



Foreign-owned subsidiary knowledge sourcing: The role of location and expatriates

Sven Dahms

Asian Institute of Management, 123 Paseo de Roxas, Makati 1229, Metro Manila, Philippines



ARTICLE INFO

Keywords:

Knowledge sourcing
Foreign-owned subsidiaries
Transaction cost economics
Resource-based view
Location
Expatriates
fsQCA

ABSTRACT

Multinational enterprises increasingly rely on knowledge that is sourced from outside their home country in order to sustain a competitive advantage. This research investigates knowledge sourcing in foreign-owned subsidiaries located in the emerging economy of Taiwan. Employing transaction cost economics and the resource-based view of the firm, we find that locational factors such as geographic distance or global city location, and the use of expatriates as managing directors, can positively influence knowledge sourcing. We employ symmetric and non-symmetric analysis techniques to investigate the competitive and combinative explanatory power of both theories. We find evidence for equifinality in that either, when taken separately or in combination, may create transactional and resource-based conditions to facilitate knowledge sourcing.

1. Introduction

The importance of knowledge as a source of competitive advantage in multinational enterprises (MNE's) has long been acknowledged in the literature (Kogut & Zander, 1993; Rugman & Verbeke, 2001; Zeng, Grøgaard, & Steel, 2018). Traditionally, knowledge has been largely seen as locally developed in the home country and headquarters, and then dispersed across the entire MNE network (Vernon, 1966). However, more recently it has been argued that MNE's source knowledge to a growing extent originates from their subsidiaries abroad (Athreye, Batsakis, & Singh, 2016; Gupta & Govindarajan, 2000). By knowledge sourcing, we mean the use of knowledge specifically located in the subsidiary by other units within the MNE network.

Knowledge sourcing from subsidiaries has been linked with two key factors, those which are locational on the one hand, and human resource-based on the other. Human resource management issues and the management of expatriate managers is one of the main frontiers in international business research (Kostova, Marano, & Tallman, 2016). Stoermer, Davies, and Froese (2017) point toward the inter-personal nature of knowledge sharing and the important role individuals, especially the role expatriates play in such a context. This is also because human resources are one of the scarcest and most difficult to manage resources within the MNE portfolio (Shaffer, Kraimer, Chen, & Bolino, 2012). Location, on the other hand was until recently a largely neglected factor in the international business literature (Dunning, 1998; Mudambi & Santangelo, 2016). For many years, the field treated host countries as a homogenous control variable and as the sole locational

factor. More recently, it has been argued that location is far more complex than initially assumed (Mudambi et al., 2018). Especially the distinction between place and space, with each having different implications for knowledge sourcing (Mudambi & Santangelo, 2016; Stoermer et al., 2017). For instance, a specific place, such as being located in a global city or the hinterland of a host country, can have characteristics that might facilitate or impede knowledge sourcing and transfer (McCann & Mudambi, 2005; Mudambi & Santangelo, 2016; Santangelo & Resbeut, 2018). Furthermore, the spatial dimensions, in particular geographic distance between home and host countries, can be a major factor in knowledge sourcing (Asmussen & Goerzen, 2013). Larger distances can have a hampering or enabling affect based on the similarity of knowledge and the subsequent knowledge compatibility shared with the rest of the MNE (Rugman, Verbeke, & Nguyen, 2011). This has become increasingly relevant given the continued global dispersion of subsidiaries. Overall, the locational literature has been largely guided by internalisation theory arguments, which have been focused on the transactional costs but somewhat ignore the subsidiaries' internal workings, especially their resource characteristics (e.g. Cantwell, 2009; Goerzen, Asmussen, & Nielsen, 2013).

For instance, the international human resource management literature indicates that the use of expatriates in key senior management positions facilitates knowledge transfer from the subsidiary to the rest of the MNE network (Chang, Gong, & Peng, 2012; Harzing, Pudelko, & Sebastian Reiche, 2015). By expatriates, we mean managers that are of a nationality other than the host country, including third-country nationals (Levy et al., 2015). Expatriates have the distinct potential to

E-mail address: svendahms@hotmail.com.

