

## **Infiplats. Why do they stay and how does it influence cross border knowledge transfer?**

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## DOCTORAL THESIS

Title	Infipats. Why do they stay and how does it influence cross border knowledge transfer?
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## Abstract

While research on cross-border knowledge transfer (CBKT) via international assignees has been growing consistently and has been investigated from multiple perspective and angles, successful assignments are currently reflected to either end in repatriation or in being reassigned. In practice, however, not all expatriates follow these options, but rather decide to stay indefinitely on assignment in their host country. This thesis investigates this phenomenon and explores who these *infipats* (expatriates who stay indefinitely) are, why they decide to stay, and in particular the highly beneficial implications of their decision for organizational CBKT. Given the lack of research on this phenomenon, first a meta-analysis on antecedents and outcomes of CBKT via international assignees in general is provided to serve as a base to rely on when investigating infipats and their CBKT. The findings showed the relative importance of individual, relational, knowledge, and contextual antecedents. Then, two exploratory case studies were conducted, based on 26 interviews with infipats, host country nationals (HCN) and headquarter colleagues, conducted in Malaysia and China. The results showed that the main reasons to stay indefinitely were very dependent on location. In China the main reason to stay were career and development factors, while in Malaysia the decision was mostly influenced by family and partner considerations. Infipats proved especially valuable for CBKT, as they benefit from being well adjusted and through having good relationships with HCNs, as well as strong local networks which improved their knowledge access. This enabled them to change the knowledge transfer direction from uni- to bidirectional, making them the perfect knowledge bridge between HQ and the subsidiary. Overall this thesis draws attention to infipat phenomenon and in particular its CBKT implications.



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# 1

## 1 Introduction

### 1.1 Introduction to the PhD thesis

Global mobility research and in particular the field of expatriation has seen drastic changes over the last decades. At the beginning, expatriates and international assignees were mostly used to exercise headquarter (HQ) control over foreign subsidiaries, fill positions in need of certain skills and expertise, or to develop international managerial competences (Edstrom & Galbraith, 1977). However, the reason for organizations to deploy expatriates has become more diverse since then.

Effective cross border knowledge transfer (CBKT) is one of the key sources of competitive advantage for multinational corporations (MNCs). CBKT enables MNCs to access and exploit valuable and context-specific knowledge created at multiple places across their global network of subsidiaries (Harzing, Pudelko & Reiche, 2016; Kogut & Mello, 2017; Zeng, Grøgaard & Steel, 2018).

Since transferring knowledge is a complex, difficult, and non-routine process (Minbaeva, 2013; Ambos & Ambos, 2009), MNCs rely on international assignees as knowledge carriers (Caligiuri & Bonache, 2016), as they are able to adapt to the local context and translate in between the different cultures (Zander & Kogut, 1995; Argote, McEvily & Reagans, 2003, Oddou et al., 2009). Relying on international assignees has been proven a successful way to transfer knowledge for organizations in practice and can increase subsidiary performance as well as innovation capabilities, as they do not only transfer knowledge, but can also support the implementation process (Chang, Gong & Peng, 2012; Berthoin Antal, 2000; Subramaniam & Venkatraman, 2001; Oddou, Osland & Blakeney, 2009, Caligiuri & Bonache, 2016; Argote & Ingram, 2000).

Multiple facets of expatriates and the expatriate cycle in organizations have been thoroughly researched from a variety of angles and perspectives. However, not all expatriates return from their assignment and there has been a lack of scholarly attention, with the exception of Tait et al. (2014) of these expatriates that decide to stay indefinitely.

There has been an increase of usage of different types of assignments (Caligiuri & Bonache, 2016), but this form of assignment has so far mostly been ignored by scholars with exception of Tait et al. (2014), whose study was mostly focused on compensation. Minbaeva and Michailova (2004) called for research on the influence of different types of assignments on knowledge transfer.

In practice however, this is a widespread phenomenon that many companies seem to have adapted to – or even actively pursue: Over 35% of surveyed companies in the Brookfield report (2012) have some type of localization policy in place enabling permanent transfers. 32% of expatriates could imagine staying in their host country possible permanently, according to the Expat Insider (2018) who sampled over 18,000 expatriates. With the organizations and the expatriates having interest in keeping the expat on assignment permanently in addition to a general increase of global workforce mobility, it is very likely that this phenomenon will become even more widespread in the future.

Being well adjusted to both, the host country and HQ country culture and knowing the right people in both places, enables them to be the perfect knowledge link between both locations. Therefore, expatriates staying indefinitely are likely to have a significant impact on knowledge transfer and organizational success. This makes this a very promising avenue of expatriate research which needs to be explored.

Next to understanding why they stay long-term and who they are, the outcomes of staying permanently especially on knowledge transfer need to be investigated. Furthermore, staying permanently.

While similar phenomena have been looked into to some degree, for example permanent transfers who are immediately localized or with a short delay (Tait et al., 2014), there is reason to believe that the experience and the impact of expatriates who decide to stay indefinitely while on assignment is different and merits attention. Thus, to start looking into this new avenue of global mobility research first it has to be investigated what kind of expatriates stay and their motivation behind this decision. Then their impact on the organization, especially in terms of knowledge transfer can be approached. Therefore, the overarching research question this thesis aims to answer is: *Who are these expatriates that stay indefinitely, why do they stay, and how do they influence organizational cross-border knowledge transfer?*

To answer these research questions, this thesis starts with a meta-analysis summarizing all quantitative research on antecedents and outcomes of CBKT of more traditional expatriates, thus providing a basis to assess expatriates that stay indefinitely (from now on called “*infipat*”) <sup>1</sup> and their impact on knowledge transfer. Then this thesis relies on two exploratory case studies which are based on 26 open structured interviews with infipats, HQ employees and HCN colleagues from multiple organizations and two different countries, as well as observations and access to company data to create a picture as comprehensive as possible of this new phenomenon. The first case study focuses on who are infipats and why

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<sup>1</sup> For a definition and differentiation from other terms see Chapter 3.



they want to stay indefinitely and the second case study focuses on their impact on organizational CBKT.

This thesis will provide valuable theoretical contributions to global mobility and knowledge transfer research in general and the literature on expatriates in particular, as well as practical implications, in particular for global talent management, staffing and knowledge transfer processes. All of these will be presented in the respective chapters.

## **1.2 Overarching framework**

To tackle this new and under-researched avenue of global mobility research of expatriates who stay indefinitely in their host country as well as their impact on CBKT, since there is nearly no prior research or theories to rely on, we first need to understand which factors influence cross border knowledge transfer via expatriates more generally. While research on CBKT via international assignees has been growing, there has been a strong diversity of perspectives, theoretical lenses and approaches of the topic leading to high variety in influencing factors and outcomes that were investigated. Moreover, since different types of assignees are employed to transfer knowledge (e.g., expatriates, inpatriates, repatriates), there may well be differences that we have to keep in mind when looking at the knowledge transfer of inpatriates. So far, the field has not been in agreement on which are the important influencing factors or outcomes of knowledge transfers via international assignees. Therefore, the first step is to address the following research question:

*Which are the main antecedents and outcomes that influence cross border knowledge transfer via international assignees?*

As a response to these questions, the first study of this thesis is a meta-analysis summarizing all quantitative studies which look into either antecedents or outcomes of CBKT via all types of international assignees on either the individual- or the organizational level. To organize the influencing factors researched so far, we relied on Szulanski's (1996) framework of antecedents for knowledge transfer in MNCs. This framework organizes antecedents into four main groups: individual, relational, knowledge and contextual characteristics. We

analyzed these main groups and calculated effect sizes of the influence on knowledge transfer for each individual factor and for the group as a whole.

Having achieved a solid overview of the most important influencing factors for expatriate knowledge transfer in MNCs, I turn to the exploration of the “new” type of expatriate that is at the core of this thesis. Before making any assumptions regarding their impact on knowledge transfer, their profile and motivation needs to be understood:

*Who are the expatriates that are staying indefinitely and why do they stay?*

Since this is a barely touched upon avenue of expatriate research, we will use an exploratory case study to try to get first insights and answer to the research question. We draw our insights from 27 interviews with current infipats, as well as their HQ and HCN colleagues to create a broader base of information. Dickmann’s (2012) framework of expatriates’ motivation to go on an assignment is used as a base to understand why expatriates decide to stay on assignment. Additionally, we rely on the approach-avoidance motivational model of Elliot (2006) to gain a deeper understanding of why they stay.

Having gained an understanding of who they are and why they stay, we can finally look at infipats from a knowledge transfer perspective. Due to potentially higher adjustment and better local relationships, better knowledge transfer capabilities seem likely, leading us to our last research question:

*What is the influence of infipats on cross-border knowledge transfer?*

To answer this question, we again rely on the exploratory case study drawing from open ended interviews with 27 infipats, HQ and HCN colleagues.

### 1.3 Structure and Content of the Thesis

This PhD thesis adopts the form of a monograph based on three studies. Each of these three studies is presented as an individual chapter. The general structure and a brief overview of each chapter (see Figure 1) is presented below:

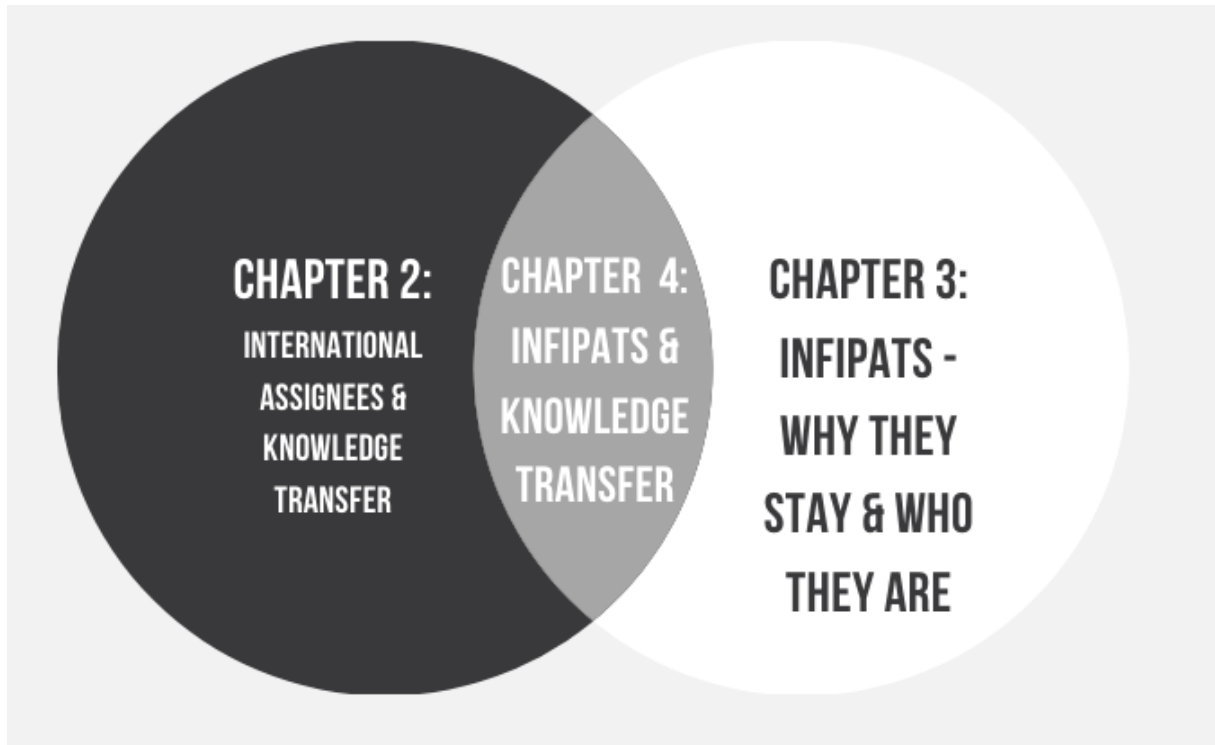
Chapter 2 is the first of the three studies and provides a meta-analytical overview of quantitative research on antecedents and outcomes of cross-border knowledge transfer via international assignees. We categorized the multitude of antecedents, analyzed the individual, as well as the organizational level and included all types international assignees that had been researched with regard to CBKT, including expats, repats and inpats. This will help us as a first step on how to approach infipat assignments, as well as understanding our results as part of a bigger picture. The title of this study is: *Cross-Border Knowledge Transfer via Expatriates, Inpatriates, and Repatriates: A Meta-Analysis*. It was written in collaboration with Dr. Anne Burmeister, Dr. Daniela Noethen and Dr. Mila Lazarova and presented at the annual meeting of the Academy of Management 2019 in Boston, USA.

