of the overall model fit, we conducted a confirmatory factor analysis (CFA) using LISREL 9.1 (Jöreskog & Sörbom, 2012). The maximum likelihood ratio chi-square for the model was statistically significant (χ^2 = 244.43, p-value < 0.001). The CFA yielded robust results for other goodness-of-fit statistics (CFI = 0.94; IFI = 0.94; RMSEA = 0.09). These results provide supporting evidence for the validity of our measurement model. Overall, the variance explained in subsidiary knowledge creation capability was 50.96%; the values of R^2 for the subsidiary product performance variable and the subsidiary financial performance variable highlight that our proposed model explains 23.54% and 15.98% of the variance, respectively. The average R^2 value was 30.16%, thus suggesting that our PLS path model has adequate explanatory power.

As recommended by Henseler and Sarstedt (2013), this study uses the standardized root mean square residual (SRMR) as a model fit index rather than the goodness-of-fit index (GoF). SRMR is the most reliable model fit index for PLS-SEM (Henseler et al., 2014) because "the GoF is not able to separate valid models from invalid ones" in a PLS-SEM context (Hair et al., 2017: 193). According to Hu and Bentler's (1999) assertion, a value less than 0.09 should be considered as an acceptable cut-off point for SRMR. Our model estimation indicates a SRMR value of 0.085 using SmartPLS 3 (Ringle et al., 2015). Therefore, our hypothesized model fits the data very well.

Regarding the control variables, our estimation results verify that subsidiary size is positively related to subsidiary knowledge creation capability ($\beta = 0.18$, $p < 0.05$). Larger MNC subsidiaries appear to contribute to the creation of new knowledge and novel ideas. The effect of subsidiary absorptive capacity on subsidiary knowledge creation was found to be positive and statistically significant ($\beta = 0.55$, $p < 0.01$), indicating that the ability to absorb external knowledge is a key determinant of an MNC subsidiary's ability to generate new knowledge assets. The other control variables were not statistically significant. We now move to the prediction of our key hypotheses. As shown in Figure 2, Hypothesis 1 – pertaining to the influence of expatriate utilization on subsidiary knowledge creation capability – was supported as the relevant coefficient was statistically significant and positive ($\beta = 0.18$, $p < 0.05$). The more capable the expatriates were at transferring knowledge assets to their MNC subsidiary, the greater was the subsidiary knowledge creation capability. Hypothesis 2 was supported in that subsidiary knowledge creation capability is positively related to subsidiary product performance ($\beta = 0.49$, $p < 0.01$). Hypothesis 3 posits that the positive impact of expatriate utilization on subsidiary product performance is mediated through subsidiary knowledge creation capability. We used the procedure recommended by Hayes (2013) and computed a bootstrap bias-corrected confidence interval (based on 5,000 samples) for the positive indirect effect of expatriate utilization.[7] The 95% bootstrap confidence interval was above zero ([0.10, 0.41] for subsidiary product performance). Therefore, the results substantiate Hypothesis 3: expatriate knowledge transfer positively affects subsidiary product performance through the specific mechanism of knowledge creation.

---

[7] Hayes' PROCESS (Model 4) was used to test the possibility of subsidiary knowledge creation being a mediator in the association between expatriate utilization and subsidiary product performance.

Hypothesis 4a, which asserts that transnational strategy strengthens the positive effect of expatriate utilization on subsidiary capacity to create new knowledge, was strongly supported. The two-way interaction effect of expatriate utilization and transnational strategy was found to be statistically significant and consistent with the hypothesized direction ($\beta = 0.20$, $p < 0.01$). Following Aiken and West (1991), we also plotted graphs to further explore the nature and magnitude of the interaction (Figure 3). The figure shows that expatriate utilization is more strongly related to knowledge creation capacity for MNC subsidiaries under the context of transnational strategy than for subsidiaries under the context of other international strategies.

Finally, Hypothesis 4b predicts that the indirect relationship between expatriate utilization and subsidiary product performance through knowledge creation capability varies by subsidiary strategy. Using Hayes' (2013) PROCESS macro (Model 7), we conducted moderated mediation analyses to test the strength of the indirect conditional effects. Table 3 shows that the indirect effect of expatriate utilization on subsidiary product performance is stronger among subsidiaries with a transnational strategy (95% bias-corrected CI [0.15, 0.59]) than among subsidiaries with non-transnational strategies (95% bias-corrected CI [0.03, 0.35]). The index of moderated mediation with 5,000 bootstrapping samples was positive and significant (index = 0.20, 95% bias-corrected CI [0.06, 0.46]) because CI excludes zero. Therefore, the current investigation lends partial support for Hypothesis 4b, which proposed that when subsidiaries implement a transnational strategy, the positive indirect relationship between expatriate utilization and subsidiary product performance via the ability to create new

knowledge is stronger. Hypothesis 5 proposed that subsidiary product performance is positively related to subsidiary financial performance. As indicated in Figure 2, the direct effect of subsidiary product performance on subsidiary financial performance was positive and statistically significant ($\beta = 0.41$, $p < 0.01$). Hence, Hypothesis 5 was fully supported.[8] Finally, we tested the multi-stage mediation effect employing the SPSS Process macro (Hayes, 2013). Based on 5,000 samples (Model 6), the bootstrap analysis yielded a significant indirect effect of expatriate utilization on subsidiary financial performance through the serial multiple mediators (serial mediation coefficient = 0.10, standard errors = 0.05, 95% CI = [0.03, 0.23]).

***** INSERT TABLE 3 ABOUT HERE *****

Discussion

The major goal of this study is to address why, when, and how knowledge transfer by expatriate managers can effectively lead to superior subsidiary performance. The findings from our structural equation modeling reveal that expatriate utilization indirectly leads to superior subsidiary financial performance by increasing subsidiary knowledge creation capability and subsidiary product performance in sequence. We also found that the transnational strategy substantially improves the positive relationship between expatriate utilization and subsidiary knowledge creation capability.

