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Expatriate managers' relationships and reverse knowledge transfer within emerging market MNCs: The mediating role of subsidiary willingness

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ABSTRACT

This study investigates the effects that expatriate managers' relationships within multinationals have on reverse knowledge transfer. Specifically, drawing on agency theory, we characterize how expatriate managers' relationships with subsidiary local managers, and with headquarters' managers, influence subsidiary willingness and reverse knowledge transfer. Based on a survey of 128 subsidiaries in 73 Chinese multinationals, we show how a good-quality relationship between expatriate managers and subsidiary local managers has positive effects on subsidiary willingness, which acts as a mediator between this relationship quality and the extent of reverse knowledge transfer. The paper contributes to the international business and knowledge transfer literature by generating new insights into whether and how expatriate managers' relationships within multinationals can help reduce agency problems and support reverse knowledge transfer processes. Understanding the potential role of expatriates in relation to reverse knowledge transfer is particularly important within the context of emerging market multinationals employing knowledge-seeking strategies overseas.

Keywords:
Emerging market multinationals
Reverse knowledge transfer
Expatriate managers
Subsidiary willingness
Headquarters-subsidiary relationship
Agency theory

1. Introduction

Knowledge is the most important source of competitive advantage (Fey & Furu, 2008) and, according to the view of multinational companies (MNCs) as differentiated networks, knowledge is created and integrated across subsidiaries within the MNC (Foss & Pedersen, 2002; Gupta & Govindarajan, 2000). MNCs rely on multiple geographical sources of knowledge by tapping into host location-specific advantages (e.g., Athreye, Batsakis, & Singh, 2016; Gupta & Govindarajan, 2000; Park & Vertinsky, 2016) and benefitting from them through reverse knowledge transfer (RKT) from overseas subsidiaries to the home country and the parent firm (Ambos, Ambos, & Schlegelmilch, 2006; Nair, Demirbag, Mellahi, & Gopalakrishna Pillai, 2017).

With the recent rise of emerging market MNCs (EMNCs), RKT practices are no longer common only to MNCs from advanced markets (e.g., Luo & Tung, 2007; Nair, Demirbag, & Mellahi, 2015, 2016; Wilkinson, Wood, & Demirbag, 2014). As latecomers, EMNCs often undertake outward investments to seek strategic assets and knowledge to improve their competitive position (e.g., Demirbag, Tatoglu, & Glaister, 2009; Luo & Tung, 2007; Mathews, 2006). Similarly, acquisition strategies are becoming increasingly popular among EMNCs as ways to gain quick access to advanced technology and catch up with advanced-market counterparts (e.g., Madhok & Keyhani, 2012; Rabbiosi, Elisa, & Bertoni, 2012). RKT from subsidiaries, particularly acquired subsidiaries, is clearly an important way for EMNCs to upgrade their knowledge and compete with global giants. However, although the phenomenon is growing in popularity, RKT has seldom been explored in the context of EMNCs.

From the principal-agency perspective of the MNC, a subsidiary (the agent) may not behave according to its headquarters' (HQ') (the principal) interests, as the subsidiary seeks to retain its competitive advantage (Eisenhardt, 1989; O'Donnell, 2000) and its power (Mudambi & Navarra, 2004). This is particularly true in the case of acquisitions; in fact, firms that are acquired and become subsidiaries of foreign MNCs show particular resistance to control by HQs and efforts at integration, and RKT is often more problematic (Ciabuschi, Kong, & Su, 2017; Cording, Christmann, & King, 2008; Hébert, Very, & Beamish, 2005). Thus, a subsidiary (the agent) might bargain with its HQ (the principal) to maximize its benefits, rather than satisfying the HQ's interests (e.g., knowledge integration). Following this logic, subsidiary willingness to share knowledge is recognized as important for the initiation and successful conduct of RKT (e.g., Blomkvist, 2012; McGuinness, Demirbag,

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& Bandara, 2013; Najafi-Tavani, Giroud, & Sinkovics, 2012). This is particularly critical in EMNCs because their HQs are typically at a lower knowledge level than their knowledge-seeking subsidiaries, and the consequent likelihood of subsidiary opportunism and rent-seeking behavior is high (Awate, Larsen, & Mudambi, 2015; Ciabuschi, Dellestrand, & Kappen, 2012; Mudambi & Navarra, 2004). Thus, compared to Western MNCs, EMNCs often suffer from more severe agency problems with respect to their subsidiaries, particularly if acquired and with a high level of competence.

While several studies have researched the factors affecting subsidiary willingness to transfer knowledge (e.g., Blomkvist, 2012; Najafi-Tavani et al., 2012), most have investigated subsidiary willingness at an organizational level, so there is still limited understanding of the effects of managerial-level factors on willingness to transfer and on the actual extent of RKT. To bridge this gap and to advance our understanding of the relevance of managerial-level factors for RKT in EMNCs, we focus on the effects of expatriate managers' relationships on subsidiary RKT within the context of Chinese multinationals.

HQs commonly use expatriate managers to retain a degree of social control over its subsidiaries (Edström & Galbraith, 1977) and minimize agency problems (Jensen & Meckling, 1976). An important aspect of expatriates' work is to manage potential difficulties in transferring knowledge (Chang, Gong, & Peng, 2012; Szulanski, 1996); thus, many studies have acknowledged the role of expatriate managers in knowledge transfer from HQs (e.g., Bonache & Brewster, 2001; Doz, Santos, & Williamson, 2001). In contrast, RKT research does not seem to have yet fully appreciated the importance of expatriate managers (e.g., Murray & Chao, 2005). During the process of RKT, expatriate managers must obtain insights into the subsidiary and support knowledge transfer back to HQ and to MNC home-country units. Thus, expatriate managers may influence the subsidiary to engage in RKT, and may get involved themselves in the actual RKT process.

Much previous literature on the role of expatriate managers in knowledge transfer (e.g., Björkman, Barner-Rasmussen, & Li, 2004; Lyles & Salk, 1996) has adopted a quantitative perspective (e.g., the number of expatriate managers) and given limited attention to the qualitative aspects (e.g., the effectiveness of expatriate managers). The quality of expatriates' relationships is an important aspect of their effectiveness (Horak & Yang, 2016). Since expatriate managers act as boundary spanners that connect home and host-unit staff (Kostova & Roth, 2003; Reiche, Harzing, & Kraimer, 2009), they must build the necessary ties with both HQ managers and subsidiary local managers in order to coordinate activities among them effectively. This is particularly true for subsidiaries that were acquired by EMNCs as they present more challenges from an integration and coordination perspective (Awate et al., 2015; Ciabuschi, Kong, & Su, 2017). However, research dealing with expatriate social capital has focused mainly on conventional knowledge transfer, leading to less attention being paid to RKT. Exploring motivational aspects in relation to expatriates' social capital in the context of RKT would also help explain the link between learning opportunities and improving agency problems. Moreover, the literature has focused primarily on expatriates' relationships with subsidiary local nationals and not on their relationships with HQ managers (e.g., Bruning, Sonpar, & Wang, 2012; Farh, Bartol, Shapiro, & Shin, 2010; Reiche, 2012).

Against this background, acknowledging subsidiary unwillingness as an agency issue, the present paper investigates the effects of the quality of expatriate managers' relationships with both HQ managers and subsidiary local managers on: (i) subsidiary willingness to transfer knowledge, and (ii) the related extent of RKT. We are particularly interested in studying whether expatriate managers' relationships can help alleviate potential agency problems between HQs and subsidiaries, and thus be conducive to RKT processes. To this end, we investigate the potential role of subsidiary willingness as a mediator between the quality of the expatriates' relationships and the extent of RKT. In other words, we investigate whether, through their relationships (with HQ and local managers), expatriates can enhance local subsidiary willingness to RKT and even contribute directly to the transfer.

This study breaks new ground in three main areas. First, we supplement the limited expatriate literature on RKT and advance the knowledge on RKT in EMNCs by drawing upon agency theory and by uncovering the impact of expatriate managers' relationships with HQ managers and with subsidiary managers on subsidiary willingness and RKT in EMNCs. Second, we identify that subsidiary willingness regarding RKT is an important mediating factor in the relation between the quality of expatriate managers' relationships with subsidiary local managers and RKT. This suggests that the role of expatriates in motivating the subsidiary may be more relevant than their potential direct involvement in the actual RKT process. Third, we contribute to the research on the effectiveness of expatriate managers in RKT practices by considering their relationship quality. The paper also provides unique empirical evidence based on survey data from a large number of Chinese MNCs.