<https://doi.org/10.1016/j.jbusres.2019.08.013>

Received 1 June 2017; Received in revised form 6 August 2019; Accepted 8 August 2019

Available online 18 August 2019

0148-2963/ © 2019 Elsevier Inc. All rights reserved.

bring specific skills, knowledge, and network linkages from other parts of the MNE and beyond to the subsidiary (Caligiuri & Bonache, 2016). This facilitates the adaptation of location-specific knowledge for use elsewhere in the MNE network (Fang, Jiang, Makino, & Beamish, 2010). Those arguments are often grounded in the resource-based view of the firm (Barney, 1991; Lado & Wilson, 1994). However, those studies frequently underestimate or ignore the locational-transactional context in which the subsidiary is embedded (e.g. Harzing et al., 2015; Peng & Beamish, 2014).

It might be said that both streams of literature, the transaction cost theory and the resource-based view of the firm, have so far existed rather in isolation of one another. Our study attempts to combine and to compare the insights from both in order to better understand knowledge sourcing in MNE's. In particular, our research questions are: 1.) What impact do locational characteristics and the use of expatriates as managing directors have on knowledge sourcing in foreign subsidiaries?; 2.) How do those factors interact with each other?; and, 3.) Are there several different configurations of factors that facilitate knowledge sourcing?

Our study contributes to the conceptual literature in the field by bringing the extant, isolated perspectives of locational and expatriate literatures closer together in a single research framework. In particular, we aim to contribute to an understanding of the combinative and competitive explanatory power of transaction cost perspectives on the one hand, and the resource-based view of the firm on the other (Mahoney & Qian, 2013; Zeng et al., 2018). Furthermore, we use structural equation modelling - partial least squares (SEM-PLS) and fuzzy set Qualitative Comparative Analysis (fsQCA) methods to analyse our data set. Applying both techniques in a complementary manner enables us to look beyond the more commonly investigated relationship links between variables and allow for an identification of a combination of conditions leading to equifinality in the outcomes (Cuervo-Cazurra, Andersson, Brannen, Nielsen, & Reuber, 2016; Fiss, 2007; Woodside, 2013).

2. Literature review and hypothesis development

2.1. Resource-based and transaction cost-based considerations

Knowledge sourcing refers herein to the use of accumulated knowledge located in the subsidiary by other parts or segments of the MNE network. In today's world of intense global knowledge-based competition, subsidiaries can play a major role as knowledge sources for the MNE to develop and maintain their competitive advantage (Mudambi & Santangelo, 2016). Hence, proper management of such knowledge resources within the MNE is one of the key challenges for contemporary MNE management. Knowledge sourcing is often observed from either a resource-based or transaction cost-based perspective.

The resource-based view of the firm is focused on imperfect factor markets (Barney, 1991; Peteraf, 1993). It implies that differences in production inputs serve as the key indicators for performance differentials between companies. In an international business context, human resources and the ability to assign expatriates to core management positions can initiate an internal knowledge transfer that provides MNEs with a sustained competitive advantage that is difficult for domestic firms to attain (Harzing, 2002; Chang et al., 2012). In that sense, managers are carriers of important knowledge resources (Tan & Mahoney, 2006) and their strategic deployment is key in accessing and distributing knowledge throughout the MNE network (Harzing, 2002). However, resources are not of equal use in each and every setting (Hennart, Sheng, & Pimenta, 2015). For instance, previous studies have indicated that local managers might be preferred if local knowledge needs to be accessed (e.g. Chang et al., 2012; Harzing et al., 2015). This is because local managers are more familiar with local customs and thus more likely to gain access to local knowledge networks. Hence, a

resource might not have the same competitive advantage-building characteristic, but remains dependent on the transactional system where it is embedded. This brings us to transactional cost considerations, which is our second theoretical perspective to be applied.