---

[8] We are very thankful to one of the reviewers for suggesting us to test Hypothesis 5 using objective financial data as our ultimate performance variable. We collected objective data on the respondents' return on equity (ROE) using P/L before tax (%), earnings before interest, taxes, depreciation and amortization (EBITDA) margin (%), and earnings before interest and taxes (EBIT) margin (%) for multiple fiscal years 2014-15, 2015-16, and 2016-17 from the Bureau van Dijk FAME and Orbis databases. As recommended by earlier studies (Agle, Mitchell, & Sonnenfeld, 1999), we calculated the three-year average of these performance measures so as to remove any single-year outliers that may possibly distort the statistical power to examine the positive relationship between the subjective subsidiary product performance and the accounting-based measures of subsidiary financial performance. Findings of the supplemental analyses indicate that the effect of subsidiary product performance was statistically significant and positive for ROE ($\beta = 0.41$, $p < 0.01$, $N = 56$), EBITDA ($\beta = 0.25$, $p < 0.1$, $N = 57$), and EBIT ($\beta = 0.30$, $p < 0.05$, $N = 58$). Detailed results are available upon request.

Theoretical implications

Our study has several theoretical implications worthy of attention. First, it contributes to the literature on subsidiary knowledge creation (e.g., Almeida & Phene, 2004; Andersson et al., 2005; Colakoglu et al., 2014; Phene & Almeida, 2008) by identifying the significant role of expatriate utilization in subsidiary knowledge creation as well as in subsidiary performance. In particular, we posit that the unexpected empirical results of prior studies in relation to the role of knowledge inflows from MNC networks in subsidiary knowledge creation can be better explained by considering more specific conditions of subsidiary knowledge creation in terms of the type, integration and relevance of knowledge as we theorized. Knowledge inflows from MNC networks could be a mix of tacit and codified components, since the MNC often capitalizes on multiple formal and informal pathways to transfer knowledge from the HQ and other subsidiaries (Almeida, Song, & Grant, 2002). Thus, instead of examining general knowledge inflows from MNC networks, it is necessary to focus on a specific mechanism that facilitates tacit knowledge flows from MNC networks and integrate them with local knowledge inflows.

Concerning the transfer of tacit knowledge, we attached importance to the role of expatriates as gate-keepers in knowledge creation and their direct social interactions with local employees. In short, the present paper further advances the studies of subsidiary knowledge creation by integrating the insights from the literature on expatriate knowledge transfer (Chang et al., 2012; Wang et al., 2009), and providing an evidence base for this theoretical extension.

Second, our study complements the expatriate knowledge utilization literature (e.g., Chang et al., 2012; Gonzalez, & Chakraborty, 2014; Wang et al., 2009) by proposing and testing the multi-stage mediation model in which subsidiary knowledge creation capability and subsidiary product performance could serve as two key mediators between expatriation and subsidiary financial performance. While expatriation has traditionally been considered mainly

as a knowledge transfer function alongside control and coordination functions (Harzing, 2001), few studies have examined expatriation as a key factor in creating knowledge at the subsidiary level. This research is the first endeavor to conceptually and empirically examine the mediating role of subsidiary knowledge creation capability in the expatriation and performance relationship. Arguably, considering the increasingly specialized roles of subsidiaries in the emerging "global factory" model of MNCs (Reilly & Scott, 2014), the role of expatriates in sourcing knowledge from, and coordinating with, other MNC units, and thus overcoming the "liability of internal isolation" (Monteiro, Arvidsson, & Birkinshaw, 2008) becomes more important for subsidiary knowledge creation and subsidiary performance.

Finally, this study proposes the complex mechanism through which expatriate utilization affects subsidiary competitive advantage in varying subsidiary strategic contexts. Chang et al. (2012: 944) note that, depending on strategic contexts, "the high level of interdependence and the resulting integration needs are likely to make expatriates particularly important" for subsidiary performance. This study synthesizes a knowledge creation and learning perspective on expatriation and Bartlett and Ghoshal's (1989) framework of international strategies of MNCs. Our findings show how the effect of expatriate utilization on subsidiary knowledge creation varies by subsidiary strategic context.

Managerial relevance

This study has significant implications for practitioners. First, the results of our study reveal important practical insights pertaining to subsidiary staffing. As expatriates competent in knowledge transfer might be rare human resources in MNCs, firms should allocate them to subsidiaries strategically, considering the degree of importance of knowledge creation in a subsidiary and the strategic context of the subsidiary. Our study indicates that the performance benefits of expatriate knowledge transfer can be largely dependent upon an MNC strategic

context. Expatriates competent in knowledge transfer should be assigned first to subsidiaries in the transnational strategic context to maximize the performance benefit of utilizing those limited resources for the entire MNC, as these subsidiaries need more effective interactions between expatriates and locals (Holtbrügge & Mohr, 2011). Second, the study has implications for expatriate management. It suggests the importance of acquiring and developing expatriates who are skillful, strongly motivated, and adaptable in knowledge transfer for the improvement of subsidiary performance. MNCs need to consider the three traits of expatriates as a set of core criteria in selection, development, and performance management systems for expatriates.

Limitations and suggestions for future research

Although this study makes several valuable contributions, it is not without its limitations. First, we were unable to examine how the efficiency and effectiveness of subsidiary-level knowledge creation capability vary according to various types of knowledge (e.g., technological vs. managerial knowledge or tacit vs explicit knowledge) that expatriates transfer, and the duration, categories, and purposes of the international assignment. These factors would add further specifications to our model and improve its explanatory power. In particular, the purpose of assignments could be considered a potential moderator between expatriate utilization and subsidiary knowledge creation. For example, if the purpose of expatriation were more related to knowledge transfer, more extensive interactions between expatriates and locals would be expected (Caligiuri & Colakoglu, 2007), and thus the impact of expatriation utilization on subsidiary knowledge creation would be stronger. However, we also acknowledge that although there are different types of knowledge exchanges, depending on the purposes of expatriation, substantial knowledge transfer and exchange between expatriates and locals are needed anyway across the different purposes of expatriation (Hocking et al., 2004). In addition, we noticed that the purposes of expatriation could be mixed in practice and thus, it might be

difficult to separate knowledge transfer as a distinct purpose of expatriation.