2. Literature review

2.1. Reverse knowledge transfer in EMNCs

According to the literature, a subsidiary can engage in two types of knowledge transfer processes in an MNC, based on the hierarchical position of the receiving units: vertical outflows, which refer to the transfer of knowledge to its supervising units; and horizontal outflows, which refer to the transfer of knowledge to its peer units (Schulz, 2001). The former type is known as RKT (e.g., Mudambi, Pisitello, & Rabbiosi, 2014; Najafi-Tavani et al., 2012; Yang, Mudambi, & Meyer, 2008). Often, when EMNCs engage in RKT, subsidiaries target such processes towards the home-country HQs and/or the home-country units that are under the direct management of the HQs. Because of the relatively large size of most emerging markets, as well as high business diversification in the home country, EMNCs often have a complex home-country structure of business units supervised directly by their HQs. Thus, a common objective when engaging in knowledge-seeking investments is to source, through RKT, new competence to be used within the home-country organization and market (e.g., Luo & Tung, 2007; Mathews, 2006; Wilkinson et al., 2014). This process could be described as direct RKT back to operations (local subsidiaries) in the MNC home country, or as indirect RKT if the transfer is made to the HQ with the intent of applying the knowledge domestically (e.g., in the Chinese local subsidiaries of the MNC).

Thus, we can conceptualize RKT both as horizontal, if the knowledge transfer from overseas subsidiaries directly targets domestic home-country units of the MNC, and as vertical (through HQs) if the home-country units serve under the direct control of the HQs. Several studies (e.g., Edwards & Tempel, 2010; Hsu & Iriyama, 2016) have touched upon this point and referred to RKT to home-country operations and/or to units of MNCs. Therefore, in this study, from a geographical-location perspective, RKT refers to the transfer of know-how and information from an overseas subsidiary to the home-country organization (including both HQ and domestic units).

2.2. Subsidiary unwillingness to transfer knowledge as an agency issue

MNC research has increasingly used agency theory (Björkman et al., 2004; Roth & O' Donnell, 1996). As the principal, the HQ cannot effectively make all the decisions of the MNC (Ciabuschi, Forsgren, & Martín Martín, 2011, 2017) since it depends on the unique knowledge of subsidiaries that it does not possess (Nohria & Ghoshal, 1994). At the same time, the HQ cannot relinquish all the decision rights to the subsidiaries since the local interests of subsidiaries are not always aligned with those of the HQ nor with those of the MNC as a whole (Nohria & Ghoshal, 1994: 492).

It is in the interests of the HQ to have subsidiaries that contribute their knowledge to the wider organization. However, as an agent, a subsidiary may not always be willing to behave according to the interests of HQ, the principal, particularly in EMNC post-acquisition cases (Awate et al., 2015; Ciabuschi, Kong, & Su, 2017). In general, research on knowledge transfer has repeatedly indicated that the barriers to a transfer may include motivational factors (Gupta & Govindarajan, 2000; Szulanski, 1996). Subsidiaries may fear losing a position of superiority and therefore seek to retain their competitive advantage (Blomkvist, 2012; Mudambi & Navarra, 2004; O'Donnell, 2000), following the logic of knowledge as power (Mudambi & Navarra, 2004). Thus, from an agency theory perspective, given a situation of goal incongruence between the HQ and the subsidiary, it may be in the subsidiary's self-interest not to transfer knowledge to other MNC units, even though the transfer would enhance the overall MNC performance. Apparently, subsidiary unwillingness is an agency problem, which often concerns commitment or psychological alignment at the individual level (Roth & O' Donnell, 1996). It is also assumed that the principal-agent relationship is a social one (Roth & O' Donnell, 1996), so social relationships and individual socialization might play important roles in shaping subsidiary willingness.

Recent work on RKT within EMNCs also highlights subsidiary willingness as a key aspect deserving of further research (e.g., Awate et al., 2015; Ciabuschi, Kong, & Su, 2017). The few existing studies on this topic suggest that RKT within EMNCs is not easy to undertake and that subsidiaries, particularly those that are acquired, tend to be re-luctant to transfer knowledge within EMNCs (Awate et al., 2015; Ciabuschi, Kong, & Su, 2017). Therefore, it has been suggested that EMNCs should enhance their practices and introduce new mechanisms to perform RKT effectively (Ciabuschi, Kong, & Su, 2017). Among the practices that may improve both motivation and the extent of sub-sidiary RKT, we focus on the use of expatriate managers, which is also an underexplored aspect in this specific research stream.

2.3. Importance of expatriate managers in knowledge transfer

A combination of incentive-based and control mechanisms is often employed to address agency issues (Tosi & Gomez-Mejia, 1989). According to Edström and Galbraith (1977: 248), expatriates are used for three reasons: individual development, coordination and control within the corporation, and knowledge transfer. Harzing (2001) asserts that knowledge transfer is commonly viewed as the primary motive for relocating staff abroad. Much of the literature on expatriate managers has focused on their role in knowledge transfer (e.g., Bonache & Brewster, 2001; Doz et al., 2001).

Expatriates can have two specific roles in relation to knowledge transfer. First, they can act as knowledge carriers and knowledge transferors; that is, they can engage in direct knowledge transfer with staff at their home or host units (e.g., Chang et al., 2012; Horak & Yang, 2016). This is highlighted by Argote and Ingram (2000) and Hocking, Brown, and Harzing (2007) argue that expatriate managers serve as important knowledge agents because they can transfer both tacit and explicit knowledge types and may support the necessary adaptation of knowledge from one context to the other. The other role of expatriates is that of motivators and supporters of the knowledge transfer process. Knowledge transfer is facilitated by social capital and shared values and is achieved through increased resource exchanges, joint projects, and the strengthening of emotional ties (Nair et al., 2017). In this sense, by acting as boundary spanners that link home and host-unit staff, expatriates help develop inter-unit social capital and facilitate the exchange of knowledge across MNC units (Kostova & Roth, 2003; Reiche et al., 2009).

A number of studies have acknowledged the importance of expatriate managers in conventional knowledge transfer; that is, from home to host-unit organizations (e.g., Bonache & Brewster, 2001; Chang et al., 2012; Choi & Johanson, 2012; Harzing, 2001; Hocking et al., 2007). In conventional knowledge transfer practices, expatriate managers act as agents of the HQs by bringing and contributing knowledge to subsidiaries. In RKT practices, by contrast, expatriate managers assigned by HQs to subsidiaries act as learning and knowledge-sourcing agents. Thus, from an HQ perspective, expatriate managers act as agents working to access subsidiary competence and transfer it back to the home units (Lazarova & Tarique, 2005); however, they also represent the principal and they should stimulate and support the subsidiary manager to transfer local competence back to the home organization.

2.4. Expatriate managers' relationships

The use of a large number of expatriate managers does not guarantee their effectiveness or success (Björkman et al., 2004). Many expatriation problems have been reported in their international assignments, such as cultural shock and adjustment difficulties (Daniels & Insch, 1998; Horak & Yang, 2016; Tung, 1987). Expatriate managers confront various cross-cultural and legitimacy issues as they must manage two different institutional environments (home-host). Their job tasks and their relationships with the HQ and with the subsidiary are much more difficult to adjust to, which may lead to premature returns (Daniels & Insch, 1998) and unsuccessful practices (Tung, 1987). The fact that EMNCs' country of origin is perceived to be a weakness, they confront a double hurdle of liabilities, not only the liability of foreignness but also the liability of emergingness (Wilkinson et al., 2014). This means that EMNCs' expatriate managers often face more difficulties in subsidiaries, particularly in advanced countries and in acquired subsidiaries, than Western MNCs' expatriates.

Expatriate effectiveness clearly depends on the ability to build relationships with, and to adjust to interactions with, local nationals within a subsidiary (Horak & Yang, 2016). Over time, these social ties facilitate social interaction and provide avenues for knowledge exchange (Inkpen & Tsang, 2005). As boundary spanners, expatriate managers must specifically address and balance relationships with the subsidiary and the HQ. By utilizing a network that spans boundaries and by having frequent, multiple and longer-tenured contacts with the HQ, such expatriates can build private social capital within MNCs (Björkman et al., 2004; Kostova & Roth, 2003). According to Kostova and Roth (2003), this social capital can evolve into a public good through social information processing, benefiting the subsidiary as a whole. Consequently, expatriate managers' effectiveness is dependent on the quality of their interpersonal relationships.

This study focuses on expatriate managers' relationships with both HQ managers and subsidiary local managers, because organizational outcomes – both strategies and effectiveness – are reflections of the values and cognitive bases of powerful actors (senior executives) in the organization (Carpenter, Geletkanycz, & Sanders, 2004). From a relational perspective, relationship quality refers to the extent to which the relationship between two actors is close, strong, and based on mutual trust (Pérez-Nordtvedt, Kedia, Datta, & Rasheed, 2008: 722). Thus, in studying expatriate managers (as boundary spanners) in the context of RKT, we must assess their relationships with local managers as well as their relationships with HQ managers.