Chapter 3 is the second study *Parting is Such Sweet Sorrow - Why Expatriates Decide NOT to Part but to Stay Indefinitely on Their Assignment*, which presents a first insight into the infipat phenomenon. This study responds to the research question: *Who are infipats and why do they stay indefinitely?* Relying on a multiple-case study design, the profile of infipats as well as the significant motivational factors influencing the infipat's decision to stay are investigated and classified. The case study is conducted in two different countries, Malaysia and China and with infipats, HCN colleagues and HQ colleagues.

Chapter 4 is entitled *Infipats as Knowledge Transfer Champions: Knowledge Transfer Implications of the Decision to Stay Indefinitely* and addresses the antecedents and outcomes of infipat assignments in relation to knowledge transfer. In particular, there is a focus on the impact of adjustment, relationship variables (trust, HCN perception and networking) and knowledge variables (knowledge access and bidirectional transfer) on infipat knowledge transfer quality.

Chapter 5 presents the main conclusion of the thesis, as well as theoretical contributions, practical implications, limitations, and suggestions for future research based

on the results of this thesis. The references of all chapters are provided together after Chapter 5.



*Figure 1: Chapter overview*





# 2

## Cross-border Knowledge Transfer via Expatriates, Inpatriates, and Repatriates: A Meta-Analysis

Research on cross-border knowledge transfer (CBKT) via international assignees has been growing. The field has reached a point where a synthesis of the quantitative literature is necessary so that we gain an integrated perspective on major research insights. Thus, we meta-analytically analyzed 34 quantitative articles. Our findings established the relative importance of individual, relational, knowledge, and contextual antecedents, and show mixed results for antecedents that are specific to the cross-border context. In addition, we identified relationships between CBKT and performance-related outcomes. We discuss our meta-analytic findings and derive promising directions for future research.

### 2.1 Introduction

Effective knowledge transfer within the intra-organizational network represents one of the main sources of competitive advantage for multinational companies (MNCs). MNCs





have the opportunity to access and leverage valuable and context-specific knowledge originating at various locations within their globally dispersed network of subsidiaries through intra-organizational knowledge transfer (Harzing, Pudelko & Reiche, 2016; Kogut & Mello, 2017; Zeng, Grøgaard & Steel, 2018). However, research has argued that cross-border knowledge transfer (CBKT), i.e., the transfer of internal knowledge from an organizational unit in one country to an organizational unit in another country, is a difficult and non-routine process (Minbaeva, 2013; Ambos & Ambos, 2009).

In this context, the last two decades have seen an increasing recognition of the value of international assignees (i.e., employees sent on a work assignment in a different country by their company for a specified amount of time) for the facilitation of CBKT. Traditionally, international assignees were deployed to fill positions requiring specific expertise, to develop international managerial competences, or to exercise headquarters' (HQ) control over foreign subsidiaries (Edstrom & Galbraith, 1977). Nowadays, however, they are increasingly used as a mechanism to transfer knowledge between globally dispersed organizational units (Caligiuri & Bonache, 2016), based on their ability to adapt and translate valuable tacit knowledge (i.e., complex, difficult to codify, difficult to teach; Zander & Kogut, 1995) from one context to another (Argote, McEvily & Reagans, 2003). The literature has distinguished among three key types of assignees: expatriates (HQ employees sent to a subsidiary), repatriates (former expatriates that have returned to HQ), and inpatriates (subsidiary employees sent to HQ), and suggested that CBKT via international assignees can have performance-enhancing effects. For example, expatriate knowledge transfer can increase subsidiary performance (Chang, Gong & Peng, 2012), and knowledge transfer through inpatriates and repatriates can facilitate innovation at HQ based on the exposure of domestic employees to novel international knowledge (Berthoin Antal, 2000; Subramaniam & Venkatraman, 2001; Oddou, Osland & Blakeney, 2009).

As the role of assignees in CBKT has been gaining recognition, the number of studies on this topic has also increased. Whereas roughly a decade ago it was noted that "very little attention has been paid to the specific issues addressing international assignments in their knowledge transfer function" (Bonache & Zárraga-Oberty, 2008), since 2003 the literature has produced over 150 conceptual and empirical articles, of which 34 are quantitative. The

relatively high number of conceptual publications on CBKT, relative to quantitative research, suggests that the field is nowhere near agreement about what underlies successful CBKT. The empirical work is similarly disjointed, in that it examines a “laundry list” of predictors associated with different theoretical frameworks. We note the core theoretical foundations used by this body of work, but the primary purpose of this study is to provide a meta-analysis of existing empirical studies, in an attempt to summarize and integrate our knowledge on CBKT and identify directions for future research.

CBKT through assignees has two distinguishing features: (1) the knowledge to be transferred is contextually embedded within one country and needs to be adapted to another country by distilling its core components and considering how they fit into the new context; (2) as knowledge is carried by individuals, CBKT is very dependent on the assignees’ ability to adjust to, get successfully socialized into, and develop trusting relationships in different socio-cultural environments (e.g., Oddou et al., 2009). These characteristics enhance the complexity of CBKT through international assignees and might have inflated the number of variables that researchers have considered to make sense of this complex process. Indeed, we were able to identify more than 150 different antecedents that researchers have examined in published quantitative research on CBKT. This multitude of variables is also undoubtedly related to the highly diverse theoretical foundations of this work (Burmeister, 2017): in their study of CBKT through assignees, scholars have constructed propositions based on varied theories such as institutional theory (Riusala & Smale, 2007), social capital theory (Hsu, 2012), organizational learning theory (Awang, Yusof Hussain & Malek, 2013), or the ability-motivation-opportunity framework (Schuster, Holtbruegge & Engelhardt, 2016), among others. Taken together, quantitative research on CBKT has not followed a clear and consistent path and, as a result, it resembles something of a “hodge podge” – the proposed predictors can be traced to very different theories, the list of antecedents is lengthy, and it includes a number of partly overlapping variables, which makes consolidating the literature quite challenging.

Thus, based on its current eclectic nature, quantitative research on CBKT is at a point at which it will benefit from a comprehensive summary of what has been studied, an integration of related existing research findings, and an identification of the most promising

venues for future research. To start addressing these issues, we conducted a meta-analysis of quantitative research on CBKT through expatriates, repatriates, and inpatriates. With this meta-analysis we aim to summarize the absolute and the relative importance of antecedents of CBKT, both at the individual and organizational level of analysis. In addition, we also report relationships between CBKT and performance-related outcomes to understand more about the relevance of CBKT for the performance of MNCs. As with all meta-analyses, our goal is to help develop cumulative knowledge by integrating findings across studies, identifying the underlying patterns of relationships, and thereby contributing to theory refinement and stimulating new theory development (Schmidt & Hunter, 2014). More specifically, research on CBKT has typically been focused on subsets of antecedents and consequences and meta-analysis can facilitate the generation of a more comprehensive list of attributes and the establishment of their relative effects for CBKT (Van Wijk, Jansen & Lyles, 2008). To date, the adoption of meta-analytic techniques has been limited in international business research, which constitutes an unexploited opportunity because its interdisciplinary and eclectic nature provides a research environment in which the insights that can be generated from meta-analysis are most useful (Kirca & Yaprak, 2010).

Our main contribution is providing a synthesis of the existing quantitative literature on antecedents and consequences of CBKT and integrating the research findings that vary in terms of levels of analysis. Furthermore, we categorize the diverse number of antecedents into four higher-order groups of antecedents, i.e., individual, relational, knowledge, and contextual characteristics, following the comprehensive framework of antecedents of knowledge transfer in MNCs by Szulanski (1996). This enabled us to examine the relative importance of antecedents and to identify areas where research is still lacking. Moreover, we contribute to the literature by alluding to the specific nature of CBKT by evaluating the relative importance of antecedents that are unique to the international assignment context. Thereby, we contribute to research that has started to examine how CBKT may differ from domestic knowledge transfer in MNCs (e.g., Burmeister, Lazarova & Deller, in press). It is worth noting that meta-analyses, as a quantitative form of literature analysis, are bound by existing research. As such, our hypotheses reflect only constructs and relationships that have been studied in existing quantitative research on CBKT rather than all possible constructs and relationships that may have been proposed by non-quantitative studies. Finally, based on our

meta-analytic findings and our overview of the theoretical and methodological characteristics of the quantitative literature on CBKT, another main contribution is deriving venues for future research that help to advance the growing field of CBKT theoretically and empirically. By identifying the relative importance of predictors of CBKT and the outcomes of CBKT, our research can also inform practitioners who manage assignees and provide insights on organizational interventions which can facilitate CBKT most effectively.

## 2.2 Literature Review and Organizing Framework

### 2.2.1 CBKT via International Assignees

Knowledge transfer is a dyadic and relational process during which sending and receiving units have to interact to transfer knowledge (Davenport & Prusak, 1998; Connelly, Zweig, Webster & Trougakos, 2012; Grand, Braun, Kuljanin, Kozlowski & Chao, 2016). The interaction of sending and receiving units is of particular importance when the transferred knowledge is tacit, i.e., highly personalized (Polanyi, 1967), difficult to codify, difficult to teach, and highly complex (Zander & Kogut, 1995; Kogut & Zander, 1993). Tacit knowledge is often contrasted with explicit knowledge – knowledge that can be easily documented and shared. Most studies focus on the transfer of tacit knowledge, as it is more valuable to organizations due to competitors' difficulty to imitate knowledge that resides within employees' minds (Grant, 1996; Barney, 1991).

The sending and receiving units in CBKT can be individuals or organizational divisions (Szulanski, 1996; Argote & Ingram, 2000). While knowledge is ultimately created at the individual level and transferred between employees (Nonaka & Takeuchi, 1995), organizational divisions can also be knowledge senders or recipients, by aggregating perspectives of representative employees or relying on key informants, such as human resource managers or top management. More specifically, CBKT at the individual level refers to the process during which international assignees (i.e., expatriates, repatriates, or inpatriates) transfer the knowledge that they acquired at their home (expatriates, inpatriates) or host location (repatriates) to domestic employees at their host (expatriates, inpatriates) or home location (repatriates). CBKT at the organizational level refers to the same processes,

but is measured at the unit level of analysis, assessing the influence of groups of international assignees on CBKT (e.g., influence of number of expatriates on CBKT between HQ and subsidiary).

At its very core, CBKT via international assignees is a knowledge transfer process like any other in MNCs. However, unlike other knowledge transfer processes, CBKT occurs *across borders*, that is, the international assignees who engage in CBKT share knowledge gained in one country with employees in a different country. Accordingly, the already challenging process of transferring mostly tacit knowledge is made even more challenging by the potential socio-cultural differences between the two countries, and the contextually embedded nature of the knowledge that needs to be transferred (Oddou et al., 2009; Burmeister et al., in press). Further, CBKT is driven by *international assignees, including expatriates, repatriates, and inpatriates* (Harzing et al., 2016; Oddou, Szkudlarek, Osland, Deller, Blakeney & Furuya, 2013), employees sent to a unit in a different country for a specified amount of time to fulfill a certain work assignment. All three types of assignees enable MNCs to access and disseminate valuable organizational knowledge within their globally dispersed intra-organizational network and all are likely to face similar challenges when moving their contextually embedded knowledge from one country to another. Thus, it seems reasonable to examine jointly the antecedents and consequences of expatriate, inpatriate, and repatriate knowledge transfer.