Second, while different types of expatriates (e.g., third-country expatriates) may have a bearing on the proposed model differently, we examine only the case of home-country expatriates. We argue that although there are various alternative international assignees including, third-country expatriates, home-country expatriates still tend to play a major role in carrying out MNCs' internationalization strategy at subsidiaries, transferring knowledge between HQ and subsidiaries (Bonache & Brewster, 2001; Colakoglu, Tarique, & Caligiuri, 2009; Fang et al., 2010; Harzing et al., 2016) and gaining access to, and mobilizing, host country specific knowledge assets (Delios & Björkman, 2000). Particularly for Japanese MNCs, there is still a strong tendency of ethnocentric staffing for key subsidiary positions (Chung & Furusawa, 2016; Michailova et al., 2017).[9] However, we acknowledge that examining the effects of different types of international assignments on subsidiary knowledge creation across various strategic contexts merits further attention in future research.[10]

Third, we used cross-sectional data across the dependent, independent, moderating, and mediating variables. Thus, the empirical results presented in our study could be vulnerable to the issue of reverse causality[11]. Future studies must exert efforts to test our model with a

---

[9] We identified who holds key senior management positions in German subsidiaries of Japanese MNCs using subsidiary directory compiled by Japanische Industrie- und Handelskammer zu Düsseldorf e.V. (2013). According to this directory, out of 443 subsidiaries of Japanese MNCs in Germany, only 15 subsidiaries were managed by non-PCNs (namely, HCNs and TCNs). As this accounts for only 3.39%, non-PCNs are unlikely to be essential for subsidiary-level decision-making processes.

[10] We would like to thank one of the anonymous reviewers for pointing out this insightful comment.

[11] Following Davidson and MacKinnon's (1993) approach, we conducted an augmented Durbin–Wu–Hausman (DWH) test to tackle the potential reverse causality between subsidiary product performance and subsidiary financial performance. The effect of the residual for subsidiary financial performance on subsidiary product performance was not statistically significant, thereby suggesting that reverse causality is not a critical concern in our study. We also tested an alternate model employing the SPSS PROCESS macro for serial mediation analysis (Hayes, 2013). We estimated the strength of the indirect effect for serial multiple mediators (Model 6) for both the original model and the alternate model. We examined the alternative serial mediation model by reversing the order of the key variables in the conceptual framework. The alternate model posits that subsidiary product performance (mediator one) and subsidiary knowledge creation (mediator two) mediate the effect of subsidiary financial performance on expatriate utilization. The bootstrap procedure indicates that the indirect effect of the alternate model was much weaker than that of the original model (serial mediation coefficient = 0.050, standard errors = 0.02, 95% CI = [0.02, 0.11]). As another additional robustness check, we also modeled subsidiary product performance as the first mediator and subsidiary knowledge creation as the second mediator. Results do not remain robust as this serial mediation is not statically significant (serial mediation coefficient = 0.004, standard errors =

longitudinal research design since the interplays among expatriation, knowledge transfer, and creation and performance in MNCs are not static but dynamic phenomena. It would also be worth inspecting how new technical and management knowledge created by focal subsidiaries is transmitted back to a parent company and peer subsidiaries through repatriates and local employees' short visits across strategic and functional units within the MNC network.

Fourth, following prior studies (Chang et al., 2012; Minbaeva et al., 2003; Wang et al., 2008), we examine subsidiary leaders' perception to measure the expatriate utilization at the subsidiary level, conceptualizing expatriates as a group. Future research may test the empirical rigor of our findings by combining individual-level data and firm-level data (Michailova & Mustaffa, 2012), since knowledge creation represents the product of close interpersonal interactions within and across MNC units in search of new ideas and innovative ways of solving problems along the existing stock of knowledge.[12]

Finally, although we considered subsidiary knowledge creation as a major part of the experiential learning process, there could be other knowledge management-specific mediators, such as knowledge assimilation and knowledge application (Nonaka, 1994). Additionally, our sample consisted of foreign subsidiaries from one home country (i.e., Japan) operating in one specific region (i.e., Europe). This might inhibit the generalizability of our findings. Thus, it would be ideal to replicate the research with larger samples that include other MNCs in other regions. We hope that these suggestions can be used as potentially meaningful research avenues for future researchers.

Conclusion

Although expatriates who represent carriers of knowledge assets have been suggested as a

---

0.03, 95% CI = [-0.05, 0.06]). In sum, the finding of our supplemental analyses shows that the data suit our theorized causal framework more efficiently.

[12] We would like to thank one of the anonymous reviewers for highlighting this possibility.

critical driver for a competitive advantage in foreign markets, we still have limited knowledge of the complex mechanisms by which the use of parent country nationals helps improve foreign subsidiary performance. This study places special emphasis on the role of expatriates not only in knowledge transfer but also in knowledge creation. We unveil that expatriate utilization can indirectly and positively affect subsidiary financial performance via subsidiary knowledge creation capability and subsidiary product performance as serial multiple mediators. By combining the knowledge creation and learning perspective on expatriation and Bartlett and Ghoshal's (1989) framework, this study also provides empirical evidence that the conditional indirect effect of expatriate utilization on subsidiary product performance via knowledge creation varies greatly by subsidiary strategy.

References

Aiken, L. & West, S. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.

Almeida, P. & Phene, A. (2004). Subsidiaries and knowledge creation: The influence of the MNC and host country on innovation. *Strategic Management Journal*, 25(8/9), 847-864.

Almeida, P., & Kogut, B. (1999). Localization of knowledge and the mobility of engineers in regional networks. *Management Science*, 45(7), 905-917.

Almeida, P., Song, J., & Grant, R. M. (2002). Are firms superior to alliances and markets? An empirical test of cross-border knowledge building. *Organization Science*, 13(2), 147-161

Andersson, U., Björkman, I. & Forsgren, M. (2005). Managing subsidiary knowledge creation: The effect of control mechanisms on subsidiary local embeddedness, *International Business Review*, 14(5), 521-538.

Andersson, U., Buckley, P. J. & Dellestrand, H. (2015). In the right place at the right time! The influence of knowledge governance tools on knowledge transfer and utilization in MNEs. *Global Strategy Journal*, 5(1), 27-47.

Andersson, U., Forsgren, M. & Holm, U. (2002). The strategic impact of external networks: Subsidiary performance and competence development in the multinational corporation. *Strategic Management Journal*, 23(11), 979-996.

Armstrong, J. S. & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, 14(3), 396-402.