Transaction cost economics explains the boundaries of firms as well as their internal and external governance (Williamson, 1981). Transaction cost theory focuses on the transaction as the unit of analysis and implies broadly that corporate performance can be hampered by incomplete contracting or unsolved contractual hazards between parties. In the international business literature, location has been argued to play an increasingly important role in determining the cost of transaction for the MNE (Athreye et al., 2016; Cantwell, 2009), and hence an MNE's ability to successfully exploit resources outside its home country (Rugman & Verbeke, 2001). Inspired by recent developments in the field of economic geography, especially the analytical focus at the subnational level (Dunning, 1998; McCann & Mudambi, 2005), location is now readily distinguishable between place and space (Cantwell, 2009; Mudambi & Santangelo, 2016).

"Place" is currently the most prominently featured aspect in the literature regarding global cities (Santangelo & Resbeut, 2018). Global cities are a kind of agglomeration that can reduce the cost of transaction for MNEs abroad because of their distinct characteristics (McCann & Mudambi, 2005), in particular, their global interconnectedness, a cosmopolitan workforce, and a strong presence of producer services (Beaverstock, Smith, & Taylor, 1999; Sassen, 2001). For instance, local suppliers are far more likely to have previously engaged with MNEs and might be more willing to engage in business transactions without active discrimination, thereby they may reduce costs for liability of foreignness (Shin, Hasse, & Schotter, 2017). Furthermore, global interconnectedness allows MNEs to more easily integrate those units into the internal network in order to facilitate knowledge exchange (Gupta & Govindarajan, 2000).

The spatial factor ("space") is adapted from economic geography, and it is better known in the broader international business literature as "distance" (Ghemawat, 2001). Distance is a multidimensional construct that can encompass other aspects, such as cultural, linguistic, administrative, or psychic distance components (e.g. Rugman et al., 2011; Zaheer, Schomaker, & Nachum, 2012). However, geographic distance has a special place among these diverse aspects because it does not change and it exists in the physical world; whereas, the other dimensions are socially constructed and exist predominantly in the minds of the managers who see them as more or less controllable (Asmussen & Goerzen, 2013). Moreover, it has also been argued that geographic distance shows similarities with the more commonly applied concept of cultural distance (e.g. Håkanson & Ambos, 2010; Siegel, Licht, & Schwartz, 2013). Other studies confirm that greater geographic distance is a persistent indicator of a higher cost of transaction (e.g. Dow & Karunaratna, 2006). This is due in large part because not only does the flow of physical goods become affected by geographic distance along with the flow of knowledge. Asmussen and Goerzen (2013) show that multinationals are more dispersed on the cultural and institutional dimension when compared to a geographical dimension. Haas and Cummings (2015) show that geographic factors present a greater barrier to knowledge exchange in international teams than do nationality or native language, for instance. This all points toward the important role of geographic distance, even though much research in the field is dominated by a consideration of the other dimensions (e.g. Shin et al., 2017). Furthermore, given the cosmopolitan workforce prevalent in most global cities, the cultural aspect might be more relevant for subsidiaries located outside such places, whereas the geographic distance persists across all subsidiaries in the host country.

The next section will discuss how resource-based and transactional considerations affect knowledge sourcing in foreign-owned subsidiaries.

2.2. Location and knowledge sourcing

Being located in global cities reduces the costs of transaction for MNEs by providing opportunities to link into existing knowledge “pipelines”, a cosmopolitan labour pool, and easy access to local firms with prior MNE dealings (Cantwell & Zaman, 2018; McCann & Mudambi, 2005). This comparatively clear access to the external local environment makes it likely that subsidiaries located in a global city may become important knowledge sources for the MNEs (Goerzen et al., 2013; Schotter & Beamish, 2014). Furthermore, global connectivity reduces travel time and increases the number of interactions between the subsidiary and the rest of the MNE. Lorenzen and Mudambi (2012) argue that this facilitated interaction increases the likelihood of units being identified as potential knowledge sources. A cosmopolitan labour pool is also expected to facilitate the knowledge exchange between the subsidiary and the external environment of that subsidiary. For instance, this exchange may occur through a higher degree of understanding between the subsidiary and external actors due to a greater mutual cross-cultural competence (Stoermer et al., 2017). Furthermore, given the density of MNEs located in global cities, it is more likely that the subsidiary is exposed to relevant external knowledge exchanges and hence more likely to become a source of knowledge for the rest of the MNE (Cantwell & Zaman, 2018). This consideration leads to our first hypothesis:

Hypothesis 1. There is a positive association between global city location and knowledge sourcing.