### 2.2.2 Antecedents of CBKT: Organizing Conceptual Framework

Based on the idea that knowledge transfer is a communication process during which senders transmit a message that is decoded by recipients in a certain context (Shannon & Weaver, 1949), Szulanski (1996) introduced a widely adopted and comprehensive taxonomy of antecedents of knowledge transfer in MNCs. Szulanski (1996) specified four main groups of antecedents: individual, relational, knowledge, and contextual characteristics. First, *individual characteristics* (e.g., motivation to transfer knowledge) refer to the attitudes, abilities, and behaviors of senders and recipients, who are the actors in the CBKT process. Going forward we will use the term *actor characteristics* instead of individual characteristics as this term can be meaningfully applied both at the individual and the organizational level of

analysis. In addition, we are cognizant of the unique attributes of CBKT compared to other knowledge transfer processes in MNCs (as outlined above), which is why we further differentiated actor characteristics into general *ability- and motivation-related actor characteristics* that are likely to be relevant in most knowledge transfer processes, and *CBKT-specific actor characteristics* that are specifically relevant during CBKT processes in MNCs. Second, *relational characteristics* specify the nature of the interaction between senders and recipients, and can be quantitative (e.g., frequency of communication) or qualitative (e.g., trust). Third, *knowledge characteristics* describe the type and the condition of the knowledge that is transferred between senders and recipients (e.g., tacitness). Fourth, *contextual characteristics* refer to characteristics of the environment in which the knowledge transfer takes place that are outside of the control of senders and recipients (e.g., human resource practices). We choose this taxonomy as our organizing framework as it represents a comprehensive overview of antecedents of knowledge transfer processes in MNCs, and has previously been applied successfully to understand CBKT (Bonache & Zárraga-Oberty, 2008; Burmeister, 2017).

## 2.3 Hypotheses Development

### **Actor Characteristics as Antecedents of CBKT**

#### ***Ability- and motivation-related actor characteristics.***

*Ability- and motivation-related actor characteristics* reflect the ability and the willingness of knowledge senders and recipients to share and receive knowledge during CBKT. Research on CBKT has derived the importance of individuals' ability and motivation for CBKT based on the ability-motivation-opportunity framework introduced by Blumberg & Pringle (1982). Accordingly, any performance in the workplace is dependent on the skills of individuals to perform a certain behavior (i.e., the can-do component of behavior) and individuals' willingness to exert effort to perform a certain behavior (i.e., the will-do component of behavior).

Research at the individual level of analysis has demonstrated the importance of both ability and motivation for successful CBKT (Minbaeva & Michailova, 2004; Minbaeva,

Pedersen, Bjoerkman, Fey & Jeong, 2003; Burmeister et al., in press). Further, examining characteristics closely related to ability and motivation, studies have also shown that CBKT requires a certain level of adaptability from both knowledge senders and recipients: knowledge senders must be open to adapting their knowledge to different contexts (Burmeister, Deller, Osland, Szkudlarek, Oddou & Blakeney, 2015; Oddou et al., 2013), and knowledge recipients need to be open to receive and use international knowledge (Burmeister et al., in press). In addition, international assignees and local employees can only transfer knowledge when they are embedded in and have continued access to knowledge at the home and host location to update their own knowledge reservoirs (Hocking, Brown & Harzing, 2007). Taken together, we hypothesize:

***Hypothesis 1.*** *Ability- and motivation-related actor characteristics are positively associated with cross-border knowledge transfer at the individual level of analysis. Specifically, international assignees' and local employees' (H1a) ability to transfer, (H1b) motivation to transfer, (H1c) motivation to excel, (H1d) embeddedness, (H1e), knowledge access, and (H1f) adaptability are each positively associated with cross-border knowledge transfer.*

At the organizational level, “actors” are HQs and foreign subsidiaries (or other organizational units), who are typically represented empirically by aggregating the perspectives from groups of international assignees, local employees, or managers (e.g., HR managers, country managers). With regard to *ability-and motivation-related actor characteristics*, ability and motivation of the groups of international employees and local employees have also been considered as antecedents of CBKT at the organizational level because the actors need to make sense of the international knowledge that is transferred from one context to another (Chang et al., 2012). Research has also shown that absorptive capacity, i.e., the ability to recognize, process, and apply new knowledge (Cohen & Levinthal, 1990; Zahra & George, 2002), is of critical importance for CBKT at the organizational level of analysis. This leads to the following hypotheses:

***Hypothesis 2.*** *Ability-and motivation-related actor characteristics are positively associated with cross-border knowledge transfer at the organizational level of analysis. Specifically, (H2a) ability to transfer, (H2b) motivation to transfer, and (H2c) absorptive capacity are each positively related to cross-border knowledge transfer.*

### ***CBKT-specific actor characteristics.***

*CBKT-specific actor characteristics* reflect attitudes and abilities that enable international assignees to operate effectively in different socio-cultural environments as well as succeed in international assignments. Research at the individual level of analysis has suggested that international assignees who are well adjusted to the local assignment context and have proficiency in the local language are able to navigate the cultural complexities of cross-cultural interactions more effectively and are thus more likely to establish trusting relationships with local employees who represent potential knowledge sources or recipients, which in turn can stimulate CBKT (Barner-Rasmussen, Ehrnrooth, Koveshnikov & Mäkelä, 2014). CBKT can also be facilitated by the assignees' boundary spanning, i.e., their brokerage between different social ties established at home and host location (Reiche, 2011). Finally, international assignees with more extensive prior international experience will have had more opportunities to develop trusting relationships, and to seek and transfer new knowledge while interacting with domestic employees (Burmeister et al., in press). Thus, we hypothesize:

***Hypothesis 3.*** *CBKT-specific actor characteristics are positively associated with cross-border knowledge transfer at the individual level of analysis. Specifically, international assignees' (H3a) cultural adjustment, (H3b) cultural intelligence, (H3c) boundary spanning, (H3d) language proficiency, (H3e) prior international experience, and (H3f) time on assignment are each positively associated with cross-border knowledge transfer.*

With regard to *CBKT-specific actor characteristics* at the organizational level of analysis, we expect certain types of international assignments and a higher number of international assignees to facilitate CBKT. International assignments can be distinguished into short-term assignments (e.g., frequent flyers, international commuters, short-term postings - between 1 and 12 months) and long-term assignments (i.e., typically more than 12 months at foreign subsidiary; Minbaeva & Michailova, 2004). Since long-term assignments imply higher role discretion, responsibility, and the need to cope effectively with the demands of being on international assignment for the assignee over time (Minbaeva & Michailova, 2004; Stahl & Caligiuri, 2005), we expect long-term assignments but not short-term assignments to be positively associated with CBKT. In addition, the number of international assignees at the focal



organizational unit has been suggested to relate positively to CBKT, because international assignees can act as boundary spanners between headquarters and subsidiaries, and they are more likely to identify knowledge that is relevant for each based on their familiarity with both MNC units (Björkman, Barner-Rasmussen & Li, 2004; Wang, Tong, Chen & Kim, 2009). Thus, we hypothesize:

***Hypothesis 4.*** *CBKT-specific actor characteristics are positively associated with cross-border knowledge transfer at the organizational level of analysis. Specifically, (H4a) long-term assignments and (H4b) number of expatriates are each positively associated with cross-border knowledge transfer.*

### **Relational Characteristics as Antecedents of CBKT**

CBKT is a dyadic and relational process (Minbaeva, 2007; Bonache & Zárraga-Oberty, 2008; Burmeister et al., in press) as international assignees and local employees need to interact to develop a shared understanding and make sense of the mainly tacit knowledge that is transferred (Oddou et al., 2009). Broadly speaking, the literature has suggested that CBKT will be facilitated by relational characteristics that increase similarity and reduce distance between knowledge senders and knowledge recipients.

More specifically, the literature at the individual level of analysis has suggested that international assignees and local employees who interact more frequently and intensively and who have known each other for a longer duration are more likely to understand each other's thinking processes and relate favorably to each other (Mäkelä, 2007; Burmeister, 2017). Next, positive evaluations of one another, for example, in terms of perceived justice or trust, can help to overcome the risks associated with transferring knowledge, such as losing one's competitive advantage when sharing knowledge or being ridiculed when acknowledging knowledge gaps (Bender & Fish, 2000; Bock, Zmud, Kim & Lee, 2005; Andrews & Delahaye, 2000). In addition, individuals have a natural tendency to prefer interactions with similar others (Turner, Hogg, Oakes, Reicher & Wetherell, 1987; Turner, 1982), rendering interactions with culturally dissimilar others more difficult (Van Knippenberg, Dreu & Homan, 2004). Accordingly, having a shared vision should increase CBKT, while cultural differences should hinder CBKT. Taken together, we hypothesize:

**Hypothesis 5.** *Relational characteristics that increase similarity and reduce distance between international assignees and domestic employees are positively associated with cross-border knowledge transfer, while relational characteristics that decrease similarity and increase distance between international assignees and domestic employees are negatively associated with cross-border knowledge transfer at the individual level of analysis. Specifically, (H5a) communication frequency, (H5b) relationship length, (H5c) cooperation, (H5d) positive expatriate evaluation, (H5e) interactional justice, (H5f) trust, and (H5g) shared vision are each positively related to cross-border knowledge transfer, while (H5h) cultural difference is negatively associated with cross-border knowledge transfer.*

At the organizational level of analysis, similarities between subsidiaries and headquarters on relevant dimensions, such as organizational culture, should facilitate CBKT because they limit the risks and efforts associated with CBKT. For example, groups of assignees and local employees who have been socialized in similar organizational cultures can more easily understand each other's thoughts and come to a shared understanding, which can facilitate CBKT (Park & Choi, 2014). Thus, we hypothesize:

**Hypothesis 6.** *Relational characteristics that increase similarity and reduce distance between HQ and foreign subsidiaries are positively associated with cross-border knowledge transfer, while relational characteristics that decrease similarity and increase distance between sending and receiving units are negatively associated with cross-border knowledge transfer at the organizational level of analysis. Specifically, (H6a) subsidiary-headquarters fit is positively associated with cross-border knowledge transfer.*

### **Knowledge Characteristics as Antecedents of CBKT**

Based on communication theories (Shannon & Weaver, 1949), knowledge can be conceptualized as the message that is sent by the sender and subsequently decoded by the recipient in CBKT processes. CBKT processes are affected by the type and quality of the knowledge, as specific knowledge characteristics can facilitate or hinder the transfer of the message in interactive communication processes.

At the individual level of analysis, perceived value or relevance of knowledge can facilitate CBKT because recipients are more likely to seek and receive international knowledge when the costs of engaging in CBKT in terms of time and effort are clearly outweighed by the benefits of being able to use the knowledge (Burmeister et al., 2015). In addition, knowledge tacitness (i.e., conceptualized as high complexity, low teachability, low codifiability; Kogut & Zander, 1993; Zander & Kogut, 1995) makes CBKT more challenging because tacit knowledge is more difficult to explicate and its transfer requires more effort from international assignees and local employees (Riusala & Smale, 2007; Burmeister et al., in press). Thus, we hypothesize:

***Hypothesis 7.*** *Knowledge characteristics that decrease the difficulty of transferring knowledge are positively associated with cross-border knowledge transfer, while knowledge characteristics that increase the difficulty of transferring knowledge are negatively associated with cross-border knowledge transfer at the individual level of analysis. Specifically, (H7a) knowledge relevance is positively associated with cross-border knowledge transfer, while (H7b) knowledge tacitness is negatively associated with cross-border knowledge transfer.*

At the organizational level of analysis, quantitative research is yet to examine the link between knowledge characteristics and CBKT via international assignees in MNCs, and thus a specific hypothesis on this cannot be derived based on the available empirical literature. Nonetheless, we note that research on knowledge transfer in MNCs in general has suggested that knowledge relevance or utility is one of the decisive factors for whether or not knowledge is an attractive resource for other units within the MNC. Accordingly, receiving units carefully scrutinize whether the transfer is deemed beneficial or too costly to integrate into operations (Yang, Mudambi & Meyer, 2008). Importantly, researchers have clarified that the perceived relevance of the knowledge is dependent on the transfer direction, i.e., whether knowledge is transferred from HQ to subsidiary or from subsidiary to HQ (Kogut & Mello, 2017; Yang et al., 2008; Ambos, Ambos & Schlegelmilch, 2006), such that certain types of knowledge might be more attractive to foreign subsidiaries, while others are more relevant for HQ. For example, foreign subsidiaries were typically interested in management and marketing know-how to optimize their local operations (Meyer & Estrin, 2007), while HQ tend to prefer to receive local knowledge about managerial practices, markets, customers, and products to

develop new products and improve processes in the global network of the MNC (Ambos et al., 2006). Thus, although quantitative evidence on CBKT via international assignees at the organizational level is absent, the literature on knowledge transfer in MNCs in general supports the proposition that knowledge characteristics that decrease the difficulty of transferring knowledge are positively associated with cross-border knowledge transfer at the organizational level of analysis. Given that our meta-analysis is designed to include only variables that have been previously tested by empirical research, we do not advance a formal hypothesis on this but do indicate the importance of this variable in our integrative model (see Figure 2).