Bagozzi, R. P. & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74-94.

Bartlett, C. A. & Ghoshal, S. (1989). *Managing across borders: The transnational solution*. Boston, MA: Harvard Business School Press.

Beaverstock, J. V. (2004). Managing across borders': knowledge management and expatriation in professional service legal firms. *Journal of Economic Geography*, 4(2), 157-179.

Belderbos, R. A., & Heijltjes, M. G. (2005). The determinants of expatriate staffing by Japanese multinationals in Asia: Control, learning and vertical business groups. *Journal of International Business Studies*, 36(3), 341-354.

Belderbos, R. A., Tong, T. W., & Wu, S. (2014). Multinationality and downside risk: The roles of option portfolio and organization. *Strategic Management Journal*, 35(1), 88-106.

Bender, S., & Fish, A. (2000). The transfer of knowledge and the retention of expertise: The continuing need for global assignments. *Journal of Knowledge Management*, 4(2), 125-150.

Berry, H. (2015). Knowledge inheritance in global industries: The impact of parent firm knowledge on the performance of foreign subsidiaries. *Academy of Management Journal*, 58(5), 1438-1458.

Berry, H. (2017). Managing valuable knowledge in weak IP protection countries. *Journal of International Business Studies*, 48(7), 787-807.

Birkinshaw, J., Morrison, A. & Hulland, J. (1995). Structural and competitive determinants of a global integration strategy. *Strategic Management Journal*, 16(8), 637-655.

Björkman, I., Barner-Rasmussen, W., & Li, L. (2004). Managing knowledge transfer in MNCs: The impact of headquarters control mechanisms. *Journal of International Business Studies*, 35(5), 443-455.

Bonache, J., & Brewster, C. (2001). Knowledge transfer and the management of expatriation. *Thunderbird International Business Review*, 43(1),145-168.

Calantone, R., Chan, K. & Cui, A. (2006). Decomposing product innovativeness and its effects on new product success. *Journal of Product Innovation Management*, 23(5), 408-421.

Caligiuri, P.M., & Colakoglu, S. (2007). A strategic contingency approach to expatriate assignment management. *Human Resource Management Journal*, 17(4), 393-410.

Chandy, R. & Tellis, G. (2000). The incumbent's curse? Incumbency, size, and radical product innovation. *Journal of Marketing*, 64(3), 1-17.

Chang, S. J., van Witteloostuijn, A. & Eden, L. (2010). From the editors: Common method variance in international business research. *Journal of International Business Studies*, 41(2): 178-184.

Chang, Y.Y., Gong, Y., & Peng, M.W. (2012). Expatriate knowledge transfer, subsidiary absorptive capacity, and subsidiary performance. *Academy of Management Journal*, 55(4), 927-948.

Chin, W. W. (1998). Commentary: Issues and opinion on structural equation modeling. *MIS Quarterly*, 22(1), vii-xvi.

Chin, W. W., Marcolin, B. L. & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, 14(2), 189-217.

Choi, S-G. & Johanson, J. (2012). Knowledge translation through expatriates in international knowledge transfer. *International Business Review*, 21(6),1148-1157.

Chung, C., & Furusawa, M. (2016). The HRM of foreign MNCs operating in Europe. In: Dickmann, M., Brewster, C. and Sparrow, P. (eds.) *International human resource management: Contemporary human resource isues in Europe*. 3rd edition. Routledge.

Ciabuschi, F., Dellestrand, H., & Kappen, P. (2012). The good, the bad, and the ugly: Technology transfer competence, rent-seeking, and bargaining power. *Journal of World Business*, 47(4), 664-674.

Cohen, W. M. & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128-152.

Colakoglu, S., & Caligiuri, P. (2008). Cultural distance, expatriate staffing and subsidiary performance: The case of US subsidiaries of multinational corporations. *International Journal of Human Resource Management*, 19(2), 223-239.

Colakoglu, S., Tarique, I., & Caligiuri, P. (2009). Towards a conceptual framework for the relationship between subsidiary staffing strategy and subsidiary performance. *International Journal of Human Resource Management*, 20(6), 1291-1308.

Colakoglu, S., Yamao, S. & Lepak, D. P. (2014). Knowledge creation capability in MNC subsidiaries: Examining the roles of global and local knowledge inflows and subsidiary knowledge stocks. *International Business Review*, 23(1), 91-101.

Collings, D.G., Scullion, H., & Morley, M.J. (2007). Changing patterns of global staffing in the multinational enterprise: Challenges to the conventional expatriate assignment and emerging alternatives. *Journal of World Business*, 42(2), 198-213.

Conway, J.M., & Lance, C.E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology*, 25(3), 325-334.

Dawson, S. & Dickinson, D. (1988). Conducting international mail surveys: The effect of incentives on response rates with an industry population. *Journal of International Business Studies*, 19(3), 491-496.

Delios, A., & Bjorkman, I. (2000). Expatriate staffing in foreign subsidiaries of Japanese multinational corporations in the PRC and the United States. *International Journal of Human Resource Management*, 11(2), 278-293.

Dunning, J. H. (1980). Toward an eclectic theory of international production: Some empirical tests. *Journal of International Business Studies*, 11(1), 9-31.

Dyer, J.H., & Hatch, N.W. (2006). Relation- specific capabilities and barriers to knowledge transfers: creating advantage through network relationships. *Strategic Management Journal*, 27(8), 701-719.

Fang, Y., Jiang, G.L.F., Makino, S., & Beamish, P.W. (2010). Multinational firm knowledge, use of expatriates, and foreign subsidiary performance. *Journal of Management Studies*, 47(1), 27-54.

Fernandes, M. F., & Randall, D. M. (1992). The Nature of social desirability response effects in ethics research. *Business Ethics Quarterly*, 2(2), 183-205.

Fornell, C. & Bookstein, F. L. (1982). Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing Research*, 19(4), 440-452.

Fornell, C. & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.

Gaur, A. S., Delios, A. & Singh, K. (2007). Institutional environments, staffing strategies, and subsidiary performance. *Journal of Management*, 33(4), 611-636.

Ghoshal, S. & Bartlett, C. A. (1988). Creation, adoption and diffusion of innovations by subsidiaries of multinational corporations. *Journal of International Business Studies*, 19(3), 365-388.