3. Hypotheses and model

3.1. Expatriate managers' relationships with local managers and subsidiary willingness

Generally, subsidiaries' local managers have strong influence and power over subsidiary activities and are familiar with subsidiary operations, while expatriate managers assigned to a foreign subsidiary can easily be perceived, at least initially, as outsiders. Expatriates typically have relatively less knowledge about a subsidiary's competence and activities, so the expatriates' legitimacy can be challenged by local managers and employees. Thus, expatriate managers may seek support within the subsidiary, as more informational and emotional support from locals (especially from local managers) can reduce feelings of uncertainty and enable expatriates to adapt more quickly, and to position themselves better, within the subsidiary (Farh et al., 2010). The amount of informational and emotional support received by expatriates is mainly affected by those with whom they build relationships (Johnson, Kristof-Brown, Van Vianen, & De Pater, 2003). Hence, good relationships with local managers can assist expatriate managers' functioning and strengthen their ability to solve problems and adjust to working in the subsidiary, especially when adjustment difficulties become overwhelming in the subsidiary (Farh et al., 2010). Thus, they gain legitimacy in the management of subsidiaries, as well as the ability to monitor the subsidiary's low willingness to transfer knowledge.

A subsidiary's low willingness to transfer knowledge is an agency issue that stems from incongruence between the goals of the HQ and those of the subsidiary. Although goal incongruence can be monitored, there is an intrinsic difficulty in verifying agent behavior that results from information asymmetry, as the agent has information that is not available to the principal (Gomez-Mejia & Balkin, 1992). Eisenhardt (1989) suggests that this assumed incongruence might be reduced in situations with high socialization. Thus, HQs may use expatriate managers to collect information and strengthen its power in its relationship with subsidiaries through socialization. As interpersonal ties between MNC units offer channels through which both information and resources flow (Björkman et al., 2004), good interpersonal ties between expatriate managers and local managers can help expatriates learn more about the subsidiary and can also help local managers better understand HQs. This, in turn, can help HQs to reduce information asymmetry with subsidiaries and improve the monitoring of and coordination with them. Thus, good interaction between expatriate managers and local managers can enhance mutual understanding and trust between HQ and subsidiary local managers, reducing goal incongruence and agency problems between HQs and subsidiaries and increasing the subsidiary's willingness to transfer its knowledge.

Conversely, bad relationships between expatriates and local managers hinder learning and information exchange (Bruning et al., 2012; Maertz, Hassan, & Magnusson, 2009), and also the relationship that the latter have with HQ, increasing the risk of conflict between HQ and subsidiary managers. Therefore, the relationship between local managers and expatriates will not only influence the relationship with HQs, but also the willingness of subsidiary managers to share knowledge with HQs (Chung, 2014). Moreover, poor-quality relationships between expatriates and local managers may present obstacles to the development of coordinative mechanisms between HQs and subsidiaries, lead to local managers' attempting to hide information and competence issues from HQs, and increase inefficiencies and obstacles to RKT.

A key factor affecting the agency problem concerns commitment or psychological alignment at the individual level. Organizational commitment, as an attitude, is defined as an individual's identification with and willingness to embrace organizational goals (Mowday, Porter, & Steers, 1982). Within MNCs, subsidiary local managers' values or identification may vary in terms of the degree to which they are attached to HQs – the principal organizations (Roth & O' Donnell, 1996). The literature characterizes the close relationships between expatriate managers and host-units' employees as positive for expatriates' effectiveness, minimizing the possible effects of dissonance when values, attitudes, beliefs and norms differ (Maertz et al., 2009). In this sense, expatriate managers' strong ties with local managers can enhance the local managers' psychological alignment with the expatriate managers and with HQs and enable the local managers to accept and work towards MNC goals. This will, in turn, increase subsidiary willingness to share knowledge. Based on the above reasoning, the following hypothesis (see Fig. 1) can be formulated:

H1. The relationship quality between expatriate managers and subsidiary local managers is positively related to a subsidiary's willingness to transfer knowledge back to the home-country units.

3.2. Expatriate managers' relationships with HQ managers and subsidiary willingness

Having been sent by HQs, expatriates are likely to have established relationships with the HQ managers (Gupta & Govindarajan, 2000). Expatriate managers are typically involved in communicating with HQs to jointly resolve problems between HQs (principals) and subsidiaries (agents). In addition, by acting as boundary spanners, expatriate managers should help develop inter-unit social capital (Kostova & Roth, 2003; Reiche et al., 2009). However, if expatriate managers do not have good relationships with HQ managers, they may have less motivation to develop a mutual understanding between HQ and subsidiary, which may increase agency problems between them.

Weak ties between expatriate managers and HQ managers are likely to mean that HQ managers give little or no attention to the information provided by expatriate managers. This situation may increase difficulties in communication between subsidiaries and HQs. However, as Edström and Galbraith (1977) suggest, expatriates represent an effective strategy for helping foreign subsidiaries adhere to corporate objectives and practices. As relationship capital encompasses commitment and trust (Wood, Dibben, & Meira, 2016), a poor relationship between expatriate and HQ managers may also be translated into a lower commitment of expatriate managers when it comes to following and transmitting HQs' goals and mandates (e.g., knowledge transfer). Thus, poor relationships between expatriates and HQ managers may also indirectly affect their potential contribution to information sharing, as well as hindering effective social interactions and trust between HQs and subsidiaries. In the extreme case, expatriates are even likely to manifest misconduct and gamesmanship such as deliberately conveying wrong information. These types of misbehavior will result in the poor implementation of HQ tasks and increase misunderstandings and conflicts between HQ and subsidiary local managers, which may enhance principal-agency problems between HQ and subsidiary and decrease the subsidiary's motivation to transfer knowledge and contribute to the MNC.

Given that the HQ-subsidiary relationship has a principal-agent structure, an HQ may not make all effective decisions (e.g., resource allocation) in the MNC (Ciabuschi et al., 2011; Ciabuschi, Forsgren, & Martín Martín, 2017) because the HQ must depend on the unique knowledge of the subsidiaries (Nohria & Ghoshal, 1994). In this situation, HQ managers may make decisions by considering other elements, such as their ties with expatriate managers. Expatriate managers, with their valuable contacts at HQs, can get closer to HQs' strategic decision-making process and influence HQ managers to make decisions that support their initiatives or benefit subsidiary operations (Colakoglu, Tarique, & Caligiuri, 2009). Thus, a strong relationship between expatriate and HQ managers can make the subsidiary more cognizant of the political processes within the MNC (Carpenter, Sanders, & Gregersen, 2001) and help the subsidiary receive more attention and support from the HQ for its initiatives. This situation will positively influence a subsidiary's attitudes towards its HQ, particularly in EMNCs because personal ties are more effective and valuable in business activities due to the weak institutional environment in emerging markets (e.g., Ramasamy, Goh, & Yeung, 2006). However, as HQs' supportive attention is important for subsidiary development (Bouquet & Birkinshaw, 2008; Kumar, 2013), one would expect, in the case of HQs' diluted attention, which also stems from managers' weak ties, a reduced contribution to the development of subsidiary competence (Kumar, 2013); this will also decrease a subsidiary's motivation to transfer knowledge. Thus, we propose the following hypothesis:

H2. The relationship quality between expatriate managers and HQ managers is positively related to the subsidiary's willingness to transfer knowledge back to the home-country units.

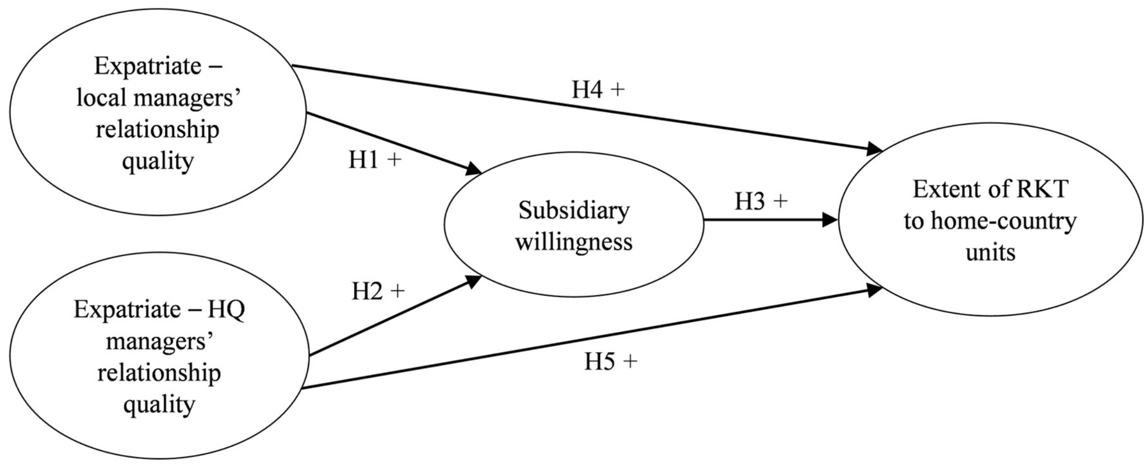

Fig. 1. The hypothesized model.