Subsidiaries located at a greater geographic distance from the home country are often seen as peripheral, and hence receive less attention from the headquarters (Birkinshaw & Ridderstråle, 1999; Harzing & Noorderhaven, 2006). This potential attention deficit, or supposed relegation to an ancillary position, is likely to hinder the subsidiary in becoming an important source of knowledge for the rest of the MNE. Furthermore, other research has shown that greater geographic distance is associated with communication difficulties (e.g. Vlačić, Marzi, Caputo, & Dabić, 2018). While those difficulties might be alleviated to some extent through a usage of modern communication technology (Harzing & Noorderhaven, 2006; Noorderhaven & Harzing, 2009), the increased communication intensity required for knowledge sourcing might outstrip those technological advances (Mudambi et al., 2018). Lastly, and in addition, it has been argued that there exists a lack of knowledge compatibility caused by any increased distance between the subsidiary and headquarters (Ambos, Ambos, & Schlegelmilch, 2006). Looked at it from a frictional perspective (Stahl & Tung, 2015), subsidiaries located at a greater geographic distance are unlikely to serve as knowledge transfer gateways for the rest of the MNE (Vlačić et al., 2018).

However, the existence of larger distances also implies an exposure to more diverse knowledge sources, which might not be available to other parts of the MNE (Cantwell, 2009; Doz, Santos, & Williamson, 2001). Hence, subsidiaries located at a greater geographic distance might be seen as an important source of location-specific knowledge for the MNE network. For instance, the sourced knowledge might not be immediately useful to headquarters, but it could be utilized by other subsidiaries located in adjacent markets (Stahl & Tung, 2015). Hence, the higher costs of transaction for subsidiaries located in host countries at a greater geographic distance might be offset by potential access to more knowledge variety on the one hand (Doz et al., 2001) and increased knowledge relevance for similarly peripherally located subsidiaries on the other (Ambos et al., 2006). In other words, the overall higher external contracting costs associated with operating at greater distances might be outweighed by the potentially lower internal costs of transaction for knowledge transfers into other peripheral subsidiaries. Given the contradicting arguments, we propose two further hypotheses:

Hypothesis 2a. Greater geographic distance is positively associated

with knowledge sourcing.

Hypothesis 2b. Greater geographic distance is negatively associated with knowledge sourcing.

2.3. Expatriates and knowledge sourcing

The use of expatriates to facilitate knowledge transfer across the MNE network has been well established in the literature (Fang et al., 2010; Shin et al., 2017; Stoermer et al., 2017). For the most part, it has been found that the use of expatriates facilitates knowledge sourcing from foreign subsidiaries (Chang et al., 2012; Harzing & Noorderhaven, 2006). In their capacity as knowledge carriers and boundary bridges, they are an important resource for the MNE useful toward creating firm-specific advantages (Johnson & Duxbury, 2010). For instance, this is because expatriates may function as ‘filters’ of knowledge (Chang et al., 2012). This “filter” function includes the scanning of available knowledge for its relevance and usefulness. This is important since it makes knowledge from an expatriate-led subsidiary more likely to be accepted by the corporate “immune system” (Birkinshaw & Ridderstråle, 1999). Hence, one of the key resource characteristics identified with expatriate managers is their knowledge of the internal workings of the firm and their back-end competencies in MNE operations (Harzing, 2002; Stoermer et al., 2017). In other words, expatriates can be important resources to reduce knowledge transfer costs within the MNE (Fang et al., 2010; Tan & Mahoney, 2006). Resultantly, an expatriate as managing director might be more likely to overcome legitimacy barriers to knowledge acceptance because the identified knowledge is more likely to fit with existing firm-specific advantages (Chang et al., 2012). We therefore test the following hypothesis:

Hypothesis 3. The use of expatriates as managing directors shows a positive association with knowledge sourcing

2.4. The interaction between resource-based and transactional considerations

The use of expatriates in top management positions provides MNEs with a tool that directly influences the impact of transactional costs in the host country on the value of firm-specific advantages transferred between home and host country (Gupta & Govindarajan, 2000; Harzing & Noorderhaven, 2006). This hints toward the existence of an interaction effect between human resource and locational factors. We therefore argue that the use of expatriates as a direct resource influences the locational factors that drive costs of transactions.