Gong, Y. (2003). Toward a dynamic process model of staffing composition and subsidiary outcomes in multinational enterprises. *Journal of Management*, 29(2), 259-280.

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(S2), 109-122.

Hair, J. F., Black, W. C., Babin, B. J. & Anderson, R. E. (2010). *Multivariate data analysis*. 7th edition. Upper Saddle River: Prentice Hall.

Hair, J. F., Hult, G. T. M., Ringle, C. & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage Publications.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414-433.

Hansen, M. T., Nohria, N. & Tierney, T. (1999). What's your strategy for managing knowledge? *Harvard Business Review*, 77(2): 106-116.

Harzing, A. W. (1997). Response rates in international mail surveys: Results of a 22-country study. *International Business Review*, 6(6), 641-665.

Harzing, A.W. (2000). An empirical analysis and extension of the Bartlett and Ghoshal typology of multinational companies. *Journal of International Business Studies*, 31(1), 101-120.

Harzing, A. W. (2001). Who's in charge? An empirical study of executive staffing practices in foreign subsidiaries. *Human Resource Management*, 40(2), 139-158.

Harzing, A.W., Pudelko, M., & Reiche, B.S. (2016). The bridging role of expatriates and inpatriates in knowledge transfer in multinational corporations. *Human Resource Management*, 55(4), 679-695.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach.* New York: Guilford Press.

Henseler, J., Ringle, C. M. & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20: 277-319.

Hocking, J.B., Brown, M., & Harzing, A.W. (2004). A knowledge transfer perspective of strategic assignment purposes and their path-dependent outcomes. *International Journal of Human Resource Management*, 15(3), 565-586.

Hocking, J.B., Brown, M., & Harzing, A.W. (2007). Balancing global and local strategic contexts: Expatriate knowledge transfer, applications, and learning within a transnational organization. *Human Resource Management*, 46(4), 513-533.

Holtbrügge, D., & Mohr, A.T. (2011). Subsidiary interdependencies and international human resource management practices in German MNCs. *Management International Review*, 51(1), 93-115.

Hong, J.F., Snell, R.S., & Mak, C. (2016). Knowledge assimilation at foreign subsidiaries of Japanese MNCs through political sensegiving and sensemaking. *Organization Studies*, 37(9), 1297-1321.

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, 20(2), 195-204.

Isobe, T., Makino, S. & Montgomery, D. B. (2000). Resource commitment, entry timing, and market performance of foreign direct investments in emerging economies: The case of Japanese international joint ventures in China. *Academy of Management Journal*, 43(3), 468-484.

Japanische Industrie- und Handelskammer zu Düsseldorf e.V. (2013). *Kaiin meibo [Director of Japanese expatriates working for German subsidiaries of Japanese MNCs]*

Jöreskog, K. G. & Sörbom, D. (2012). *LISREL 9.10.* Skokie: Scientific Software International, Inc. Retrieved from http://www.ssicentral.com/lisrel/ (Accessed on 24.11.2015)

Kawai, N. & Strange, R. (2014). Perceived organizational support and expatriate performance: Understanding a mediated model. *International Journal of Human Resource Management*, 25(17), 2438-2462.

Keupp, M. M., Palmié, M. & Gassmann, O. (2011). Achieving subsidiary integration in international innovation by managerial 'tools'. *Management International Review*, 51(2), 213-239.

Kleinschmidt, E. J. & Cooper, R. G. (1991). The impact of product innovativeness on performance. *Journal of Product Innovation Management*, 8(4): 240-251.

Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration*, 11(4), 1-10.

Kogut, B. & Zander, U. (1993). Knowledge of the firm and the evolutionary theory of the multinational corporation. *Journal of International Business Studies*, 24(4), 625-645.

Kopp, R. (1994). International human resource policies and practices in Japanese, European, and United States multinationals. *Human Resource Management*, 33(4), 581-599.

Kostova, T., & Roth, K. (2003). Social capital in multinational corporations and a micro-macro model of its formation. *Academy of Management Review*, 28(2), 297-317.

Lagerström, K. & Andersson, M. (2003). Creating and sharing knowledge within a transnational team: The development of a global business system. *Journal of World Business*, 38(2), 84-95.

Lam, A. (2003). Organizational learning in multinationals: R&D networks of Japanese and US MNEs in the UK. *Journal of Management Studies*, 40(3), 673-703.

Lee, R. P. (2010). Extending the environment-strategy-performance framework: The roles of multinational corporation network strength, market responsiveness, and product innovation. *Journal of International Marketing*, 18(4), 58-73.

Lehrer, M. & Asakawa, K. (1999). Unbundling European operations: Regional management and corporate flexibility in American and Japanese MNCs. *Journal of World Business*, 34(3), 267-286.

Li, J., & Lee, R. P. (2015). Can knowledge transfer within MNCs hurt subsidiary performance? The role of subsidiary entrepreneurial culture and capabilities. *Journal of World Business*, 50(4), 663-673.

Li, S., & Scullion, H. (2010). Developing the local competence of expatriate managers for emerging markets: A knowledge-based approach. *Journal of World Business*, 45(2), 190-196.

Li, X., Wang, J., & Liu, X. (2013). Can locally-recruited R&D personnel significantly contribute to multinational subsidiary innovation in an emerging economy? *International Business Review*, 22(4), 639-651.

Lieberman, M. & Montgomery, D. (1988). First-mover advantages. *Strategic Management Journal*, 9(1), 41-58.

Lin, L-H. (2014). Subsidiary performance: The contingency of multinational corporation's international strategy. *European Management Journal*, 32(6), 928-937.

Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method bias in cross sectional research designs. *Journal of Applied Psychology*, 86(1), 114-121.

Lovett, S. R., Perez-Nordtvedt, L., & Rasheed, A. A. (2009). parental control: A study of U.S. subsidiaries in Mexico. *International Business Review*, 18(5), 481-493.

Malhotra, N. K., Kim, S. S., & Patil, A. (2006). Common method variance in IS research: A comparison of alternative approaches and a reanalysis of past research. *Management Science*, 52(12), 1865-1883.