### **Contextual Characteristics as Antecedents of CBKT**

Contextual characteristics describe the environment in which CBKT takes place and are typically outside the control of individuals (Blumberg & Pringle, 1982). The importance of contextual characteristics for CBKT can be understood drawing from different theories, such as social exchange theory (Blau, 1964) and signaling theory (Rynes, Bretz & Gerhart, 1991). Social exchange theory highlights the role of support and suggests that employees who receive support from supervisors and the organization feel obligated to reciprocate this positive treatment by engaging in positive work behaviors such as CBKT. More specifically, research has shown that support from relevant third parties within organizations, such as mentors and supervisors, can have a positive influence on the behavior of international assignees (Carragher, Sullivan & Crocitto, 2008; Burmeister et al., 2015). Signaling theory suggests that contextual characteristics such as organizational practices and regulatory contexts can send signals to employees with regard to the importance and value that is attached to international knowledge and its transfer, which, in turn, can motivate employees to engage in behavior that is in line with organizational signals. Thus, climate and support mechanisms created by MNCs can facilitate CBKT, for example, when MNCs provide training for international assignees (i.e., human resource practices) on how to transfer their knowledge or create opportunities for interaction for international assignees and local employees (Minbaeva, 2013; Huang, Chiu & Lu, 2013; Burmeister et al., in press). Finally, and also related to signaling theory, the broader social and regulatory context in which MNCs operate can affect CBKT, such that foreigner-friendly immigration policies can facilitate CBKT

because they signal that international knowledge from foreigners such as international assignees is valued (Stoermer, Davies & Froese, 2017). Taken together, we hypothesize:

**Hypothesis 8.** *Contextual characteristics that establish conditions that facilitate cross-border knowledge transfer are positively associated with cross-border knowledge transfer at the individual level of analysis. Specifically, (H8a) mentoring, (H8b) supervisor support, (H8c) organizational climate, (H8d) HR practices, (H8e) opportunities for interaction, and (H8f) (foreigner-friendly) social/regulatory context are each positively associated with cross-border knowledge transfer.*

At the organizational level, contextual characteristics refer to the situational environment in which the group of international assignees and domestic employees interact to engage in CBKT. We expect that MNCs' HR practices (e.g., training, performance appraisal, promotion; Minbaeva et al., 2003), which are targeted at emphasizing the value of international knowledge, are positively related to CBKT. We thus hypothesize:

**Hypothesis 9.** *Contextual characteristics that establish conditions that facilitate cross-border knowledge transfer are positively associated with cross-border knowledge transfer at the organizational level of analysis. Specifically, (H9a) HR practices are positively associated with cross-border knowledge transfer.*

At both levels of analysis, we identified a number of typical control variables for which we also calculated meta-analytic effects to provide a comprehensive overview of studied antecedents. At the individual level of analysis, we included age, gender, nationality, rank, and tenure, which were included in several studies. At the organizational level of analysis, we included MNC location, MNC age, MNC size, mode of entry, role of subsidiary, subsidiary age, subsidiary sector, and subsidiary size.

## 2.4 Method

### 2.4.1 Literature Search and Inclusion Criteria

First, to identify relevant articles, we performed a literature search in the databases PsychInfo, Web of Science, and Business Source Premier. We searched title, abstract, and keywords using the following combination of terms: expatriat\*, inpatriat\*, or repatriat\* in

combination with synonyms of knowledge transfer (Van Wijk et al., 2008). We detected 323 potentially relevant articles ( $N_{\text{PsychInfo}} = 53$ ,  $N_{\text{Web of Science}} = 146$ , and  $N_{\text{Business Source Premier}} = 124$ ), of which 89 articles were duplicates, leaving us with 244 articles to check for inclusion. Second, we searched the reference lists of the identified articles using the keywords provided above to identify additional studies that the database search was unable to capture. This search of the reference lists yielded another five relevant articles. Third, we contacted researchers in the field via email and using well-known listservs of the academic community, and asked them to send us unpublished studies, work in progress, and dissertations related to correlates of CBKT. This request resulted in another five studies.

In a next step, we carefully examined the title, abstract, and, if necessary, full text of the 342 articles to determine which articles to include in the meta-analysis. To be included, articles had to (a) assess intra-organizational knowledge transfer (or similar processes, such as knowledge sharing) between expatriates, inpatriates, or repatriates and local employees, (b) report quantitative information that can be coded, such as correlation coefficients, and c) they had to be in English. At the end of this process, we retained 41 articles<sup>2</sup>, with a total cumulative sample size across studies of 8126 (see Appendix Tables A1 and A2).

#### 2.4.2 Sample Characteristics

In describing the sample of 41 primary studies examined in this meta-analysis on CBKT via international assignees, we focus on three methodological characteristics: (1) data sources, (2) research designs, and (3) regions of sampled population. With regard to studies at the individual level of analysis ( $N = 31$ ), we found that 68% collected data from international assignees only, 25% collected data from both international assignees and local employees, and the remainder of 7% obtained their data from local employees only. Second, in terms of research design, all studies were questionnaire-based field studies, and 93% of studies employed a cross-sectional design with one measurement wave, while only three studies (7%)

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<sup>2</sup> Most studies that had to be excluded (38%) did not actually study knowledge transfer. For example, Tarique and Caligiuri (2009) mentioned knowledge transfer and absorptive capacity, but they studied knowledge acquisition of expatriates via training, not the interaction of knowledge senders (i.e., expatriates) and recipients (i.e., local employees) that results in knowledge transfer. Further, 35% of studies were excluded because they were conceptual, 11% because they were qualitative, and the rest because of other reasons (i.e., not in English).

used a time-lagged design with two waves (Burmeister et al., in press; Stoermer et al., 2017; Reiche, 2012). Third, most studies obtained their data from participants working in subsidiaries in Asia (76%) and Europe (26%), and only very few studies sampled data from U.S. American (8%), Australian (4%), South American (4%), or African subsidiaries (4%).<sup>3</sup>

With regard to studies at the organizational level of analysis, the majority of studies collected data from subsidiaries' senior executives (60%) and subsidiaries' middle managers (20%). One study obtained data from expatriates (Musasizi, 2010), and only one study obtained data from multiple sources (Chang et al., 2012). Second, all studies used questionnaire-based cross-sectional research designs. Third, most studies used data from subsidiaries from Europe (60%) and Asia (50%), followed by U.S. American subsidiaries (30%) and only one study each covering data from Australia (10%) and Africa (10%)<sup>2</sup>.

#### 2.4.3 Coding Procedure

In a first step, the characteristics of the 34 studies were coded (e.g., data sources, level of analysis, sample sizes, effect sizes, and reliabilities of scales).<sup>4</sup> The coding was done separately by a trained research assistant and the third author. Agreement for the complete coding scheme was 88% (i.e., 30 out of the 34 studies were coded identically), suggesting that the coding process produced reliable data. More specifically, the inter-rater reliability coefficient (Cohens' Kappa; Cohen, 1960) for level of analysis (i.e., individual or organizational level of analysis) was 0.93. Discrepancies were discussed and resolved within the team such that the final coding scheme reflected 100% agreement.

Second, we critically evaluated which correlates of CBKT could be combined to form constructs based on similar conceptualization and operationalization (see Appendix Table A3 for the definition of all constructs included in the meta-analysis). For example, the effect for

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<sup>3</sup> If a study collected data in more than one region, it was subsumed under each region, thus the sum of the percentages is larger than 100%.

<sup>4</sup> In three cases we had to make decisions about which data to include: Janessari et al. (2016) and Hsu (2012) both obtained separate data for tacit and explicit knowledge. Due to the respective operationalizations, we decided in both cases to focus on tacit knowledge rather than averaging across the two types of knowledge. Moreover, Hsu (2012) included dyadic as well as individual data, in which case we focused on the dyadic data for a more comprehensive picture. Lastly, in the case of Peterson (2010), we averaged relationships for the two dependent variables investigated, repatriate knowledge sharing and knowledge seeking.

the construct language proficiency represents variables from the primary studies such as host language fluency and language proficiency. In addition, we matched the identified constructs with the taxonomy of Szulanski (1996): At both levels of analysis, we identified one group of performance-related outcomes, and five groups of antecedents (see Figure 2): (1a) ability- and motivation-related actor characteristics, (1b) CBKT-specific actor characteristics, (2) knowledge characteristics, (3) relational characteristics, and (4) contextual characteristics.

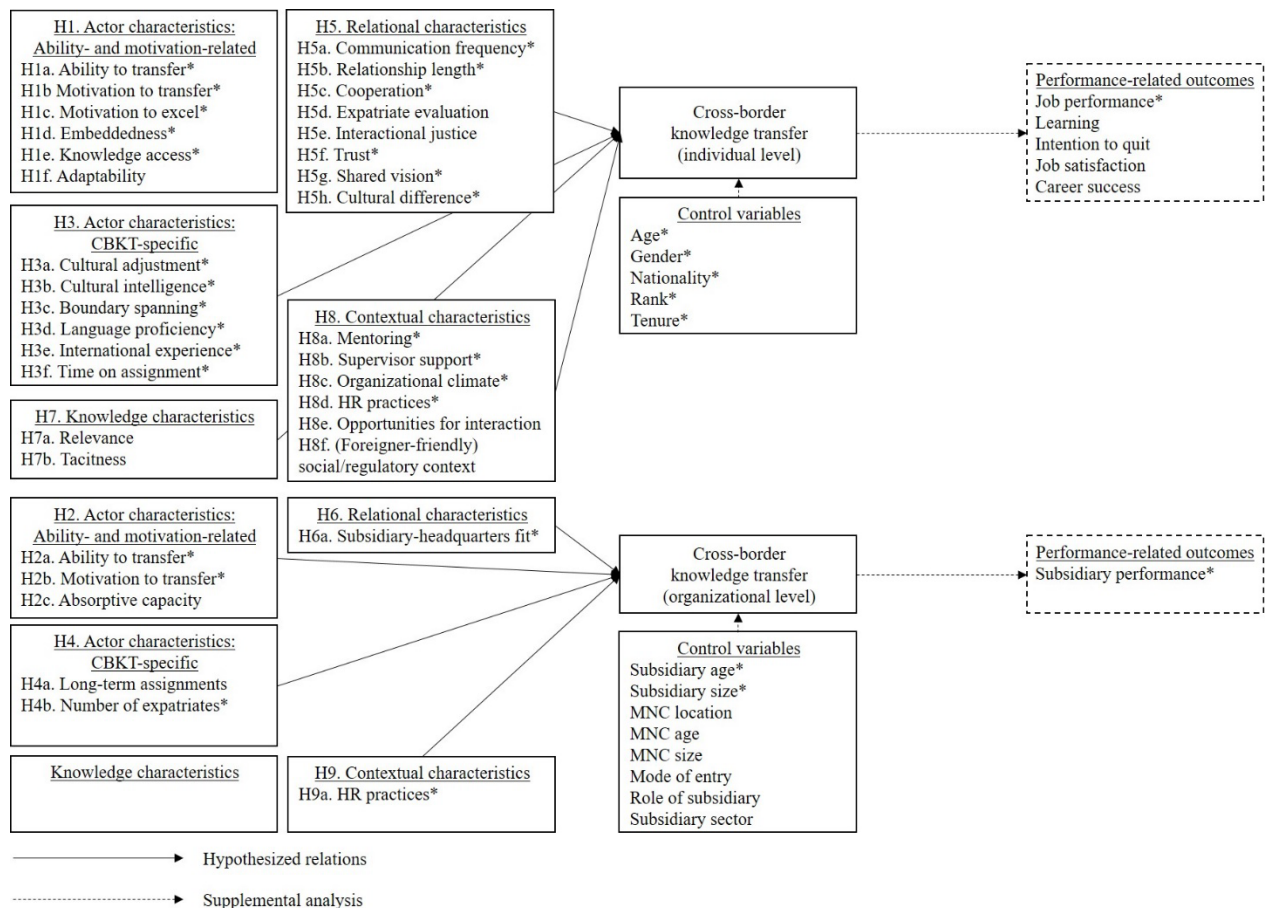


Figure 2: Correlates of CBKT

Note. IA = international assignee. Asterisks indicate that we were able to calculate meta-analytic effects based on at least three available effect sizes.