For instance, having an expatriate as a managing director might amplify the positive association between geographic distance and knowledge sourcing. This is because an expatriate might be able to identify relevant knowledge with greater ease when compared to a local manager. While local managers can fall back on a wider local network and greater location-specific cultural intelligence as a key resource characteristic (Caligiuri & Bonache, 2016), locals may have to struggle with identifying knowledge relevant to other MNE segments. Furthermore, an expatriate might be able to code the knowledge that is subsidiary- and location-specific in a way that allows dispersion throughout the whole of the MNE or other specific subsidiaries that might be located at a similar geographic distance or institutional environment (Ambos et al., 2006; Shin et al., 2017). In other words, the usage of an expatriate as a resource reduces internal costs of transaction associated with knowledge that is sourced from subsidiaries located at greater geographic distances. In summary, the resource-specific, back-end knowledge of the expatriate outweighs the front-end knowledge advantage of local managers (Tan & Mahoney, 2006).

In a similar vein, the use of expatriates might affect the association between global city location and knowledge sourcing. This is because the expatriate is at a more even footing with the local manager given

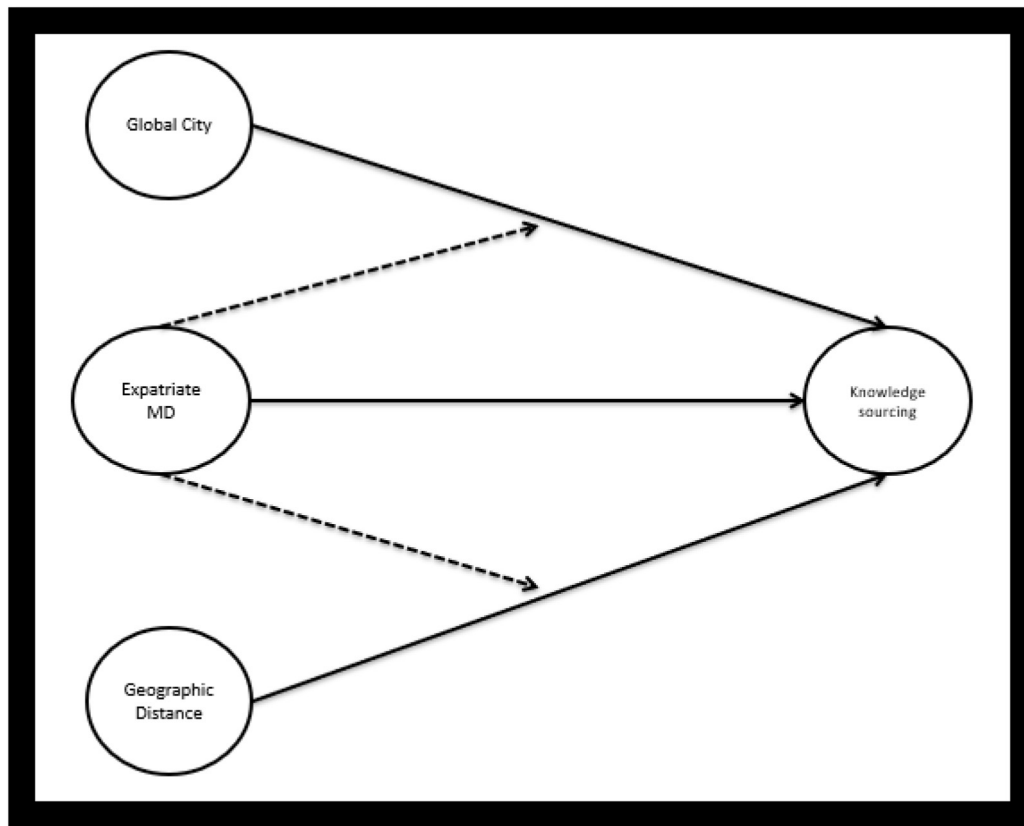


Fig. 1. Framework.