3.3. Subsidiary willingness and reverse knowledge transfer

Many studies have recognized the important role of knowledge holders' willingness regarding knowledge transfer (e.g., Minbaeva, 2007; Simonin, 2004; Szulanski, 1996). Transfer of knowledge is time- and resource-consuming for knowledge senders (Najafi-Tavani et al., 2012). Without sufficient incentive or motivation, knowledge holders are more likely to employ defensive actions to minimize knowledge transfer, especially when the knowledge is unique (Gupta & Govindarajan, 2000; Simonin, 2004) and when subsidiaries were established through acquisitions (Ciabuschi, Kong, & Su, 2017; Hébert et al., 2005). Subsidiaries' reluctance to share knowledge makes them less likely to take the initiative in transferring knowledge to HQs and other units in home countries and they will also be less committed (e.g., allocating less finance, time and talent) to transferring knowledge. This will decrease the possibility of RKT from the subsidiary. Following the above reasoning, we hypothesize:

H3. A subsidiary's willingness to transfer knowledge is positively related to the extent of the subsidiary knowledge transfer back to the home-country units.

Within the context of our study, subsidiary willingness to transfer knowledge is also seen as a mechanism for conveying the effects of expatriate managers' relationships on RKT. Specifically, it would mediate two relations. On one hand, subsidiary willingness might mediate the relation between expatriate and local managers' relationship quality and RKT; on the other hand, it might mediate the relation between expatriate and HQ managers' relationship quality and RKT. When testing the hypothesized model, we will also empirically test these mediating effects.

3.4. Expatriate managers' relationships and reverse knowledge transfer

Interpersonal ties between MNC units offer channels through which both information and resources flow (Björkman et al., 2004). This is particularly important with expatriates. As Choi and Johanson (2012) argue, the personal relationship-development capability of an expatriate can affect the knowledge transfer process. Expatriates are conventionally regarded as being vehicles of knowledge transfer across units of MNCs (Chang et al., 2012; Fang, Jiang, Makino, & Beamish, 2010). Moreover, the deployment of expatriate managers is viewed as a method for generating interpersonal linkages because, as they move from one location to another, they enhance and change their personal networks (Reiche et al., 2009). As the knowledge transfer process is ultimately a human-to-human process (Shariq, 1999), the social ties of expatriates facilitate social interaction and provide avenues for knowledge exchange and transfer (Inkpen & Tsang, 2005).

Expatriate managers' closeness to and trust in local managers can improve access to subsidiary knowledge and information (Reiche, 2012; Teigland & Wasko, 2003). Expatriate managers may serve as "knowledge agents" as they can transfer both tacit and explicit knowledge and may support the necessary adaptation of knowledge from one context to another (Argote & Ingram, 2000; Hocking et al., 2007). Hence, they are able to diffuse their host-country learning back to the home units (Lazarova & Tarique, 2005). This is especially im-portant when the knowledge is complex and tacit in nature and therefore requires direct personal contact and an understanding of both sender's and receiver's contexts (Argote & Ingram, 2000). Bonache and Zarraga-Oberty (2008) confirm this, showing that better relationships between expatriates and host nations can improve knowledge transfer processes.

A close and trusting relationship between expatriate and HQ managers can motivate the former to put more effort into the delivery of knowledge and information from the subsidiary. This is relevant here because, as indicated above, individuals often display some reluctance to share knowledge (Zárraga & Bonache, 2005). Expatriate managers' strong ties with HQ managers generate more communication and information exchange between one another. Hence, they are more likely to understand HQs' needs and will be better able to assess what sub-sidiary knowledge is of value to HQs. They may therefore actively en-gage in helping to transfer the subsidiary knowledge needed by HQs. Furthermore, if they have good ties with HQ managers, expatriate managers are likely to receive more attention and trust in relation to the knowledge transferred (Pugh, Groth, & Hennig-Thurau, 2011). All of this can improve the success and the extent of RKT.

One task of expatriates is to cope with potential difficulties in the process of transferring knowledge (Szulanski, 1996). Given the international and complex context of MNCs, particularly of EMNCs, this may require specific expatriate managers' skills, such as communication and conflict resolution (Zoogah & Peng, 2011). These skills can be affected by the nature of the expatriate managers' ties with both local and HQ managers. Specifically, good interpersonal communication can facilitate the coordination and negotiation needed for information exchange and problem-solving in knowledge transfer (Teigland & Wasko, 2003). By utilizing their social relationships with both HQ managers and subsidiary local managers, expatriate managers can provide opportunities for communication and trust, build informal ties and create platforms for team-learning between units, thereby easing transfer difficulties. Additionally, surface-level (e.g., language) and deeper-level (e.g., values and learning styles) differences are very common in cross-unit knowledge transfer. Expatriate managers' close relations with both subsidiary local managers and HQ managers can create opportunities for better interaction. This can generate a "common language" (e.g., shared meanings, values and language systems) between source and recipient and facilitate the understanding of transferred knowledge (Reagans & McEvily, 2003). Thus, we propose the following hypotheses:

H4. The relationship quality between expatriate managers and subsidiary local managers is positively related to the extent of the subsidiary knowledge transfer back to the home-country units.

H5. The relationship quality between expatriate managers and HQ managers is positively related to the extent of the subsidiary knowledge transfer back to the home-country units.

4. Methods

We tested our hypotheses using data from 128 overseas subsidiaries of 73 Chinese MNCs. These primary data were collected through two questionnaires administered within the same MNC to both the HQ and the overseas subsidiaries.

4.1. Sampling

For our data collection, we targeted Chinese firms with at least one subsidiary operating in advanced markets for a minimum of three years. As it is difficult to obtain public information in China for non-listed companies, we began by reviewing the Chinese firms (2679 in total) listed on three stock exchanges: the Shenzhen Stock Exchange (1237 Chinese firms on the main board and the SME board), the Shanghai Stock Exchange (1062 Chinese firms), and the Hong Kong Stock Exchange (380 Chinese firms); these represent the majority of large Chinese firms. Because it is difficult to gain access to firms in China, it was necessary to have a large number of potential respondents. Considering that firms must respect the sampling criteria previously mentioned, and that we faced time-consuming access issues (Saunders, Lewis, & Thornhill, 2007), we adopted a purposive sampling procedure. This approach enabled us to use our judgment (based on secondary data and various information) to select the cases that met our research objectives and to obtain a difficult-to-identify sample (Saunders et al., 2007). This process ensured that the respondent firms matched our requirements and that we obtained the necessary support from the sampled MNCs to complete the questionnaires.

The target sampling subsidiaries are the overseas subsidiaries of the Chinese MNCs investigated, chosen by the respondent(s) to an HQ questionnaire. Three specific criteria were used to select the subsidiaries: they had to be majority-owned by a Chinese MNC (that is, the MNC had to have at least a 50% equity share of the subsidiary); they had to have been part of a Chinese MNC for at least three years; and they had to be recognized as having relevance to the MNC's business in order to avoid sales offices or very small subsidiaries. A subsidiary is defined as a firm that is at least 50% owned by the parent firm (Voxman, 1992). The subsidiaries had to be at least three years old because they must have some experience both in the host country and in the internal MNC network (Foss & Pedersen, 2002). Such experience serves as a proxy for organizational learning and relationship quality with other MNC units, thus engendering better knowledge transfer (Fey & Furu, 2008). All these criteria supported the selection of suitable subsidiaries in which RKT might occur within the MNC.

We obtained an initial sample of 185 subsidiaries of 106 Chinese MNCs. Five of the MNCs did not fulfill the criteria and were discarded along with their subsidiaries. Four MNCs had subsidiaries only in developing markets and one had only one subsidiary that had been established for less than three years. Similarly, two subsidiaries did not meet the 50% MNC ownership criterion so were also removed. Moreover, as the objective of this study is to investigate the quality of Chinese expatriate managers' relationships with HQ managers and local managers, we dropped 17 other subsidiaries that did not have Chinese expatriate managers or local managers. Finally, because our focus is on the RKT of technology-related knowledge (in line with previous RKT studies), we needed subsidiaries with either R&D activities (basic and applied research and technical development) and/or production activities. Our empirical focus is technology-related knowledge transfer because it is considered to be strategically important for MNCs' ability to build and sustain competitive advantage (Athreye et al., 2016; Ciabuschi et al., 2012). This is particularly pronounced for EMNCs that are catching up with their Western rivals (e.g., Luo & Tung, 2007; Nair et al., 2015, 2016). As a result, we dropped 32 subsidiaries with neither R&D nor production activities. Thus, our final sample involves 128 subsidiaries of 73 Chinese MNCs.