#### 2.4.4 Meta-analytic Procedure

We were able to calculate 36 meta-analytic effects based on the availability of at least three independent effects from primary studies. We followed the psychometric meta-analytic approach recommended by Schmidt & Hunter (2014), and report both  $r$  (i.e., effect size weighted by sample size only) and  $r_c$  (i.e., effect size weighted by sample size and corrected



for unreliability of measures using the Cronbach's alphas reported in the primary studies). If reliabilities were not reported, we used the weighted mean reliability obtained from those studies that reported reliability information for that variable. This artefact correction addresses the fact that the observed correlation coefficients tend to be attenuated (i.e., diluted) due to measurement error in the variables of interest (Schmidt & Hunter, 2014). The statistical significance of these weighted and artifact-corrected correlation coefficients ( $r_c$ ) is judged by constructing 95% confidence intervals around the point estimates. In addition, we report z-values (based on the Fisher's  $r$  to  $z$  transformation) for the obtained effect sizes, which show the correlation coefficient with approximate constancy of the standard deviations (Fisher, 1915). Furthermore, the fail-safe  $N$  for  $p = 0.05$  was calculated to evaluate the robustness of the calculated effect sizes against a potential publication bias (Rosenthal, 1979).<sup>5</sup> In addition, we calculated an overall meta-analytic correlation for each group of correlates (e.g., relational characteristics). This value was calculated by first weighting each weighted and artifact-corrected correlation  $r_c$  within one group of correlates by its associated number of studies  $k$ , then summing these values and dividing the total by the aggregated  $k$  (Ng, Eby, Sorensen & Feldman, 2005). This served as an overall indicator of the extent to which each group of correlates, on average, was related to CBKT.

## 2.5 Results

In the following, we present our meta-analytic findings on antecedents of CBKT at the individual (see Table 1) and organizational level (see Table 2). Wherever a limited number of existing effects (i.e., less than three effects) did not allow for inclusion in the meta-analysis, we complemented our meta-analytical findings with a narrative review of the studied relationships.

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<sup>5</sup> Moreover, to identify whether the observed variance of effect sizes was due to artificial variance (i.e., sampling error variance) or true variance, we calculated the percentage of variance due to sampling error Schmidt and Hunter (2014) and the  $Q$  statistic Hedges and Olkin (1985). Heterogeneity of variances can be assumed when the ratio of sampling error variance and observed variance does not exceed the critical value of 75% i.e., when the artifacts explain less than 75% of the observed variance; Schmidt and Hunter (2014) and when the  $Q$  statistic is significant (Lipsey and Wilson, 2001).



Variable	<i>k</i>	<i>N</i>	<i>r</i>	<i>r<sub>c</sub></i>	95% CI	% var	avg <i>z</i>	fail safe <i>N</i>	<i>Q</i>
<b>Actor characteristics</b>									
<u><i>H1. Ability- and motivation-related actor characteristics</i></u>									
H1a. Ability to transfer	5	915	0.22	0.27*	0.07; 0.47	0.13	3.70	121	55.83*
H1b. Motivation to transfer	5	908	0.51	0.60*	0.42; 0.78	0.09	7.51	516	91.28*
H1c. Motivation to excel	3	628	0.14	0.18	-0.02; 0.39	0.28	2.34	15	38.00*
H1d. Embeddedness	4	1989	0.28	0.34*	0.188; 0.49	0.10	4.83	134	78.07*
H1e. Knowledge access	3	525	0.45	0.52*	0.38; 0.65	0.42	5.95	115	19.75*
H1f. Adaptability	2	361							
Average effect	3.70	902		0.38					
<u><i>H3. CBKT-specific actor characteristics</i></u>									
H3a. Cultural adjustment	3	573	0.28	0.36*	0.05; 0.67	0.09	4.26	57	63.18*
H3b. Cultural intelligence	8	2336	0.26	0.32*	0.16; 0.48	0.15	4.36	443	54.34*
H3c. Boundary spanning	4	681	0.26	0.32*	0.26; 0.38	1.87	3.22	57	4.76
H3d. Language proficiency	4	756	-0.02	-0.02	-0.13; 0.10	0.46	1.13	174	9.14*
H3e. International experience	4	2007	-0.12	-0.15*	-0.27; -0.03	0.17	4.41	46	17.50*
H3f. Time on assignment	6	886	-0.10	-0.11*	-0.20; -0.02	0.61	1.60	28	10.69

Average effect	4.80	1207		0.12						
<b>H5. Relational characteristics</b>										
H5a. Communication frequency	4	665	0.27	0.35*	0.24; 0.46	0.39	3.49	64	48.35*	
H5b. Relationship length	3	371	0.13	0.11	-0.07; 0.28	0.39	1.70	7	13.01*	
H5c. Cooperation	3	528	0.30	0.34*	0.20; 0.48	0.48	3.67	42	17.72*	
H5d. Expatriate evaluation	1	716								
H5e. Interactional justice	1	118								
H5f. Trust	10	1381	0.24	0.27*	0.075; 0.464	0.21	2.97	316	72.82*	
H5g. Shared vision	6	777	0.37	0.43*	0.32; 0.54	0.42	4.17	225	105.07*	
H5h. Cultural difference	4	615	0.04	0.07	-0.03; 0.17	0.93	0.58	-2	7.56	
Average effect	5	722		0.26						
<b>H7. Knowledge characteristics</b>										
H7a. Relevance	1	240								
H7b. Tacitness	1	211								
<b>H8. Contextual characteristics</b>										
H8a. Mentoring	3	749	0.17	0.18*	0.13; 0.23	2.21	2.73	22	1.04	
H8b. Supervisor support	5	966	0.16	0.19*	0.09; 0.31	0.42	2.40	48	32.25	
H8c. Organizational climate	5	1479	0.27	0.35*	0.25; 0.44	0.36	4.14	153	32.15*	
H8d. HR practices	4	790	0.26	0.30*	0.07; 0.53	0.10	3.71	78	58.15*	

H8e. Opportunities for interaction	2	151							
H8f. Social/regulatory context	2	1439							
Average effect	3.50	996		0.26					
<b>Control variables</b>									
Age	7	2407	0.08	0.09*	0.01; 0.17	0.30	1.90	58	27.28*
Gender	8	2528	0.00	-0.01	-0.06; 0.05	0.68	1.08	19	14.04
Nationality	3	1574	0.04	0.05*	0.03; 0.07	6.51	0.99	0	0.59
Rank	5	1824	0.18	0.20*	0.16; 0.25	1.04	2.68	61	6.27
Tenure	4	1974	0.17	0.19*	0.08; 0.30	0.17	3.62	74	23.31*
Average effect	5.40	2061		0.09					
<b>Outcomes</b>									
Job performance	3	745	0.26	0.31*	0.17; 0.45	0.36	4.17	55	16.31*
Learning	4	798	0.44	0.50*	0.29; 0.70	0.10	6.49	245	48.28*
Average effect	3.50	772		0.42					

*Note.* H = hypothesis, k = cumulative number of studies, N = cumulative sample size, r = sample size corrected correlation,  $r_c$  = sample size weighted and reliability corrected correlation, CI = confidence interval for  $r_c$ , % var = variance attributed to sampling error, avg. z = average z value; KT = knowledge transfer; Int, = international. \* 95% CIs do not include zero \*Q is significant  $p < 0.05$ .

*Table 1: Meta-Analytical Results: Individual Level*

Variable	<i>k</i>	<i>N</i>	<i>r</i>	<i>r<sub>c</sub></i>	95% CI	% var	avg. <i>z</i>	fail safe <i>N</i>	<i>Q</i>
<b>Actor characteristics</b>									
<i>Ability- and motivation-related actor characteristics</i>									
H2a. Ability to transfer	4	897	0.37	0.45*	0.27; 0.62	0.19	5.55	280	39.65*
H2b. Motivation to transfer	4	737	0.39	0.48*	0.29; 0.68	0.17	5.24	159	83.40*
H2c. Absorptive capacity	2	404							
Average effect	4	817		0.47					
<i>CBKT-specific actor characteristics</i>									
H4a. Long-term assignments	1	92							
H4b. Number of expatriates	7	1819	0.10	0.11*	0.04; 0.18	0.45	1.85	55	18.58*
<b>Relational characteristics</b>									
H6a. Subsidiary-HQ fit	3	458	0.27	0.32*	0.29; 0.34	14.89	3.41	36	0.00
<b>Contextual characteristics</b>									
H9a. HR practices	4	627	0.20	0.27*	0.07; 0.47	0.22	2.41	30	37.49*
<b>Control variables</b>									
Age of subsidiary	5	862	-0.02	-0.02	-0.12; 0.07	0.57	1.19	8	9.00

Size of subsidiary	6	1024	0.01	0.00	-0.09; 0.10	0.48	1.06	9	22.35*
Average effect	5.5	943		-0.01					
<b>Outcomes</b>									
Subsidiary performance	4	725	0.39	0.46*	0.32; 0.60	0.27	5.08	148	43.00*

*Note.* H = hypothesis, k = cumulative number of studies, N = cumulative sample size, r = sample size corrected correlation,  $r_c$  = sample size weighted and reliability corrected correlation, CI = confidence interval for  $r_c$ , % var = variance attributed to sampling error, avg. z = average z value, KT = knowledge transfer. \* 95% CIs do not include zero \*Q is significant  $p < 0.0$

*Table 2: Meta-Analytical Results: Organizational Level*

### 2.5.1 Actor Characteristics as Antecedents of CBKT

#### ***Ability-and motivation-related actor characteristics.***

Table 1 presents analyses at the individual level. In line with Hypothesis 1, *ability- and motivation-related actor characteristics* at the individual level were positively associated with CBKT. The effect was the largest compared to the other groups of antecedents ( $r_c = 0.38$ ). More specifically, ability to transfer (H1a), motivation to transfer (H1b), embeddedness (H1d) and knowledge access (H1e) were significantly related to CBKT at the individual level. However, Hypothesis 1c was not supported as motivation to excel did not show a significant relationship with CBKT. In addition, adaptability (H1f) was only examined by two studies, thus precluding meta-analytic calculations but allowing for a narrative review. Contrary to Hypothesis 1f, Peterson (2010) reported a positive and non-significant effect of lack of adaptability ( $r = 0.09$ ), while Armstrong & Li (2017) reported a negative significant correlation of adaptability and CBKT ( $r = -0.16$ ), suggesting that adaptability might hinder rather than facilitate CBKT.

Table 2 presents analyses at the organizational level. Supporting Hypothesis 2, *ability- and motivation-related actor characteristics* at the organizational level were positively associated with CBKT ( $r_c = 0.47$ ). More specifically, ability to transfer (H2a) and motivation to transfer (H2b) were positively and significantly related to CBKT. Only two studies examined the effect of subsidiaries' absorptive capacity (H2c), thus precluding a meta-analytic test. However, both Chang et al. (2012) and Wang et al. (2009) found medium-sized positive relationships between subsidiaries' absorptive capacity and CBKT ( $r = 0.41$ ,  $r = 0.39$ ).

#### ***CBKT-specific actor characteristics.***

In line with Hypothesis 3, CBKT-specific actor characteristics at the individual level showed a positive albeit small relationship with CBKT ( $r_c = 0.12$ ). More specifically, cultural adjustment (H3a), cultural intelligence (H3b), and boundary spanning (H3c) showed medium-sized positive relationships with CBKT. However, contrary to our hypotheses, language proficiency (H3d) was not significantly related to CBKT, while prior international experience (H3e) and time on assignment (H3f) showed small negative relationships with CBKT.



In line with our hypotheses at the organizational level, number of expatriates (H4b) showed a small positive significant relationship with CBKT. Only one study examined the extent to which the type of international assignment (H4a) affected expatriate knowledge transfer, thus we were unable to calculate a meta-analytical effect for Hypothesis 4a. In contrast to our expectations, the findings by Minbaeva & Michailova (2004) suggested that only frequent flying, as an example of short-term assignments, was positively and significantly related to CBKT ( $r = 0.18$ ), while long-term assignments were positively but not significantly associated with CBKT ( $r = 0.08$ ).