the arm's length nature of transaction in global cities (McCann & Mudambi, 2005). Put differently, a global city location provides the MNE with reduced external cost of transaction for knowledge sourcing. For instance, access to local networks does not per se require an extended personalised social network or place-specific cultural intelligence, as compared to hinterland locations (Chang et al., 2012; Dahms & Kingkaew, 2016; Shin et al., 2017). Hence, the expatriate and the local manager differ predominantly in their relative knowledge of corporate back-end competencies (Ambos et al., 2006). We therefore expect that the use of an expatriate resource amplifies the transaction cost advantages global cities offer; and hence, they will further contribute to the subsidiary becoming a knowledge source for the rest of the multinational enterprise. This leads to our last set of symmetric hypotheses:

Hypothesis 4a. The use of expatriates as managing directors amplifies the positive association between geographic distance and knowledge sourcing.

Hypothesis 4b. The use of expatriates as managing directors amplifies the positive association between global city location and knowledge sourcing (Fig. 1).

2.5. Knowledge sourcing and equifinality

Since we are able to identify theoretical arguments for a possible interaction between resources and transaction cost variables, it is reasonable to include those interaction terms in our framework (Andersson, Cuervo-Cazurra, & Nielsen, 2014). However, as argued by Woodside (2013), there may be many more possible combinations of factors and the inclusion of interaction terms are unable to fully capture it all. Hence, Feurer, Baumbach, and Woodside (2016) suggest the use of fuzzy set Qualitative Comparative Analysis (fsQCA) to overcome

such potential limitations of symmetric statistical methods such as SEM-PLS. We build on that line of reasoning and supplement the symmetric SEM-PLS analysis with non-symmetric fsQCA (Schneider & Wagemann, 2010). In particular, we want the ability to identify all possible configurations of resources and transaction cost-based conditions that can lead to the outcome of knowledge sourcing from subsidiaries. Hence, to identify complementary as well as competing explanations in a rigorous way, fsQCA is a suitable approach for this purpose (Jackson & Ni, 2013).

Any situation in which there can be several combinations of conditions that will lead to the same outcome is referred to as equifinality (Cabrilo & Dahms, 2018; Dahms, 2017a; Fiss, 2007). This is in line with previous studies in the field that have relied upon various subsidiary typologies (e.g. Gupta & Govindarajan, 2000; Harzing & Noorderhaven, 2006; Noorderhaven & Harzing, 2009). However, it should be understood that those studies predominantly employed symmetric regression methods, which do not allow explicit testing for equifinality.

We believe that equifinality is a prevalent issue in our research because it has been suggested that resources and transaction cost-based explanations are better used as combined rather than in competition with one another (Cabrilo & Dahms, 2018; Mahoney & Qian, 2013; Tan & Mahoney, 2006). We are one of the few studies to investigate the various potential combinations of transactions and resource conditions that are conducive to knowledge sourcing within foreign-owned subsidiaries. For example, the arguments for the exceptional role of geographic distance and attractiveness of subsidiaries for knowledge sourcing are notable in this regard. On the one hand, it might well be that subsidiaries are far more attractive for purposes of knowledge sourcing if they are located at a greater geographic distance due to the novelty they potentially offer (Doz et al., 2001). On the other hand, subsidiaries located at a lesser geographic distance might offer more relevant knowledge for other parts of the MNE, and there is the real possibility they may be more attractive as knowledge sources (Rugman

& Verbeke, 2001; Cantwell, 2009). Given the ambivalence of the arguments presented, as well as the inconclusive empirical evidence (e.g. Doz et al., 2001; Harzing & Noorderhaven, 2006), we formulate our last hypothesis as:

Hypothesis 5. there is a pattern of equifinality based on transaction cost and resource-based configurations that lead to higher knowledge sourcing.