Meyer, K. E. & Su, Y. S. (2015). Integration and responsiveness in subsidiaries in emerging economies. *Journal of World Business*, 50(1), 149-158.

Michailova, S., & Mustaffa, Z. (2012). Subsidiary knowledge flows in multinational corporations: Research accomplishments, gaps, and opportunities. *Journal of World Business*, 47(3), 383-396.

Michailova, S., Piekkari, R., Storgaard, M., & Tienari, J. (2017). Rethinking ethnocentrism in international business research. *Global Strategy Journal*, 7(4), 335-353.

Minbaeva, D. B., Pedersen, T., Björkman, I., Fey, C.F., & Park, H. J. (2014). MNC knowledge transfer, subsidiary absorptive capacity, and HRM. *Journal of International Business Studies*, 45(1), 38-51.

Minbaeva, D., Pedersen, T., Björkman, I., Fey, C.F., & Park, H. J. (2003). MNC knowledge transfer, subsidiary absorptive capacity, and HRM. *Journal of International Business Studies*, 34(6), 586-599.

Minbaeva, D.B., & Michailova, S. (2004). Knowledge transfer and expatriation in multinational corporations: The role of disseminative capacity. *Employee Relations*, 26(6), 663-679.

Monteiro, L. F., Arvidsson, N. & Birkinshaw, J. (2008). Knowledge flows within multinational corporations: Explaining subsidiary isolation and its performance implications. *Organization Science*, 19(1), 90-107.

Myers, R. (1990). *Classical and modern regression with applications* (2nd eds.), Boston: Duxbury.

Nonaka, I. & Takeuchi, H. (1995). *The Knowledge-creating company: How Japanese companies create the dynamics of innovation*. New York: Oxford University Press.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1), 14-37.

Nonaka, I., & Von Krogh, G. (2009). Tacit knowledge and knowledge conversion: Controversy and advancement in organizational knowledge creation theory. *Organization Science*, 20(3), 635-652.

Noorderhaven, N. G. & Harzing, A. W. (2009). Knowledge sharing and social interaction within MNEs. *Journal of International Business Studies*, 40(5), 719-741.

Nunnally, J. C. (1978). *Psychometric Theory*. 2nd edition. New York: McGraw-Hill.

Pablos, P. (2004). Knowledge flow transfers in multinational corporations: Knowledge properties and implications for management. *Journal of Knowledge Management*, 8(6), 105-116.

Peterson, R.B., Napier, N.K., and Won, S.-S. (2000), Expatriate management: Comparisons of MNCs across four parent countries. *Thunderbird International Business Review*, 42(2), 145-166.

Phene, A. & Almeida, P. (2008). Innovation in multinational subsidiaries: The role of knowledge assimilation and subsidiary capabilities. *Journal of International Business Studies*, 39, 901-919.

Plourde, Y., Parker, S. C. & Schaan, J. L. (2014). Expatriation and its effect on headquarters' attention in the multinational enterprise. *Strategic Management Journal*, 35(6), 938-947.

Podsakoff, P. M. & Organ, D. W. (1986). Self-reports in organization research: Problems and prospects. *Journal of Management*, 12(4), 531-544.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.

Preacher, K., Rucker, D. & Hayes, A. (2007). Addressing moderated mediation hypotheses: Theory, methods and prescriptions. *Multivariate Behavioral Research*, 42(1), 185-227.

Pérez- Nordtvedt, L., Kedia, B. L., Datta, D. K., & Rasheed, A. A. (2008). Effectiveness and efficiency of cross- border knowledge transfer: An empirical examination. *Journal of Management Studies*, 45(4), 714-744.

Qu, R. & Zhang, Z. (2015). Market orientation and business performance in MNC foreign subsidiaries: Moderating effects of integration and responsiveness. *Journal of Business Research*, 68(5), 919-924.

Randall, D. M. & Fernandes, M. E. (1991). The social desirability response bias in ethics research. *Journal of Business Ethics*, 10, 805-817.

Reiche, B.S. (2011). Knowledge transfer in multinationals: The role of inpatriates' boundary spanning. *Human Resource Management*, 50(3), 365-389.

Reiche, B.S. (2012). Knowledge benefits of social capital upon repatriation: A longitudinal study of international assignees. *Journal of Management Studies*, 49(6), 1052-1077.

Reilly, M. & Scott, P. S. (2014). Subsidiary driven innovation within shifting MNC structures: Identifying new challenges and research directions. *Technovation*, 34(3), 190-202.

Richman, W. L., Kiesler, S., Weisband, S. & Drasgow, F. (1999). A meta-analytic study of social desirability distortion in computer-administered questionnaires, traditional questionnaires, and interviews. *Journal of Applied Psychology*, 84(5), 754–775.

Rugman, A. M. & Verbeke, A. (2001). Subsidiary-specific advantages in multinational enterprises. *Strategic Management Journal*, 22(3), 237-250.

Rönkkö, M., & Ylitalo, J. (2011). *PLS marker variable approach to diagnosing and controlling for method variance*. Thirty Second International Conference on Information System (ICIS), Shanghai, Proceedings Paper 8 (5 December 2011).

Sanchez, J., Spector, P.E., & Cooper, C.L. (2000). Adapting to a boundaryless world: A developmental expatriate model. *Academy of Management Executive*, 14(2), 96-106.

Su, Z., Ahlstrom, D., Li, J. & Cheng, D. (2013). Knowledge creation capability, absorptive capacity, and product innovativeness. *R&D Management*, 43(5), 473-485.

Subramaniam, M. & Venkatraman, N. (2001). Determinants of transnational new product development capability: Testing the influence of transferring and deploying tacit overseas knowledge. *Strategic Management Journal*, 22(4), 359-378.

Szulanski, G. (1996). Exploring Internal Stickiness: Impediments to the Transfer of Best Practice within the Firm, *Strategic Management Journal*, 17(Winter): 27-43.

Tabachnick, B. G. & Fidell, L. S. (1996). *Using multivariate statistics.* 3rd edition. New York,

NY: Harper Collins.

Tregaskis, O., Edwards, T., Edwards, P., Ferner, A., & Marginson, P. (2010). Transnational learning structures in multinational firms: Organizational context and national embeddedness. *Human Relations*, 63(4), 471-499.