### 2.5.2 Relational Characteristics as Antecedents of CBKT

In support of Hypothesis 5, relational characteristics that increased similarity and reduced distance between international assignees and domestic employees showed a positive medium-sized relationship ( $r_c = 0.26$ ) with CBKT at the individual level. Specifically, communication frequency (H5a), cooperation (H5c), trust (H5f), and shared vision (H5g) showed positive small to medium-sized relationships with CBKT. However, contrary to our hypotheses, relationship length (H5b) did not display a significant positive relationship with CBKT, and cultural difference (H5h) did not show a significant negative relationship with CBKT. Further, we could not test two of our hypotheses, as only two studies examined the relationship between positive expatriate evaluation (H5d) and interactional justice (H5e) and CBKT. However, the primary studies indicated that positive expatriate evaluation ( $r = 0.42$ ) and positive perceptions of interactional justice ( $r = 0.25$ ), were positively related to CBKT (Leung, Lin & Lu, 2014; Leung, Wang, Zhou & Chan, 2011).

At the organizational level, in line with Hypothesis 6a, the subsidiary and headquarters fit showed a significant medium-sized relationship with CBKT.

### 2.5.3 Knowledge Characteristics as Antecedents of CBKT

Due to the limited number of available effect sizes we were unable to calculate meta-analytic effects with regards to these variables. At the individual level, two studies examined tacitness and one study investigated quality as knowledge characteristics, thus allowing for a narrative review: Burmeister, Lazarova & Deller (2016) found that knowledge that was

difficult to codify ( $r = -0.27$ ), difficult to teach ( $r = -0.20$ ), and highly complex ( $r = -0.20$ ) inhibited repatriate knowledge transfer. Riusala & Smale (2007) reported that codifiability was unrelated ( $r = 0.16$ ), teachability was negatively related ( $r = -0.53$ ), and complexity was positively related ( $r = 0.43$ ) to the difficulty of expatriate knowledge transfer. Finally, Peterson (2010) found a positive relationship ( $r = 0.35$ ) between knowledge quality and repatriate knowledge transfer. At the organizational level, to our knowledge, no study examined knowledge characteristics in the context of CBKT via international assignees.

#### 2.5.4 Contextual Characteristics as Antecedents of CBKT

In line with Hypothesis 9, contextual characteristics at the individual level showed a positive medium-sized relationship ( $r_c = 0.26$ ) with CBKT. More specifically, mentoring (H9a) and supervisor support (H9b) showed small relationships with CBKT, while organizational climate (H9c) and HR practices (H9d) displayed medium-sized relationships with CBKT. However, opportunities for interaction (H9e) and (foreigner-friendly) social/regulatory context (H9f) were only examined by a limited number of studies, thus only allowing for a narrative review. With regards to opportunities for interaction, both Huang et al. (2013) and Burmeister et al. (2016) found positive small to medium-sized relationships with opportunities for interaction. For social/regulatory context, Riusala & Smale (2007) reported positive correlations between regulatory ( $r = 0.30$ ) and normative-cognitive context ( $r = 0.38$ ) and difficulty of CBKT, while Stoermer et al. (2017) reported a negative correlation between foreigner-friendly immigration policies and knowledge sharing ( $r = -0.06$ ).

At the organizational level, and in line with Hypothesis 10a, HR practices showed a positive medium-sized relationship with CBKT.

#### 2.5.5 Typical Control Variables and CBKT

At the individual level of analysis, we found that socio-demographic characteristics, including age, nationality, rank, and tenure showed significant but small relationships with CBKT, while gender was not significantly related to CBKT. The overall effect for control variables at the individual level was small ( $r_c = 0.09$ ). At the organizational level of analysis, based on the limited number of available effects we were only able to calculate meta-analytic effects for subsidiary age and subsidiary size. We found that both effects were non-significant.

### 2.5.6 Supplemental Analysis: Outcomes of CBKT

Even though it was not the primary focus of this meta-analysis, we also report meta-analytic relationships between CBKT and important outcomes that have been associated with it to provide a more comprehensive picture of correlates of CBKT and to inform research and practice on the performance-related consequences of CBKT for MNCs.

At the individual level of analysis, we were able to calculate two meta-analytic effects. Our analysis revealed a medium-sized relationship between CBKT and job performance, and a large relationship between CBKT and learning. Three additional outcomes of CBKT, which could not be meta-analyzed due to the limited number of available effect sizes, were examined by existing studies: intention to quit, job satisfaction, and career success. First, according to Leung et al. (2014), expatriate knowledge sharing was negatively and significantly related to intention to quit ( $r = -0.23$ ). Second, two studies reported positive and significant relationships with job satisfaction: Leung et al. (2014) reported an effect of  $r = 0.47$ , and Carraher et al. (2008) reported an effect of  $r = 0.24$ . Third, with regard to career success, promotability ( $r = 0.28$ ; Carraher et al., 2008) and career move ( $r = 0.22$ ; Reiche, 2011) showed positive and significant relationships with CBKT. Overall, the effect for performance-related outcomes of CBKT at the individual-level of analysis was medium-sized ( $r_c = 0.42$ ).

At the organizational level of analysis, we found that the relationship between CBKT and subsidiary performance was significant and medium in size, attesting to the relevance of CBKT via international assignees for the performance of MNCs.

## 2.6 Discussion

In this study, we used meta-analysis to synthesize the quantitative literature on CBKT in MNCs via expatriates, repatriates, and inpatriates. We contribute to research on international human resource management by providing a comprehensive analysis of the relative importance of the various groups of antecedents for CBKT. More specifically, at both levels of analysis, we found that ability- and motivation related actor characteristics showed the strongest relationships with CBKT, while relational and contextual characteristics

displayed medium-sized effects, and CBKT-specific characteristics only showed small effects. Due to the limited number of available effect sizes in primary studies, we were unable to calculate meta-analytic effects for knowledge characteristics. In our supplemental analysis, we identified medium-sized relationships between CBKT and performance-related outcomes: at the individual level CBKT was positively related to job performance and learning, and at the organizational level CBKT was positively associated with subsidiaries' performance.

## 2.7 Theoretical and Practical Implications

Our meta-analysis of antecedents of CBKT via international assignees at both the individual and the organizational level provides important guidance for researchers who wish to contribute to this burgeoning field. The use of meta-analysis enabled us to synthesize the effects of eclectic and diverse variables that have been examined to date in order to identify the underlying patterns of relationships and motivate theory refinement and theory development (Schmidt & Hunter, 2014; Kirca & Yaprak, 2010). Our analyses allow us to conclude the following: First, CBKT can, to a large extent, be explained by the ability and motivation of individual actors as predicted by work performance theories (Blumberg & Pringle, 1982; Vroom, 1964). Second, the groups of predictors that were defined in the comprehensive taxonomy of Szulanski (1996) seem to be relevant for the explanation of CBKT via international assignees. Therefore, researchers may apply this taxonomy to guide their thinking about meaningful predictors of CBKT.

The results of our meta-analysis are inconclusive with regard to the claim that CBKT has unique characteristics that differentiate it from domestic or conventional knowledge transfer processes in MNCs (Burmeister et al., in press; Oddou et al., 2009; Kogut & Mello, 2017). The overall identified correlations of CBKT-specific characteristics with CBKT were significant but small. Can we therefore conclude that CBKT via international assignees is not as uniquely different from other knowledge transfer processes in MNCs as previously assumed (e.g., Oddou et al., 2009)? We do not think so, based on the following two considerations: First, the small effect size of CBKT-specific characteristics, at least at the individual level of analysis, might be explained by inconsistencies across the studied variables: effects ranged from small and negative (i.e., international experience, time on assignment), to non-significant (i.e.,

language proficiency), to medium-sized positive (i.e., cultural intelligence, cultural adjustment, boundary spanning), resulting in an overall small effect. This suggests that when studying CBKT-specific characteristics we need more nuanced theorizing to capture the way in which aspects of the international context shape CBKT via international assignees.

Second, our assumption that CBKT-specific characteristics have the same effects for expatriates, repatriates, and inpatriates may have been too simplistic. For example, we predicted that time on assignment and prior international experience are positively associated with CBKT. However, this might only apply to expatriates and inpatriates, for whom more time on assignment means more opportunities to build trusting relationships with previously unknown domestic employees at the host location (Janssens, 1995; Hocking, Brown & Harzing, 2004), and for whom more prior international experience may translate into a more global mindset (Oddou et al., 2009) and more common cognitive ground (Nonaka, 1991) with host employees. Repatriates, in contrast, who return to their former HQ colleagues after their international assignment may find out that a long absence from HQ might have led to an “out of sight, out of mind” (Adler, 1981) situation, whereby their ties with domestic colleagues have become weaker, in particular if they have been on multiple assignments (Kraimer, Shaffer & Bolino, 2009; Mäkelä & Suutari, 2009). Accordingly, to be able to uncover the importance of CBKT-specific characteristics for CBKT via international assignees, we may have to differentiate between expatriate, repatriate, and inpatriate knowledge transfer. A first attempt to understand differences among types of international assignees in CBKT has been made by Harzing et al. (2016), who studied the role of expatriates and inpatriates during CBKT. They found that both types of assignees are important for CBKT, but that expatriates are better suited to facilitate knowledge flows from HQ to subsidiaries, while inpatriates are better suited to facilitate knowledge flows from subsidiaries to HQ. Going beyond the finding that different types of assignees (e.g., expatriates, inpatriates) may facilitate different directions of CBKT, our study motivates the question whether relevant CBKT-specific characteristics, such as time on assignment or prior international experience, among others, have differential effects for expatriate, inpatriate, and repatriate CBKT.

The findings of our meta-analysis also have several relevant implications for practitioners who are managing international assignments. First, the finding of our supplemental analysis

that CBKT is substantially and positively associated with performance both at the individual and the organizational level of analysis further corroborates the claim that international knowledge—when transferred between globally dispersed units—can help MNCs to gain and sustain competitive advantages (e.g., Oddou et al., 2009), and should therefore be managed as a strategic resource by MNCs. Second, to facilitate CBKT, MNCs need to position and manage the transfer of international knowledge as an integral and strategic part of international assignments. For example, MNCs can establish knowledge transfer-related objectives for each international assignee, prior to sending them abroad. As a result, international assignees would be encouraged to gain and transfer valuable international knowledge. In addition, MNCs that wish to benefit from the valuable international knowledge of their international assignees should develop and implement policies that demonstrate the value of this type of knowledge to all employees and encourage its transfer. Third, our findings demonstrated that the characteristics of the sending and receiving units exert the strongest effects on CBKT, regardless of whether studies investigate CBKT at the individual or organizational level. As several of these actor characteristics, for example, motivation to share and receive knowledge, can be influenced by organizations, for example, through training and job design (Kraimer, Shaffer, Harrison & Ren, 2012; Foss, Minbaeva, Pedersen & Reinholt, 2009), HR practices need to be geared toward developing human capital and motivation to engage in CBKT. For example, organizations could involve repatriates in international projects upon return to increase their motivation and ability to leverage the valuable knowledge that they gained abroad on international assignment.

## 2.8 Limitations

Like every study, our meta-analysis has several limitations that need to be considered when interpreting the results. Most importantly, our findings are influenced by the attributes of the primary studies under investigation. As our meta-analysis reports bivariate correlations that are exclusively based on primary studies that used cross-sectional research designs, we cannot draw any causal conclusions. Another limitation is based on the relatively small number of effects available for the analysis of specific relationships. In line with common practice when conducting meta-analysis (e.g., Ng et al., 2005; Van Wijk et al., 2011), we only calculated meta-analytical effects when at least three effect sizes were available.

Nonetheless, we need to be aware that the relatively small number of studies is likely to have limited the observed variance in effects sizes that we found. As such, we view our meta-analytical findings as an important first step towards integrating the literature on CBKT in MNCs, rather than a final answer on the size of its relationships with antecedents and outcomes.

## 2.9 Directions for Future Research

To move the scholarship on CBKT via international assignees in MNCs forward, we suggest that future research needs to (1) uncover the mediating mechanisms through which antecedents and consequences affect CBKT, (2) examine groups of antecedents on which research is still scant to date, (3) analyze potential differences between domestic knowledge transfer and CBKT, and between expatriate, inpatriate, and repatriate CBKT, and (4) employ experimental research designs to establish causality.