The unit of analysis for this study is the dyadic relationship that comprises an HQ and a subsidiary and our focus is on RKT management in this relationship. Out of a total of 128 subsidiaries, 97 were located in 19 developed economies (mainly in the USA, Germany, Australia, and the UK), while 31 were located in 14 developing economies (mainly Brazil, India, Thailand and Vietnam). The majority of the sampled subsidiaries (76%) are located in developed economies because knowledge-seeking investments made by EMNCs mostly target advanced markets (Luo & Tung, 2007; Rabbiosi et al., 2012) where there is a comparative advantage in high-tech R&D (D'Agostino, Laursen, & Santangelo, 2013). However, the literature on R&D internationalization also suggests an increasing trend in R&D investment in developing countries (Athreye, Tuncay-Celikel, & Ujjual, 2014; D'Agostino et al., 2013). This means that subsidiaries located in developing countries may also have product or production competence and may engage in knowledge transfer. Hence, we included developing-country subsidiaries with R&D and/or production activities.

The sampled subsidiaries exhibit good variance across key demographic variables (see Table 1). For subsidiary age within MNCs, the mean is 8.5 years. Concerning subsidiary size, subsidiaries are large with an average of 519 employees. In terms of entry mode, more than half of the subsidiaries are greenfield (66%), and 34% are acquired. In relation to subsidiaries' top management teams (TMTs), 88 subsidiaries have two or more Chinese expatriate managers, 113 subsidiaries have two or more local national managers and only nine have third-country expatriate managers. Hence, the majority (119) of the sampling subsidiaries' TMTs are formed by Chinese expatriate managers and local national managers.

Table 1
Respondent characteristics.

Description	Percentage	Description	Percentage
MNCs		***Subsidiaries***	
Industry–sector		**Age within MNC**	
Automotive	14	3–5	37
Chemical, fertilizers, and plastics	3	6–10	36
Engineer and machinery	29	11–20	23
Textiles, apparel, and jewelry	5	> 21	4
Electrical and electronics	25	**Entry mode**	
Oil, gas, and power	4	Acquired	34
Metal, ores, and mining	8	Greenfield	66
Others	12	**Host location**	
		Developing markets	24
No. of employees		Developed markets	76
1000–3000	11	**No. of employees**	
3001–5000	17	1–20	14
5001–10,000	22	21–50	21
10,001–20,000	15	51–500	44
> 20,001	35	> 501	21

Table 2
Operationalization of the constructs.

Construct/indicator	Label	Data source	Mean (N = 128)	Standard deviation
Expatriate – local managers' relationship quality[a]	QELR	Subsidiary		
In your subsidiary, the Chinese managers have good informal relations with local non-Chinese managers	QELR1		5.66	1.17
In your subsidiary, there is a great deal of trust between the Chinese managers and local non-Chinese managers	QELR2		5.38	1.09
In your subsidiary, communication between the Chinese managers and local non-Chinese managers is very easy	QELR3		5.21	1.23
Expatriate – HQ managers' relationship quality[a]	QEHQR	Subsidiary		
Your subsidiary's Chinese managers have good informal relations with the HQ's top managers	QEHQR1		6.08	1.05
There is a great deal of trust between your subsidiary's Chinese managers and the HQ's top managers	QEHQR2		6.22	0.90
Communication between your subsidiary's Chinese managers and the HQ's top managers is very easy	QEHQR3		5.99	0.94
Subsidiary willingness to transfer knowledge[b]	SWILL	Subsidiary		
To what extent did your subsidiary see benefits in sharing your knowledge with the MNC HQ and other subsidiaries during the past three years?[c]	SWILL1		4.84	1.11
To what extent did your subsidiary commit resources to transfer knowledge internally to the MNC during the past three years?	SWILL2		4.61	1.03
To what extent did the MNC HQ motivate (financially or emotionally) your subsidiary to transfer your knowledge during the past three years?	SWILL3		4.60	1.46
Reverse knowledge transfer[d]	RKT	HQ		
Product/service know-how	RKT1		3.99	1.12
Production know-how	RKT2		3.02	1.26
R&D know-how	RKT3		3.06	1.50
Subsidiary size (number of employees)	Size	Subsidiary	519.34	1176.38
Subsidiary age (years in the MNC)	Age	HQ	8.54	4.91
Subsidiary location (advanced market versus non-advanced market)	Location	HQ	0.77	0.42
Mode of establishment	Acquired	HQ	0.34	0.47
MNC industry technology intensity (low-tech, medium-low, medium-high and high-tech)	Industry	Annual report	3.00	0.78
Frequency of direct contacts between local non-Chinese managers and MNC HQ's top managers	LHQDC	Subsidiary	4.32	1.15
Relative presence of expatriates in subsidiary's top management team (TMT)	RPE	Subsidiary	0.40	0.17
Weight of Chinese expatriate managers with international experience in the total number of Chinese expatriate managers	WMIE	Subsidiary	0.90	0.19

[a] To what extent do you agree with the following statements?
[b] Please answer the following questions.
[c] Mean of "To what extent did your subsidiary see benefits in sharing your knowledge with the MNC HQ during the past three years?" and "To what extent did your subsidiary see benefits in sharing your knowledge with other subsidiaries within the MNC during the past three years?"
[d] To what extent, during the past 12 months, has the MNC HQ/have the Chinese subsidiaries of the MNC received different knowledge (listed below) from each subsidiary? (Mean of what the MNC HQ and Chinese subsidiaries have received).

4.2. Questionnaire and data collection

We designed two questionnaires; within the same MNC, one questionnaire was administered to HQs and the other was administered to the overseas subsidiaries. The questionnaires were designed to investigate the relationships between Chinese HQs and their subsidiaries and the knowledge transfer occurring between them. Language differences were considered when designing the questionnaires. The respondents from subsidiaries could be either Chinese or locals. Questionnaires were prepared in both English and Chinese; the questionnaires were designed in English and then translated into Chinese. The translated questionnaires were then re-translated back into English (by two Chinese lecturers with Master's degrees from UK universities) to avoid cultural bias and to verify that the meanings of the items were as intended, thereby ensuring validity. We developed the questionnaire following the conventional and well-accepted back-translation process (Brislin, 1986).

Seven Chinese MNCs were then invited to participate in the pilot test of the questionnaires and four accepted. The Chinese versions of the HQ and subsidiary questionnaires were pre-tested in these four Chinese MNCs (two state-owned MNCs and two private MNCs) and four of their subsidiaries (three greenfield subsidiaries and one acquired subsidiary). After checking the answers and interviewing the respondents to obtain feedback and to explore any problems they encountered when answering, we modified the English and Chinese versions of the questionnaires slightly with regard to layout and wording. This pre-testing helped us to check the validity and intelligibility of the questions and the information sensitivity. All of the collected HQ questionnaires were in Chinese. Most of the subsidiary questionnaires were in Chinese, as most respondents were Chinese expatriate managers, while local top managers completed a few in English.

Common method variance bias (Chang, Van Witteloostuijn, & Eden, 2010) is not a concern in this study because, in the research design stage, we decided to collect data on explanatory and dependent vari-ables from different respondents and contexts. Specifically, while the data for expatriate managers' relationships and subsidiary willingness were obtained from subsidiary managers, the RKT construct was based on HQ respondents. In addition, the pre-test served to avoid the use of confusing, vague, or unfamiliar terms in the creation or adaptation of the indicators and questions. We also used different Likert-type scale response anchors (e.g., "strongly disagree/strongly agree," "not at all/very much"). Finally, to control for biases related to the question context, questions regarding subsidiary willingness were asked after those questions measuring the quality of the relationships between expatriate managers and local managers.

We began the data collection process by contacting several HQ managers of Chinese stock-listed MNCs. We collected the HQ questionnaires mainly through face-to-face interviews so as to obtain more valid responses, gain legitimacy as a research team, and obtain access to subsidiaries (in order to administer the subsidiary questionnaire). In the HQ questionnaire, the first part has questions about the MNC and its HQ and the second part relates to each investigated subsidiary. In fact, the participating MNC HQ managers were asked to nominate up to five relevant subsidiaries fulfilling the sampling criteria. This helped us contact the top managers of these matching subsidiaries to complete the data collection at the subsidiary level. We received most subsidiary questionnaires from HQ managers through online communication tools (e-mail, WeChat, etc.) and a few directly from subsidiary managers. We eventually obtained data from 106 HQs (collected mostly through face-to-face, questionnaire-based interviews) and from 185 subsidiaries (obtained electronically, of which 47 questionnaires were verified or completed through phone or WeChat).

Respondents to the HQ questionnaire had to be MNC HQ senior managers who were knowledgeable about the management of overseas subsidiaries. They were mainly top managers (board secretary, vice-CEO, board-office manager, etc.) and heads of HQ divisions (e.g., international business division). For the subsidiary questionnaire, subsidiary top managers were chosen as respondents. This was because, given the broad scope of the survey, they were expected to have an in-depth knowledge of managing the subsidiary and of the relationships and flows between the subsidiary and HQ, and were therefore likely to be able to provide data on the full range of questions. Approximately 80% of the respondents were Chinese expatriate managers, although a few were local top managers, assistants of general managers and CEOs, and second-tier managers within functions such as marketing, accounting and finance and R&D (e.g., head of marketing, head of accounting and finance).