Tung, R.L. (1982). Selection and training procedures of U.S., European, and Japanese multinationals. *California Management Review*, 259(1), 57-71.

Tungli, Z., & Peiperl, M. (2009). Expatriate practices in German, Japanese, U.K., and U.S. multinational companies: A comparative survey of changes. *Human Resource Management*. 48(1), 153-171.

Tôyô Keizai (2014). *Kaigai shinshutsu kigyô sôran: Kuni betsu hen* [Japan overseas company 2014: Country classification], Tokyo: Tôyô Keizai Shinpousha.

Tôyô Keizai (2015a). *Kaigai shinshutsu kigyô sôran: Kaisha betsu hen* [Japan overseas company 2015: Company classification], Tokyo: Tôyô Keizai Shinpousha.

Tôyô Keizai (2015b). *Kaigai shinshutsu kigyô sôran: Kuni betsu hen* [Japan overseas company 2015: Country classification], Tokyo: Tôyô Keizai Shinpousha.

Venaik, S., Midgley, D. F. & Dvinney, T. M. (2005). Dual path to performance: The impact of global pressures on MNC subsidiary product and performance. *Journal of International Business Studies*, 36(6), 655-675.

Verbeke, A. (2009). *International business strategy*. Cambridge: Cambridge University Press.

Wang, S., Tong, T. W., Chen, G., & Kim, H. (2009). Expatriate utilization and foreign direct investment performance: The mediating role of knowledge transfer. *Journal of Management*, 35(5), 1181-1206.

Williams, L. J., Cote, J. A., & Buckley, M. R. (1989). Lack of method variance in self-reported affect and perceptions at work: Reality or artifact. *Journal of Applied Psychology*, 74(3), 462-468.

Wright, P. M., McMahan, G. C., & McWilliams, A. (1994). Human resources and sustained competitive advantage: A resource-based perspective. *International Journal of Human Resource Management*, 5(2), 301-326.

Zaheer, S. (1995). Overcoming the liability of foreignness. *Academy of Management Journal*, 38(2), 341-363.

Zaragoza-Sáez, P., & Claver-Cortés, E. (2011). Relational capital inside multinationals. *Knowledge Management Research & Practice*, 9(4), 293-304.

TABLE 1: Constructs, Indicators & Reliabilities

Measures	Mean	S.D.	Final scale loadings	CR	AVE	α	VIF
Please indicate the extent to which you agree with the following statements that describe the expatriates that the MNC assigned to work in your subsidiary (1: strongly disagree – 7: strongly agree).							
Expatriate utilization (Wang et al., 2009)	–	–	–	0.88	0.51	0.84	
1 The expatriates possess superior technical knowledge.	5.12	1.18	0.68	–	–	–	1.72
2 The expatriates possess superior management knowledge.	4.40	1.34	0.75	–	–	–	1.98
3 The expatriates unreservedly transfer knowledge to employees.	5.50	1.38	0.67	–	–	–	2.12
4 The expatriates undertake great efforts to develop successors.	4.89	1.48	0.71	–	–	–	1.82
5 The expatriates delegate important tasks to employees.	4.83	1.50	Eliminated	–	–	–	–
6 The expatriates adapt knowledge transfer approaches to local environment.	5.03	1.24	0.72	–	–	–	1.69
7 The expatriates are flexible in their knowledge management approach.	4.80	1.33	0.71	–	–	–	1.84
8 The expatriates are skillful in teaching knowledge to employees.	4.74	1.23	0.75	–	–	–	1.89
Please indicate the extent to which you agree with the following statements that describe the quality of your subsidiary's knowledge creation capability (1: strongly disagree – 7: strongly agree).							
Subsidiary knowledge creation capability (Colakoglu et al.2014; Andersson et al., 2005)	–	–	–	0.88	0.60	0.83	
1 This subsidiary has the capacity to create new knowledge in marketing & sales.	4.25	1.65	0.65	–	–	–	1.53
2 This subsidiary has the capacity to create new knowledge in management techniques.	4.25	1.46	0.77	–	–	–	1.76
3 This subsidiary has the capacity to create new knowledge in manufacturing processes.	4.22	1.60	0.74	–	–	–	1.64
4 This subsidiary has the capacity to create new knowledge in products and service.	4.10	1.41	0.85	–	–	–	2.56
5 This subsidiary has the capacity to create new knowledge in technology.	3.78	1.46	0.84	–	–	–	2.65
Please indicate the extent to which you agree with the following statements with regard to your subsidiary's financial performance compared with your company's own targets (1: much inferior, 4: average, 7: much superior).							
Subsidiary financial performance (Andersson et al., 2002)	–	–	–	0.92	0.80	0.88	
1 This subsidiary's operating profit is:	3.74	1.64	0.86	–	–	–	2.32
2 This subsidiary's sales growth is:	3.72	1.53	0.91	–	–	–	2.72
3 This subsidiary's market share growth is:	3.64	1.35	0.91	–	–	–	2.38
Please indicate the extent to which you agree with the following statements with regard to your subsidiary's product performance compared to your major competitors (1: strongly disagree – 7: strongly agree).							
Subsidiary product performance (Lee, 2010)	–	–	–	0.88	0.71	0.80	
1 This subsidiary's products are very creative.	4.05	1.38	0.83	–	–	–	1.79
2 The degree of this subsidiary's product differentiation is relatively high.	4.70	1.32	0.89	–	–	–	1.62
3 The success rate of this subsidiary's new products is relatively high.	4.05	1.23	0.81	–	–	–	1.79