First, existing research has yet to test the theoretical mechanisms that link antecedents and outcomes to CBKT. The majority of studies do not theoretically develop and subsequently test the underlying mechanisms that explain *how* antecedents and outcomes are linked to CBKT, for example, whether relationships between motivation and CBKT can be explained through affective, cognitive, or emotional mechanisms. A notable exception is the study by Fan, Cregan, Harzing & Köhler (2017), who built on social identity theory to test the indirect effect of ethnic identity confirmation on knowledge acquisition through perceived trustworthiness of interaction partners. Examining mediating mechanisms challenges researchers to integrate previously untested assumptions and unmeasured variables in their theorizing, thereby increasing the theoretical sophistication of their models. The same is true for the relationship between CBKT and its outcomes. While we generally need more insights into the effects of CBKT on outcomes, a closer inspection of mediating mechanisms would also be necessary to better understand the underlying processes through which CBKT can affect, for example, subsidiary performance. Thus, rather than adding additional variables to the already lengthy list of correlates of CBKT, researchers could advance the field from a theoretical perspective by uncovering the mediating mechanisms of proposed relationships.

Second, the research to date has focused most strongly on actor characteristics but has tended to ignore knowledge, relational, and contextual characteristics. The most notable research gap refers to knowledge characteristics, as demonstrated by the fact that we were unable to calculate any meta-analytic effects. Future studies should examine knowledge characteristics (e.g., tacitness), either as direct effects or as moderators that may influence the relationships between established antecedents (e.g., actor motivation and ability) and CBKT.

With regard to relational characteristics, we were surprised by the scarcity of research (except for studies on trust), as knowledge transfer is an inherently relational phenomenon (Davenport & Prusak, 1998). Future studies could broaden the current focus on affective relational characteristics (e.g., trust), and examine how, for instance, cognitive factors, such as cognitive similarity in terms of global mindsets (Levy, Beechler, Taylor & Boyacigiller, 2007), thinking styles (Ferris, Reb, Lian, Sim & Ang, 2017), and knowledge specialization (Lewis, 2003) influence CBKT. From a methodological perspective, research on relational characteristics would be facilitated by the use of multi-source data, for example, from both international assignees and domestic employees. While some studies acknowledged the importance of dyadic perspectives (e.g., Burmeister et al., in press), the majority of studies to date utilize single-source data. Studying dyadic phenomena, such as CBKT, without using dyadic data has been shown to be theoretically and statistically deficient (Krasikova & LeBreton, 2012; Tse & Ashkanasy, 2015). Using multi-source data would not only increase the reliability and validity of the findings, but also allow researchers to develop and answer novel research questions about the congruence of sending and receiving units, for example with regard to their global mindsets. Researchers could use polynomial regression with response surface analysis to understand the effects of fit or misfit between senders and recipients on CBKT (Edwards, 1993, 1995, 1994).

With regard to contextual characteristics, we were able to calculate several meta-analytical effects, but most of these constructs were fairly unspecific. For example, while our results indicated that supervisor support was related CBKT, we have yet to understand which particular leadership styles are most effective. Supervisors are an important situational input



that can shape employee behavior, and researchers have started to demonstrate that specific leadership styles, such as empowering and transformational leadership can facilitate knowledge transfer (Jiang & Chen, 2016; Dong, Bartol, Zhang & Li, 2017; Srivastava, Bartol & Locke, 2006). Future studies should contextualize these insights, and examine which leadership styles affect CBKT, and why and under which conditions these leadership styles are most effective.

Third, future research needs to examine in more detail whether and how CBKT is different from domestic knowledge transfer, and whether there are meaningful differences between expatriate, inpatriate, and repatriate knowledge transfer. We were unable to study the moderating influence of type of assignment in this meta-analysis due to the limited number of available studies to date. We also uncovered that research to date has only examined a limited number of CBKT-specific characteristics (i.e., international experience, time on assignment, language proficiency, cultural intelligence, and cultural adjustment), and has found mixed results with regard to the direction and size of the effects. However, the percentage of variance due to sampling error as well as the Q statistics indicate that there is significant variability in effects sizes that may be explained by moderators. Therefore, researchers may contribute to explaining this variance by examining, both theoretically and empirically, whether CBKT-specific characteristics, such as time on assignment and prior international experience, have differential effects when comparing expatriate, inpatriate, and repatriate CBKT.

Fourth, to be able to draw causal inferences and to enrich their findings from survey-based field studies, researchers could use experimental research designs, which are currently largely absent from the international business literature in general (Zellmer-Bruhn, Caligiuri & Thomas, 2016), and completely absent from the literature on CBKT in particular. To start with, experimental vignette methodology studies (see Aguinis & Bradley, 2014), which have been shown to produce similar results compared to real-life work contexts (Van Knippenberg & Van Knippenberg, 2005), could be implemented. Furthermore, and despite the high resource investments and challenging implementation (Reeb, Sakakibara & Mahmood, 2012), researchers could move the field forward by conducting randomized controlled field experiments, an approach that balances demands for internal and external validity (Cook,

Campbell & Peracchio, 1990). Researchers could manipulate theoretically and practically relevant independent variables (e.g., cognitive similarity), for example through in-classroom trainings, and test the effects on CBKT and establish causality.



# 5

## Conclusion

### 5.1 Theoretical contributions

This thesis contributes in multiple ways to the global mobility and knowledge transfer research in general, and the expatriate literature in particular. The main contribution of this thesis lies in providing first insights into a phenomenon which is “new” in the literature but seems well established in practice and worth our attention: Expatriates who while being on assignment decide to stay indefinitely in the host country. This thesis sheds light on who they are and why they stay, and especially the promising implications of infipat assignments for CBKT.

First this thesis provides a main theoretical contribution through providing a definition of this “new” type of expatriate and explores infipat characteristics and profiles in two different locations: Malaysia and China. Understanding who they are is the first step to allow for understanding why they stay indefinitely and analyzing their motivation for this decision. The major identified influencing factors for the decision to stay indefinitely were career and development factors as well as family and partner considerations.

Second, this new avenue of expatriate research is especially promising due to its implications for cross-border knowledge transfer. Chapter three identified major benefits of using infipats for CBKT. There are multiple points to consider: staying indefinitely has a strong positive influence on adjustment of the assignee as well as on relationships with HCN, local networks, and knowledge access. These factors all improve through staying indefinitely, as well as enforce each other (e.g. improved adjustment leads to improved relationships). This makes infipats the perfect knowledge link between subsidiary and HQ as they are well adjusted and understand both cultures and local contexts, enabling to translate between the two. This, in combination with the change from uni- to bidirectional knowledge transfer makes infipats knowledge transfer champions for their organization. Chapter three provides a model of how staying indefinitely influences CBKT.

Third, this thesis provides a systematic overview of the existing quantitative research on antecedents influencing cross border knowledge transfer through international assignees. Especially by including repats and inpats, next to expats on the one hand and the individual and the organizational perspective on the other, we were able to create a comprehensive overview of the existing research. Using Szulanski's (1996) comprehensive taxonomy of antecedents allowed us to bring order to a before unorganized field and determine the importance of different categories of antecedents as well as the main outcomes. We were able to conclude that: ability and motivation of individual actors are the best predictors of CBKT, which is in line with work performance theories (Blumberg & Pringle, 1982; Vroom 1964). Chapter 2 also demonstrated that there are bigger differences for CBKT specific characteristics depending on the type of assignment. While time on assignment is positively associated with CBKT for expatriates and inpatriates, since they are better adjusted and able to build more trusting relationships with HCNs, but this is not the case for repatriates where long absence from the HQ where the effect of a longer time on assignment on CBKT is negative, as it can lead to a "out of sight, out of mind" (Adler, 1981; Kraimer, Shaffer & Bolino, 2009) situation. Additionally, we identified a positive influence of CBKT on assignee learning, assignee job performance and as well on subsidiary performance, once again highlighting the benefits of international assignments.

## 5.2 Managerial implications

This thesis provides a deeper understanding of expatriates and knowledge transfer in general and gives new insights for expatriates staying indefinitely. Through showing in chapter 2, that CBKT is substantially positively associated with organizational performance, we once again highlight the importance that CBKT should be managed as a strategic resource by MNCs and given the according attention. This includes considering using infipats for CBKT, due to their high potential benefits for organizations, in particular through the change of knowledge transfer direction as shown in chapter 4. Using infipats is especially beneficial when trying to support CBKT with cultural distant places. Additionally, chapter 4 also shows the importance of raising awareness of HQ employees to embrace new information from their subsidiary colleagues instead of perceiving them either as competition or as not relevant enough to transfer valuable knowledge.

Since we are providing a comprehensive analysis of the relative importance of the various groups of antecedents for CBKT, these results should be used by practitioners for global staffing and candidate selection, as well as training programs and job design, as this can strongly influence actor characteristics which have been shown to have the strongest impact on CBKT. Although we are aware that global staffing and candidate selection is an issue that has often been criticized (Harris & Brewster, 1999) our analysis once again underlines that this is something that needs to be changed and where a more systematically approach is necessary to find the right candidates, given that CBKT mostly depends on their individual motivation and ability. The results on the profile of infipats and which are the significant influencing factors for the decision, adds a new perspective to expat selection, as it allows HR to select their assignees accordingly to their preference of the assignee turning into an infipat and staying indefinitely or not. In particular not having a high fluctuation on key positions of assignees will strongly benefit the organization through minimizing the learning and adjustment phase. This is even more relevant for cultural distant locations.

## 5.3 Limitations and future research

### Limitations

Like every study, this thesis also has several limitations that need to be kept in mind when interpreting the results. In this particular case, these limitations are mostly caused by the exploratory nature of parts of this thesis, as it partly relies on qualitative research and in particular exploratory case studies.

For chapter two, we have to keep in mind that the quality of the results partly depends on the attributes of the primary studies that were used for the meta-analysis and especially since these studies used cross-sectional research designs, no causal conclusions can be drawn.

As for the case study, its exploratory nature of mainly results in being more prone to bias and having low external validity due to convenience sampling instead of random sampling. While we cannot completely nullify these problems, we mitigated their effect through sampling not only infipats but also colleagues from HQ and the subsidiary from two different countries and multiple organizations.

### Future research

This thesis provides multiple avenues for future research to follow, especially in the avenue of infipat research there remains a lot to be uncovered. There needs to be research on infipats in different locations since we have seen how influential the assignee destination is. Next to different host country destinations, also infipats with different cultural backgrounds need scholarly attention. Other influences of an indefinite stay on outcomes next to CBKT are another promising area to investigate. Moreover, to overcome the limitations of chapter 3 and 4, quantitative research will be necessary. Similarly, the overview given with our meta-analysis has demonstrated that there are several antecedents for which we need additional research, and that the potential CBKT differences between expatriate, inpatriate and repatriate as well as differences between domestic and cross-border knowledge transfer need to be investigated. Additionally, there needs to be more research on mediating mechanisms which influence the relationship between antecedents and outcomes and CBKT, as well as more experimental research in general to establish causality.