4.3. Measures

Here we explain how we operationalized the constructs in the model (see Table 2). First, concerning *expatriate managers' relationship quality*, Pérez-Nordtvedt et al. (2008) define relationship quality as the extent to which the relationship between two actors is close, strong, and based on mutual trust. We adapted our indicators from these authors. We also considered that Chinese MNCs were newcomers who lacked sufficient international experience, so their expatriate staffs were not diverse but were mainly Chinese. The same questions were used to measure the relationship quality between the expatriate managers and both the subsidiary local managers and the HQ managers (see Table 2). The items ranged, on a seven-point scale, from 1 (strongly disagree) to 7 (strongly agree).

Second, regarding *subsidiary willingness*, if we were to ask the knowledge holders directly about their behavior in terms of knowledge-sharing, the answers might not be reliable (see Minbaeva, 2007). In other words, the members on the subsidiary side may not want to admit that their willingness to share knowledge is low. Therefore, the measurement of subsidiary willingness to engage in knowledge transfer is adapted from Najafi-Tavani et al. (2012). Table 2 shows the specific indicators dealing with perceived benefits in sharing knowledge, resource commitment to transferring knowledge, and motivation to transfer knowledge (Najafi-Tavani et al., 2012). All of the measures were based on a seven-point scale, ranging from “not at all” to “very much”.

Third, *reverse knowledge transfer* captures the extent to which the subsidiary has transferred different knowledge to both the MNC HQ and to local subsidiaries in China. Building on the studies of Gupta and Govindarajan (2000) and Yang et al. (2008), three types of technology-related knowledge were considered: (1) product/service know-how; (2) production know-how; and (3) R&D know-how. The HQ respondents were asked to estimate the extent to which, over the past 12 months, their subsidiary had transferred knowledge to the HQ and to Chinese subsidiaries. We used a seven-point scale, ranging from 1 (not at all) to 7 (very much).

Finally, we added some controls to partial out the effects of other factors that may potentially explain the variance in our endogenous constructs. We controlled for subsidiary characteristics such as subsidiary age, size and location. *Subsidiary age* was measured as the duration from the year when the subsidiary first belonged to the MNC to the year when this survey was conducted. Subsidiary age was considered because older subsidiaries in MNCs may have better-developed relationships with HQs and with other units in MNCs, thus resulting in better knowledge transfer (Fey & Furu, 2008). *Subsidiary size* was measured as the number of people working at the subsidiary (Fey & Furu, 2008). Large subsidiaries may have more resources to dedicate to knowledge creation and to the transfer of more knowledge (Gupta & Govindarajan, 2000). *Subsidiary location* was controlled as a dummy variable: a subsidiary located in an advanced market was coded as 1; otherwise, it was coded as 0. Advanced markets generally have a superior institutional and economic position compared to home emerging markets; this may induce more legitimacy issues for EMNC HQs, such as the liability of emergingness (Demirbag, Sahadev, & Mellahi, 2010; Madhok & Keyhani, 2012; Wilkinson et al., 2014) or controversial political relationships (Ciabuschi, Kong, & Su, 2017). These issues may influence subsidiaries' willingness to share knowledge and RKT.

We also controlled for *mode of establishment* because a subsidiary's acquired status affects its propensity for involvement in knowledge sharing (Fey & Furu, 2008). We distinguished whether the subsidiaries were acquired; an acquired subsidiary was coded as 1, while a non-acquired one was coded as 0. The knowledge in an acquired subsidiary is more particular and in greater demand than the knowledge possessed by a non-acquired subsidiary (Fey & Furu, 2008). Therefore, we ex-pected that acquired subsidiaries would have more valuable knowledge to be transferred to home-country units than greenfield subsidiaries would. In addition, it is widely recognized that greenfield subsidiaries are more likely to be insiders and to be more embedded in the MNC corporate system than acquired ones, which typically still have larger numbers of managers socialized in the network of the previous corpo-rate parent and/or local firms (Mudambi et al., 2014).

MNC industry technology intensity was also controlled, reflecting the importance of technological knowledge in the industry, which proxies different opportunities with regard to RKT (Gupta & Govindarajan, 2000; Park & Vertinsky, 2016). Specifically, these RKT opportunities are expected to be greater in high- and medium-technology intensive industries, for which distinctive subsidiary knowledge can be of more use and greater interest for HQs (Mudambi et al., 2014). Following Park and Vertinsky (2016) and the guidelines established by the OECD (2011), we categorized MNC industries into low-technology, medium low-technology, medium high-technology and high-technology.

Next, the communication connections between subsidiary managers and HQ managers and other units in the home country may be positively related to greater knowledge transfer (Björkman et al., 2004). As communication is the process of sending and receiving information (Ramasamy et al., 2006), effective communication can reduce misunderstandings and build trust between an HQ and a subsidiary. Therefore, we controlled for the *frequency of direct communication between local managers and HQ managers*. We asked the subsidiary managers how frequently the local non-Chinese managers had direct contacts with the MNC HQ managers (1 = less than yearly, 2 = yearly, 3 = twice a year, 4 = quarterly, 5 = monthly, 6 = weekly, 7 = daily).

We also controlled for the *relative presence of Chinese expatriates in the subsidiary's TMT* and *the weight of Chinese expatriate managers with international experience in the total number of Chinese expatriate managers*. The former was measured as the percentage of Chinese expatriate managers out of all subsidiary top managers, while the latter is measured as the percentage of Chinese expatriate managers with at least one-year of overseas work or study experience, out of all Chinese expatriate managers. As the managers have a particularly important role to play as information conduits in MNCs (Fang et al., 2010), having more expatriate managers may increase HQ involvement in subsidiary management, while the international experience of the expatriates can promote their work adjustment (Takeuchi, Tesluk, Yun, & Lepak, 2005). Therefore, the subsidiary may transfer more knowledge to the home units.

5. Analysis and results

The data were analyzed through partial least squares (PLS) path modeling (Wold, 1982), a powerful variance-based structural equation modeling (SEM) technique (Hair, Sarstedt, Pieper, & Ringle, 2012). The SmartPLS (Ringle, Wende, & Will, 2005) software program was employed. The PLS results are reported following a two-stage procedure.

Table 3
Item and construct reliability and average variance extracted (AVE).

Construct/indicator	Item reliability	Construct reliability	Convergent validity
	Loading	Composite reliability	AVE
Expatriate – local managers' relationship quality		0.88	0.71
QELR1	0.83		
QELR2	0.89		
QELR3	0.80		
Expatriate – HQ managers' relationship quality		0.89	0.73
QEHQR1	0.83		
QEHQR2	0.88		
QEHQR3	0.86		
Subsidiary willingness to transfer knowledge		0.84	0.64
SWILL1	0.72		
SWILL2	0.81		
SWILL3	0.84		
Reverse knowledge transfer		0.88	0.71
RKT1	0.83		
RKT2	0.81		
RKT3	0.88		

First, the measurement model is assessed in terms of item and construct reliability and convergent and discriminant validity. If the measures prove reliable and valid, then the structural part of the model is considered and evaluated in terms of the significance of the construct relationships based on a bootstrapping technique. Table 3 presents the parameter estimates for the measurement model.

All individual item loadings (see Table 3, column 2) are over the 0.7 threshold (Carmines & Zeller, 1979). Next, construct reliability, measured in terms of composite reliability (Werts, Linn, & Jöreskog, 1974), is higher than the suggested 0.7 boundary for all the constructs (see Table 3, column 3), ranging between 0.84 for "subsidiary willingness to transfer knowledge" and 0.89 for "the relationship quality between expatriate managers and HQ managers". Similarly, the Dijkstra-Henseler's ρA measure of internal consistency reliability (Dijkstra & Henseler, 2015) is also higher than 0.7 for all constructs. Third, all the estimates are higher than the 0.5 threshold used to assess AVE (Fornell & Larcker, 1981) and convergent validity. Finally, the square root of each construct's AVE is greater than its correlation with the rest of the constructs (see Table 4), and the Heterotrait-Monotrait Ratio (HMMT) matrix (Henseler, Ringle, & Sarstedt, 2015) is also satisfactory, implying that each construct meets the requirement of discriminant validity and is sufficiently different from the others. We can conclude that the measurement model has appropriate metric properties.