TABLE 2: Means, Standard Deviations & Pearson Correlations

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1 Expatriate utilization	[0.71]											
2 Subsidiary knowledge creation capability	**0.48**	[0.78]										
3 Subsidiary product performance	**0.39**	**0.50**	[0.84]									
4 Subsidiary financial performance	0.23	0.24	**0.39**	[0.90]								
5 Transnational strategy	0.06	0.14	0.07	-0.02	1.00							
6 Subsidiary size (log)	0.11	0.16	0.13	0.10	-0.05	1.00						
7 Subsidiary experience	-0.12	-0.04	-0.12	-0.06	-0.09	0.08	1.00					
8 Entry mode (acquired=1)	0.05	-0.09	0.05	0.05	-0.12	0.20	0.03	1.00				
9 Expatriate ratio	-0.10	-0.01	-0.08	-0.09	0.05	**-0.54**	-0.05	-0.12	1.00			
10 Subsidiary type	0.10	0.08	0.06	0.03	0.11	**0.25**	-0.17	-0.05	-0.11	1.00		
11 Subsidiary absorptive capacity	**0.55**	**0.61**	**0.37**	0.19	0.19	0.06	-0.16	-0.16	-0.02	0.11	1.00	
12 Marker variable	-0.05	-0.10	0.10	-0.04	0.14	0.01	-0.06	0.10	0.02	-0.06	-0.17	1.00
Mean	4.93	4.12	4.27	3.70	0.36	1.95	21.11	0.10	16.08	0.54	4.60	4.56
Standard deviation	0.94	1.17	1.11	1.35	0.48	0.86	15.93	0.30	39.12	0.50	0.97	1.39

Notes: N = 114; Bold values indicate statistical significance at the 0.01 level. The italicized numbers report the square root of the average value extracted (AVE).

TABLE 3: Bootstrapped Results for the Conditional Indirect Effects

	Subsidiary Product Performance			
Transnational strategy vs non-transnational strategies		Bootstrapped CI [95%]		
Conditional indirect effects (via SKC)	*Coeff.*	*SE*	*LL*	*UL*
−1 standard deviation (− 1.00)	0.15	0.08	0.03	0.35
+1 standard deviation (+ 1.00)	0.35	0.11	0.15	0.59
	Index	*SE*	*LL*	*UL*
Index of moderated mediation	0.20	0.10	0.06	0.46

Notes: 5,000 bootstrapping samples are used. Unstandardized coefficients are reported. SKC = subsidiary knowledge creation; CI = confidence interval; SE = standard error; LL = lower limit; UL = upper limit; N = 114.
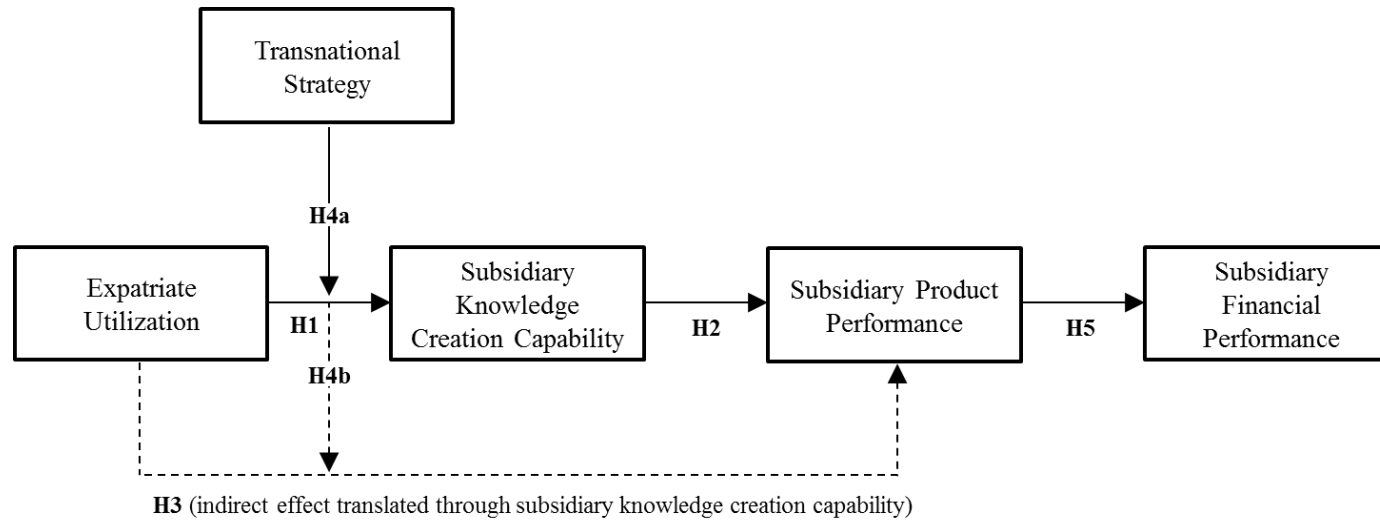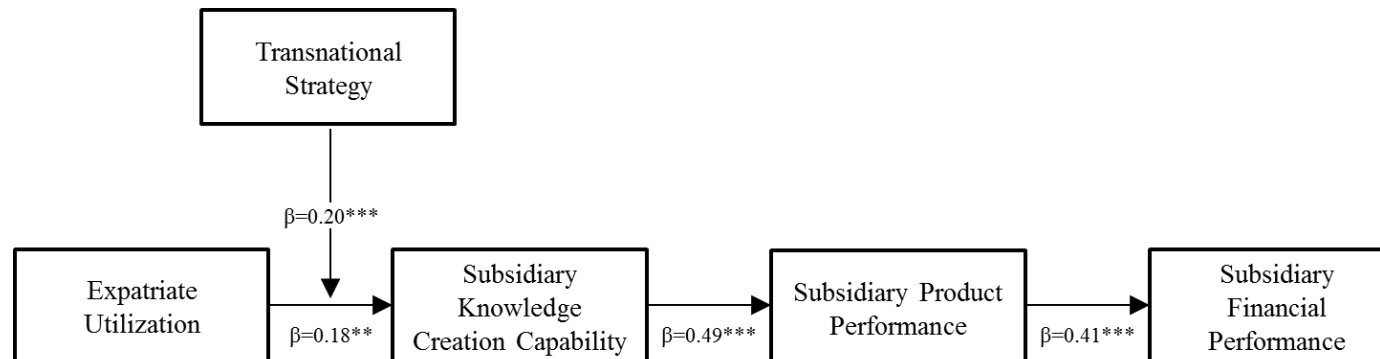
FIGURE 1: Proposed Conceptual Model

FIGURE 2: Model of Expatriate Utilization

Note: Levels of statistical significance: ** = 5%; *** = 1%. N = 114.

FIGURE 3: Moderating Effect of Transnational Strategy on the Relationship between Expatriate Utilization and Subsidiary Knowledge Creation Capability