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# Appendix

## Appendix

Table A1. Summary of Studies on CBKT: Individual Level

#	Author and year	Sample	Research design	Theory	Region of sample
1	Burmeister et al. (in press)	101 repatriates/locals	Time-lagged	(1) Ability-motivation-opportunity framework	Europe (mainly Germany)
2	Armstrong & Li (2017)	121 expatriates	Cross-sectional	(1) Experiential learning theory	China
3	Fan et al. (2017)	128 expatriates/locals	Cross-sectional	(1) Social identity theory	China
4	Stoermer et al. (2017)	1327 expatriates	Time-lagged	(1) Social cognitive theory	Multiple regions (30 different countries)
5	Burmeister et al. (2016)	101 repatriates/locals	Time-lagged	(1) Ability-motivation-opportunity framework	Europe (mainly Germany)
6	Ismail, Sobri, Zulkifly, Hamzah & Yamato (2016)	90 expatriates	Cross-sectional	(1) Uncertainty management theory	Malaysia
7	Jannesari, Wang, Brown & McCall (2016)	176 expatriates/locals	Cross-sectional	(1) Social capital theory	China
8	Ojo & Raman (2016)	248 locals	Cross-sectional	(1) Org. learning theory	Nigeria
9	Schuster et al. (2016)	187 inpatriates	Cross-sectional	(1) Ability-motivation-opportunity framework	Germany
10	Leung et al. (2014)	716 locals	Cross-sectional	(1) Equity theory	China
11	Awang et al. (2013)	153 locals	Cross-sectional	(1) Org. learning theory	Malaysia



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12	Huang et al. (2013)	140 repatriates	Cross-sectional	(1) Social exchange theory	Taiwan
13	Reiche (2012)	85 inpatriates	Time-lagged	(1) Social resources theory	Germany
14	Hsu (2012)	67 expatriates/locals	Cross-sectional	(1) Social capital theory	Asia and United States
15	Chen & Lin (2011)	213 repatriates	Cross-sectional	(1) Social climate theory	Taiwan
16	Leung et al. (2011)	118 expatriates	Cross-sectional	(1) Fairness heuristic theory	China
17	Reiche (2011)	269 inpatriates	Cross-sectional	(1) Social resources theory	Germany
18	Peterson (2010)	240 repatriates/locals	Cross-sectional	(1) Feedback environment theory	Asia, Europe, Unites States, Australia and Brazil
19	Furuya, Stevens, Bird, Oddou & Mendenhall (2009)	305 repatriates	Cross-sectional	(1) Knowledge creation theory	Japan
20	Carraher et al. (2008)	299 expatriates	Cross-sectional	(1) Theory of international mentoring	Africa and Paraguay
21	Furuya, Stevens, Oddou, Bird & Mendenhall (2007)	305 repatriates	Cross-sectional	(1) Knowledge flow model	Japan
22	Hocking et al. (2007)	71 expatriates	Cross-sectional	(1) Intern. HRM theory	Australia
23	Riusala & Smale (2007)	112 expatriates	Cross-sectional	(1) Institutional theory	Asia, Europe, United States
24	Sun & Liu (2006)	147 expatriates	Cross-sectional	(1) Social capital theory	China

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*Note.* Publications are ordered according to year of publication and author names.

Table A2. Overview of Studies on CBKT: Organizational Level

#	Author and year	Sample	Research design	Theory	Region of sample
1	Sanchez-Vidal, Sanz-Valle & Barba-Aragon (in press)	115 headquarter HR managers	Cross-sectional	(1) Not defined	Spain
2	Harzing et al. (2016)	817 subsidiaries' senior executives	Cross-sectional	(1) Knowledge-based view of the firm	Multiple
3	Park & Choi (2014)	137 subsidiaries' senior executives	Cross-sectional	(1) Not defined	South Korea
4	Colakoglu & Jiang (2013)	80 subsidiaries' senior executives	Cross-sectional	(1) Social information processing theory	United States
5	Chang et al. (2012)	162 local managers, expatriates, objective data	Cross-sectional	(1) Ability-motivation-opportunity framework	United Kingdom
6	Musasizi (2010)	45 expatriates	Cross-sectional	(1) Competitive advantage theory	Uganda
7	Wang et al. (2009)	242 subsidiaries' senior executives	Cross-sectional	(1) Resource-based view of the firm	China
8	Björkman et al. (2004)	134 subsidiaries' senior executives	Cross-sectional	(1) Agency theory (2) Socialization theory	Finland and China
9	Minbaeva & Michailova (2004)	92 subsidiaries' managers	Cross-sectional	(1) Not defined	Multiple
10	Minbaeva et al. (2003)	241 subsidiaries' managers	Cross-sectional	(1) Expectancy theory	Multiple

Note. Publications are ordered according to year of publication and author names

Table A3. *Correlates of CBKT Included in Meta-Analysis*

Category/construct	Definition	Examples of variables in primary studies	
<b>Individual level of analysis</b>			
<u>Ability- and motivation-related actor characteristics</u>			
1	Ability to transfer	Ability of knowledge senders to contextualize, format, adapt, translate and diffuse knowledge (Parent, Roy & St-Jacques, 2007), and/or ability of knowledge recipients to recognize, assimilate and apply new knowledge (Minbaeva et al., 2003).	Disseminative capacity, repatriates' knowledge transfer ability, absorptive capacity
2	Motivation to transfer	One's willingness to voluntarily contribute and share knowledge with others (Siemsen, Roth & Balasubramanian, 2008).	Knowledge transfer motivation/willingness
3	Motivation to excel	Attitudes associated with one's desire to develop oneself and excel at work (Dweck, 1986).	Learning goal orientation, performance goal approach
4	Embeddedness	Employees' ties to their job and/or organization through connections, fit and appraisals (Mitchell, Holtom, Lee, Sablinski & Erez, 2001).	Organizational identification, organizational embeddedness
5	Knowledge access	Employee's access to information and resources that are relevant in one's current position (Spreitzer, 1996).	Access to knowledge, access to information
6	Adaptability	The extent to which individuals are able to learn to adapt to, changing circumstances over time (Boyatzis & Kolb, 1993).	Learning orientation, resistance to change
<u>CBKT-specific actor characteristics</u>			
1	Cultural adjustment	Dealing with significant changes and unfamiliar norms (Armstrong & Li, 2017), including work adjustment, interaction adjustment, and general adjustment.	Self-adjustment, work adjustment
2	Cultural intelligence	Capability to adapt effectively when faced with new cultural contexts (Earley & Ang, 2003).	Cultural intelligence, intercultural personality
3	Boundary spanning	Brokerage between different social ties established at home and host location (Reiche, 2011).	Instrumental ties, boundary spanning
4	International experience	Quantitative component of work-related international experiences gained during international assignments (Takeuchi & Chen, 2013).	Number of previous international assignments
5	Language proficiency	Language proficiency in the host country language (e.g., Reiche, 2011).	Host language fluency, language proficiency

6	Time on assignment	Time spent (in months/years) on international assignment in question (e.g., Hocking, Brown & Harzing, 2004).	Time on assignment, time in position
<u>Relational characteristics</u>			
1	Communication frequency	Frequency of communications and interactions between international assignees and host country nationals (Hansen, 1999).	Frequency of communication, quality of communication
2	Relationship length	Length of the relationship of international assignees and host country nationals in months/years (e.g., Fan et al., 2017).	Relationship length
3	Cooperation	The interaction of international assignees and local employees toward a common goal (e.g., helping, sharing information; see LePine & van Dyne, 2001).	Cooperation, networking
4	Expatriate evaluation	The positive evaluation of the managerial competence of expatriates by host country nationals (Leung et al., 2014).	Evaluation of expatriates
5	Interactional justice	The fairness of interpersonal treatment received by host country nationals (Leung et al., 2011).	Interactional justice
6	Trust	Willingness to be vulnerable to the actions of someone, regardless of one's ability to control the other party (Mayer, Davis & Schoorman, 1995).	Trust, trustworthiness
7	Shared vision	The cognitive image of the future which is the basis of group member motivation, planning and goal setting (Thoms & Greenberger, 1995).	Shared vision, shared codes
8	Cultural difference	The cultural distance is terms of values, norms, and customs between the host country and the home country of the international assignee (Simonin, 1999).	Cultural difference, ethnic similarity, cultural novelty
<u>Knowledge characteristics</u>			
1	Relevance	The value of the content of the knowledge itself (Peterson, 2010).	Quality, usefulness
2	Tacitness	Knowledge that cannot be adequately articulated by verbal means (Polanyi, 1967).	Codifiability, teachability, complexity
<u>Contextual characteristics</u>			
1	Mentoring	Developmental assistance from a senior organizational member for a less experienced employee (Ragins & Kram, 2007).	Presence of mentor, lack of mentor
2	Supervisor support	The employee's perception that company leaders are supportive of knowledge transfer (Peterson, 2010).	Transfer objectives, supervisor support
3	Organizational climate	Support for knowledge sharing by top management's attitudes, open communication, stimulus for new ideas, and reinforcing reward system (Lin & Lee, 2006).	Trust climate, innovation climate

4	HR practices	Existence of international human resource practices aiming to support international assignees (Minbaeva & Michailova, 2004).	Repatriation practices, cross-cultural training
5	Opportunities for interaction	Contextual characteristics that are beyond the control of individuals (Blumberg & Pringle, 1982), and enable sending and receiving units to interact.	Formal opportunities, informal opportunities
6	Social/regulatory context	A country's social context in terms of regulatory (e.g., laws and regulations), normative (e.g., values and norms), and cognitive (e.g., interpretations and frames of thought) characteristics (Riusala & Smale, 2007).	Immigration policies, legislation
<b>Control variables</b>			
1	Age	Chronological age of the international assignee.	Age
2	Gender	Gender of the international assignee (i.e., female, male).	Gender
3	Nationality	Nationality of the international assignee.	Nationality
4	Rank	Rank, seniority level, or position of the international assignee within the organizational hierarchy of the MNC (Hocking, Brown & Harzing, 2007).	Rank
5	Tenure	Duration (in months/years) of organizational membership of the international assignee (e.g., Reiche, 2011).	Tenure, organizational tenure
<b>Performance-related outcomes</b>			
1	Job performance	The extent to which the international assignee performs job duties and responsibilities well (i.e., task completion and relational performance; Caligiuri, 1997).	Job performance, relational performance
2	Learning	Acquisition of knowledge or skills through formal or informal means at the workplace (Collin, Sintonen, Paloniemi & Auvinen, 2010).	Experiential learning, workplace learning
3	Intention to quit	The international assignee's intention to quit (Leung, 2014)	Intention to quit
4	Job satisfaction	The international assignee's satisfaction with his job (e.g., Carraher 2014).	Job satisfaction
5	Career success	Expectations with regard to the future career success of international assignees (e.g., Carraher 2014).	Promotability, career move
<b>Organizational level of analysis</b>			
<b>Ability- and motivation-related actor characteristics</b>			
1	Ability to transfer	Ability of knowledge senders to contextualize, translate, and diffuse knowledge (Parent et al., 2007), and/or ability of knowledge recipients to recognize, assimilate, and apply new knowledge (Minbaeva et al., 2003).	Ability to transfer, expatriate ability to transfer
2	Motivation to transfer	One's willingness to voluntarily contribute and share knowledge with others (Siemsen et al., 2008).	Motivation to transfer, expatriate motivation to transfer

3	Absorptive capacity	The ability to value, assimilate, and apply new knowledge successfully to commercial ends (Cohen & Levinthal, 1990, Szulanski, 1996)	Subsidiary absorptive capacity, subsidiary learning capacity
<u>CBKT-specific actor characteristics</u>			
1	Long- vs. short-term assignment	Type of the international assignment with regard to its length and intensity (Minbaeva & Michailova, 2004).	Long-term, short-term, international commuters
2	Number of expatriates	Absolute or relative number of expatriates in the organization or subsidiary (e.g., Minbaeva et al., 2003).	Number of expatriates, percentage of expatriates
<u>Relational characteristics</u>			
1	Subsidiary-HQ fit	Similarity of organizational culture (Park & Choi, 2014) and level of integration by the subsidiary into the operations of the MNC.	Compatible organizational culture, value-chain integration
<u>Knowledge characteristics</u>			
		Knowledge characteristics at the organizational level have not been investigated as of yet	
<u>Contextual characteristics</u>			
1	HR practices	Existence of international human resource practices aiming to support international assignees (Minbaeva & Michailova, 2004).	Corporate socialization mechanisms, training
<u>Control variables</u>			
1	Subsidiary age	Age of subsidiary (i.e., time since its foundation).	Subsidiary age
2	Subsidiary size	Size ([logarithm of] total number of employees) of subsidiary (e.g., Chang et al., 2012).	Subsidiary size
3	MNC location	Location of the subsidiary (e.g., Asia, United States).	Subsidiary location
4	MNC age	Age of multinational company (i.e., time since its foundation).	MNC age
5	MNC size	Size ([logarithm of] total number of employees) of multinational company (e.g., Chang et al., 2012).	MNC size
6	Mode of entry	Mode of market entry, e.g., acquisition or greenfield (Björkman et al., 2004).	Mode of entry
7	Number of expatriates		
6	Role of subsidiary	Range of functions and strategic involvement of subsidiary (Björkman et al., 2004).	Function, involvement in decision-making
7	Subsidiary sector	Sector (e.g., manufacturing, finance) of subsidiary.	Subsidiary sector
<u>Performance-related outcomes</u>			

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1	Subsidiary performance	Financial performance of the subsidiary (e.g., Chang et al., 2012).	Return of equity
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