To assess the structural model, we employed a bootstrap test with 5000 resamples (the non-parametric approach for estimating the precision of the SEM-PLS estimates). We found that the path coefficient between the quality of expatriate managers' relationships with local managers and subsidiary willingness to transfer knowledge (H1: $\beta = 0.41$, $p < 0.001$) was significant (see Fig. 2 and Table 5). In con-trast, the path between the quality of expatriate managers' relationships with HQ managers and subsidiary willingness (H2: $\beta = -0.02$, $p > 0.05$) was not significant. Therefore, H1 cannot be rejected, while H2 cannot be accepted. Second, the relationship between subsidiary willingness and RKT is significant (H3: $\beta = 0.45$, $p < 0.001$). To test the mediating role of subsidiary willingness to transfer knowledge, we followed the procedures for mediation analysis in PLS (see Nitzl, Roldan, & Cepeda, 2016). Subsidiary willingness to transfer knowledge plays a mediating role in the relation between the quality of expatriate managers' relationships with local managers and RKT (see columns 8, 9 and 10 in Table 5). Third, both exogenous variables – that is, the ex-patriate and local managers' relationship quality (H4: $\beta = 0.05$, $p > 0.05$) and the expatriate and HQ managers' relationship quality (H5: $\beta = -0.03$, $p > 0.05$) – have no significant effect on RKT. Taken together, the results suggest full mediation (Nitzl et al., 2016; Zhao, Lynch, & Chen, 2010) of subsidiary willingness in the relation between the quality of expatriate managers' relationships with local managers and RKT and no mediation in the relation between the quality of their relationships with HQ managers and RKT.

Some controls also have significant effects on subsidiary willingness to transfer knowledge and/or RKT. First, the frequency of direct communication between local managers and MNC HQ managers drives both subsidiary willingness and RKT. Second, larger subsidiaries make the transfer of knowledge to home units more likely. Third, a positive effect on RKT is found when the subsidiary is located in an advanced market. Fourth, when the subsidiary is acquired (versus greenfield), more knowledge is likely to be transferred from foreign subsidiaries to home units. Fifth, MNC industry technology intensity influences the extent of RKT; that is, higher technological intensity implies more RKT.

Finally, the variance of the endogenous constructs explained by the model (R^2) is 0.49 for subsidiary willingness to transfer knowledge and 0.70 for RKT (see Table 5).

Table 4
Discriminant validity[a]. Correlations and square root of the average variance extracted (AVE).

	Construct	1	2	3	4	5	6	7	8	9	10	11	12
1	QELR	**0.84**											
2	QEHQR	0.53**	**0.86**										
3	SWILL	0.57**	0.38**	**0.80**									
4	RKT	0.37**	0.30**	0.66**	**0.84**								
5	Size	−0.03	0.13	0.08	0.21*	**1**							
6	Age	0.14	−0.09	−0.03	−0.14	−0.07	**1**						
7	Location	−0.00	0.11	0.17*	0.38**	−0.10	−0.11	**1**					
8	Acquired	−0.25**	0.00	−0.11	0.25**	0.24**	−0.27**	0.27**	**1**				
9	Industry	0.30**	0.22*	0.32**	0.31**	0.10	0.21*	−0.02	−0.04	**1**			
10	LHQDC	0.40**	0.34**	0.54**	0.61**	0.23*	−0.06	0.12	0.03	0.27**	**1**		
11	RPE	0.05	−0.21*	−0.15	−0.24**	−0.03	0.23**	−0.36**	−0.41**	−0.13	−0.20*	**1**	
12	WMIE	0.09	0.03	0.13	0.13	−0.19*	−0.05	0.31**	−0.00	−0.03	0.10	−0.36**	**1**

[a] Diagonal values in bold are the square roots of the variance shared between the reflective constructs and their measures. For discriminant validity to be established, the diagonal elements must be greater than the off-diagonal elements in the corresponding rows and columns.

** Correlation is significant at the 0.01 level (two-tailed).

* Correlation is significant at the 0.05 level (two-tailed).

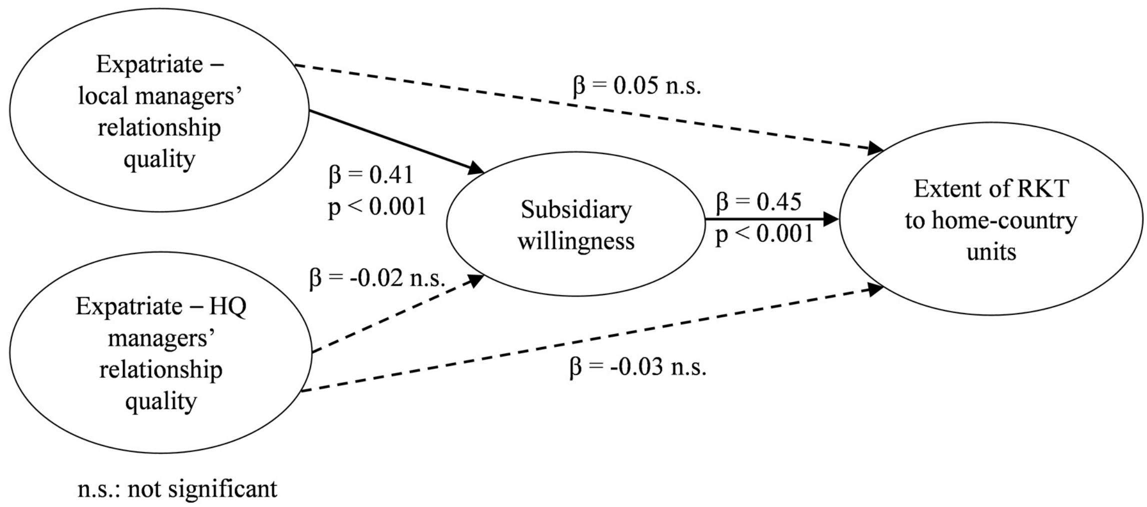

Fig. 2. The resulting model.

6. Concluding discussion

6.1. Discussion

This paper brings together the literature on RKT in EMNCs with that on the role of expatriate managers in RKT. Our study, based on agency theory, contributes to both streams by uncovering the impact of the quality of expatriate managers' relationships on subsidiary willingness and on RKT. Specifically, we find that subsidiary willingness mediates the relation between the quality of expatriate managers' relationships with subsidiary local managers and RKT.

First, our results indicate that, in Chinese MNCs, subsidiary willingness to transfer knowledge has significant positive effects on the extent of RKT to home-country units. This finding is in line with previous studies (e.g., Blomkvist, 2012; Ciabuschi, Kong, & Su, 2017; Gupta & Govindarajan, 2000; McGuinness et al., 2013; Najafi-Tavani et al., 2012) and highlights the fact that the motivational issue to manage RKT practices is also important in the context of EMNCs. EMNC HQs are typically at a lower knowledge level than their knowledge-seeking subsidiaries and the likelihood of subsidiary opportunism and rent-seeking behavior is high (Awate et al., 2015; Ciabuschi et al., 2012; Mudambi & Navarra, 2004). Hence, subsidiary willingness to engage in RKT and the way in which it is fostered (e.g., through expatriate managers) is an important determinant of RKT in EMNCs.

A second important finding is that expatriate managers' good relationships with subsidiary local managers positively affect subsidiary willingness to transfer knowledge and are therefore expected to help to minimize and overcome the motivational barriers related to agency problems. This contributes to the further understanding of agency problems in MNCs by showing how key personnel's socialization mechanisms (e.g., expatriate managers' socialization with local managers) affect the extent of agency problems such as subsidiary willingness to transfer knowledge. Acknowledging that the principal-agent relationship is a social one, our study highlights that the quality of the relationships between key managers involved in the principal-agent relationship is important in reducing agency problems. Expatriate managers' socialization with local managers can either substitute for or complement a compensation strategy (Forsgren, Johanson, & Sharma, 2000; Roth & O' Donnell, 1996) when coping with agency problems and knowledge transfer issues in an HQ-subsidiary relationship. Thus, this study provides an understanding of the managerial issues affecting subsidiary willingness and RKT. The previous literature on RKT has focused mainly on the positive effects of inter-unit socialization on subsidiary willingness (Najafi-Tavani et al., 2012) and on RKT (e.g., Gupta & Govindarajan, 2000; Murray & Chao, 2005), while interpersonal relationships have been neglected.

Furthermore, our study enhances our understanding of the importance of expatriate managers in RKT. Based on our results, we argue that expatriate managers' strong network ties with subsidiary local managers are an important aspect of the success of expatriate managers and a precondition for the effective performance of international job tasks such as coordination and support for knowledge transfer. This is especially important in EMNCs. Expatriate managers from EMNCs face different challenges stemming from a double hurdle of liabilities (liability of foreignness and liability of emergingness) (Wilkinson et al., 2014), related to the fact that they are often sent into acquired companies and lack international managerial experience and skills (Ramamurti, 2012). This engenders more obstacles for expatriate managers and easily leads to their low effectiveness when operating in foreign subsidiaries. This is particularly true in the case of acquired subsidiaries. Acquisition is considered a strategic vehicle that helps EMNCs obtain advanced technology and knowledge quickly in order to offset their competitive weakness (Madhok & Keyhani, 2012; Rabbiosi et al., 2012). Owing to the different knowledge level and divergent interests, EMNC HQs are likely to have more agency problems with their acquired subsidiaries. In this situation, the opportunity for expatriate managers to leverage good relationships with local managers is crucial in coping with a number of post-acquisition difficulties (e.g., goal incongruence and the unwillingness of the subsidiary and its employees) and to implement cross-border knowledge acquisition in EMNCs.

Contrary to expectations, our empirical results indicate that the quality of expatriate managers' relationships with HQ managers is not significantly related to subsidiary willingness to transfer knowledge. We can only speculate that the relationship between HQ managers and expatriate managers is embedded in a good and trusting nature, as HQ managers are generally more likely to appoint people whom they trust as expatriates. Hence, expatriates may be devoting more attention and effort to HQ matters rather than subsidiary affairs, which may result in expatriate managers having a weak influence on subsidiary willingness, among other aspects. Another possible reason is that the national identity of expatriate managers springs from a common national socialization (that differs from those of subsidiary local managers) and common cultural attachments, which generate a sense of belonging and therefore commitment and loyalty to HQs in the home country (Banai & Reisel, 1993). Expatriate managers seem to focus more on home-country units and also seem to commit to these, thereby reducing agency issues. This may weaken the relevance of the expatriate managers' relationships with HQ managers, but strengthen the expatriates' relationships with subsidiary local managers.

Table 5
Endogenous variables: total, direct and indirect effects, bias-corrected confidence intervals (BCCI) and explained variances.

Effects on endogenous variables	Total effects	*t* value (bootstrap)	95% BCCI	Direct effects	*t* value (bootstrap)	95% BCCI	Indirect effects	95% BCCI	Variance explained
Effects on subsidiary willingness to transfer knowledge									0.49
Expatriate – local managers' relationship quality (H1)	0.41 ***	(4.464)	[0.26; 0.56]	0.41 ***	(4.464)	[0.26; 0.56]			0.24
Expatriate – HQ managers' relationship quality (H2)	−0.02 n.s.		[−0.18; 0.13]	−0.02 n.s.		[−0.18; 0.13]			0.00
Control variables									
Subsidiary size	0.05 n.s.		[−0.03; 0.13]	0.05 n.s.		[−0.03; 0.13]			0.00
Subsidiary age	−0.09 n.s.		[−0.06; 0.23]	−0.09 n.s.		[−0.06; 0.23]			0.00
Subsidiary location (advanced market)	0.14 n.s.		[−0.01; 0.27]	0.14 n.s.		[−0.01; 0.27]			0.03
Mode of establishment (acquired subsidiary)	−0.12 n.s.		[−0.24; 0.01]	−0.12 n.s.		[−0.24; 0.01]			0.01
MNC industry technology intensity	0.11 n.s.		[−0.04; 0.26]	0.11 n.s.		[−0.04; 0.26]			0.03
Local managers-HQ managers direct communication	0.31 ***	(3.532)	[0.16; 0.45]	0.31 ***	(3.532)	[0.16; 0.45]			0.17
Relative presence of expatriates in subsidiary's TMT	−0.08 n.s.		[−0.23; 0.05]	−0.08 n.s.		[−0.23; 0.05]			0.01
Weight of expatriate managers with international experience	0.00 n.s.		[−0.13; 0.14]	0.00 n.s.		[−0.13; 0.14]			0.00
Effects on reverse knowledge transfer									0.70
Subsidiary willingness to transfer knowledge (H3)	0.45 ***	(4.807)	[0.29; 0.59]	0.45 ***	(4.807)	[0.29; 0.59]			0.29
Expatriate – local managers' relationship quality (H4)	0.24 **	(2.793)	[0.10; 0.38]	0.05 n.s.		[−0.08; 0.18]	0.18 ***	[0.10; 0.30]	0.02
Expatriate – HQ managers' relationship quality (H5)	−0.04 n.s.		[−0.19; 0.09]	−0.03 n.s.		[−0.16; 0.09]	−0.01 n.s.	[−0.08; 0.06]	0.01
Control variables									
Subsidiary size	0.09 *	(1.852)	[0.01; 0.17]	0.07 n.s.		[−0.02; 0.15]	0.02 n.s.	[−0.01; 0.07]	0.01
Subsidiary age	−0.11 n.s.		[−0.00; 0.22]	−0.07 n.s.		[−0.04; 0.18]	−0.04 n.s.	[−0.03; 0.11]	0.01
Subsidiary location (advanced market)	0.30 ***	(4.136)	[0.17; 0.41]	0.24 **	(3.090)	[0.11; 0.36]	0.06 n.s.	[−0.00; 0.14]	0.08
Mode of establishment (acquired subsidiary)	0.19 **	(2.538)	[0.07; 0.32]	0.24 ***	(3.489)	[0.13; 0.36]	−0.05 n.s.	[−0.12; 0.00]	0.06
MNC industry technology intensity	0.17 **	(2.517)	[0.06; 0.28]	0.12 †	(1.620)	[0.00; 0.24]	0.05 n.s.	[−0.02; 0.13]	0.03
Local managers-HQ managers direct communication	0.42 ***	(5.787)	[0.30; 0.55]	0.29 ***	(4.610)	[0.19; 0.39]	0.14 ***	[0.08; 0.22]	0.17
Relative presence of expatriates in subsidiary's TMT	0.06 n.s.		[−0.07; 0.19]	0.10 n.s.		[−0.02; 0.21]	−0.03 n.s.	[−0.11; 0.02]	0.02
Weight of expatriate managers with international experience	0.02 n.s.		[−0.09; 0.16]	0.02 n.s.		[−0.06; 0.12]	0.00 n.s.	[−0.06; 0.06]	0.00

n.s.: not significant; † < 0.1; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$ (based on a one-tailed Student's $t_{(4999)}$-distribution).

Our empirical results do not confirm that the quality of expatriate managers' relationships with subsidiary local managers and with HQ managers has a direct impact on the extent of RKT to home-country units in Chinese MNCs. This may suggest that expatriate managers do not engage directly in RKT, challenging the view that expatriates' social ties are channels to transfer knowledge and tools to facilitate the knowledge transfer process (e.g., Inkpen & Tsang, 2005; Reiche et al., 2009). Rather, we show that the relationships between expatriate managers and local managers can influence the extent of RKT by triggering more subsidiary willingness. Taken together, these results show how subsidiary willingness actually mediates the effect of the relationship quality between expatriate managers and local managers on the extent of knowledge transferred back to home-country organizations. Although previous studies have shown subsidiary willingness to be important for RKT (e.g., Blomkvist, 2012; Gupta & Govindarajan, 2000; McGuinness et al., 2013; Najafi-Tavani et al., 2012), our study specifically uncovers its role as a mediator between the quality of expatriates' relationships and extent of RKT. Thus, while conventional knowledge transfer literature argues that expatriate managers may act as knowledge carriers across units of MNCs (Argote & Ingram, 2000; Chang et al., 2012; Fang et al., 2010; Hocking et al., 2007), in the context of EMNCs and RKT, it seems that expatriate managers do not directly act as knowledge transferors, but instead reduce agency problems and enhance subsidiary willingness when increasing the quality of their relationship with local managers.

6.2. Implications, limitations and future research

One of the main implications for HQ managers in EMNCs is that, when selecting expatriate managers, they must be more aware of what can foster relationship quality between expatriate managers and subsidiary local managers. The relationship with local managers is an important factor in determining the performance of expatriates' international assignments such as RKT. In addition, as EMNCs' HQs generally face more agency issues in managing subsidiaries in advanced countries (and with higher competences), they must also reconsider the role of their expatriate managers, who may be critical in the improvement of the HQ-subsidiary relationship. Our study shows how, by maintaining better and closer relationships with local managers, expatriate managers are vital for the effective support of RKT activities in the host units of EMNCs, since EMNCs and their expatriates must overcome many more challenges, including the liability of foreignness and the liability of emergingness, than their Western counterparts.

This study has certain limitations, several of which lead to suggestions for future research. First, we used a limited sample size offered by a single emerging market (China); hence, the conclusions and implications should be applied with caution to other emerging markets. Conducting similar studies in other emerging markets, such as India, Russia and Brazil, will help to generalize these results. Second, this study employs a cross-sectional survey, which has limitations in terms of clearly establishing causalities and accounting for temporal effects. Third, considering our research design, which implied the collection of data from subsidiaries and HQs, the length of the questionnaires, as well as the focus on Chinese expatriate-manager teams (as opposed to one specific Chinese expatriate manager), we did not ask for much detailed information about expatriate managers. Future studies could integrate and model each expatriate's characteristics and qualities, such as the individual-level goal congruence of expatriates.

Future research might also consider how EMNCs' home-country units benefit from knowledge transfer from overseas subsidiaries. We emphasize the important role of the quality of expatriate managers' relationships with subsidiary local managers in addressing agency problems in relation to subsidiary willingness. Future research should incorporate other mechanisms (e.g., the compensation strategy of the subsidiary) by which the agency problem can be managed.

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