3. Research method and analysis

3.1. Sample and data collection

The data for this study has been collected from foreign-owned subsidiaries located in Taiwan. Taiwan is an ideal location for our purposes because it is considered a mid-range emerging economy, which means that it has some evident characteristics observable in other emerging markets, such as relative institutional immaturity and infrastructure weaknesses (Dahms, 2017b; Hoskisson, Wright, Filatotchev, & Peng, 2013). This reflects the quotidian reality for many multinationals that operate by way of globally dispersed subsidiary networks. The island is of some interest because of its geographic location off the coast of China, and close to the Japanese marketplace, hence adjacent to two of the largest economies in the world. A Dun and Bradstreet database has been used to identify all known subsidiaries with 50% or more foreign ownership located in Taiwan. The questionnaire has been developed based on previous literature, and it has been forward- and backward-translated from English and Chinese (Dahms, 2018 & 2019). A pilot test with managing directors from different countries has been conducted which confirmed the face validity of the questionnaire.

Because our sample universe is located in the emerging economy of Taiwan it has been decided to follow the data collection procedure of the World Bank Enterprise Survey (Dahms, 2019; World Bank, 2011). The World Bank Enterprise Survey is a survey conducted in many different countries across the globe. Their method has been followed because more conventional methods such as postal survey are less likely to result in meaningful response rates. Accordingly, as a first step, a call centre has been established at the university and the call centre agents have been trained for 9 h in phone conduct as well as apprised of the survey goals. Afterwards, the trained agents started to collect the data via phone interviews and online survey. The use of phone and email methods allowed us to establish a sense of trust between the research team and the managers, which is crucial for conducting research in emerging markets. Our efforts targeted the managing directors of the subsidiaries directly. This has been done because the managing directors are the persons most likely in the firm with the required knowledge “by virtue of their position within the firm” (John & Weitz, 1988, p. 344). In cases where that condition was not possible, other members of the top management team (i.e., marketing managers, human resource managers or head of finance) responded to the questionnaire. The data collection efforts lasted from March to April 2016, and they resulted in a response rate of 20.2% (157 out of 776). The sample characteristics are presented in Table 1.

3.2. Operationalisation

The data for this study has been collected via survey, the Dun and Bradstreet database, and the Dow and Karunaratna (2006) database. The use of different sources reduces the risk for our data being liable to common method bias (Chang, Van Witteloostuijn, & Eden, 2010) and endogeneity (Reeb, Sakakibara, & Mahmood, 2012). The exact wording of the survey questions can be found in Table 2.

Based on Gupta and Govindarajan (2000), knowledge sourcing was measured by a four-item construct asking for the transfer of knowledge from the subsidiary to other parts of the MNE in four different areas

Table 1

Sample characteristics.

Size (number of employees)			Years in foreign ownership		
Employees	Freq.	%	Years in FO	Freq.	%
< 20	48	31	< 10 years	39	25
21–50	34	22	11–20 years	33	21
51–150	42	27	21–30 years	56	36
> 151	33	20	> 30	29	18
Total	157	100	Total	157	100

Entry mode			Industry		
	Freq.	%		Freq.	%
Greenfield	102	65	Manufacturing	51	32.5
Acquisition	22	14	Service	106	67.5
Joint Venture	33	21	Total	157	100
Total	157	100			

(management, sales, technology and strategy).

We adapt a measure from Harzing and Noorderhaven (2006) for the expatriate variable. In particular, we asked if the *managing director* was from Taiwan (coded ‘0’) or any other nationality (coded as ‘1’). This way we provided the respondents with the option to include third country nationals as well rather than the traditional expatriate option only (Levy et al., 2015). This construct design rests on the assumption that the most senior position is also likely to have the most decision-making influence (Harzing et al., 2015). Other studies use the total number of expatriates in the subsidiary (e.g. Peng & Beamish, 2014). However, this might not be appropriate in our context given the high number of labourers from third countries in the Taiwanese manufacturing sector.

The *geographic distance* between home and host country has been adapted from Dow and Karunaratna (2006) database. Following Goerzen et al. (2013) the location of the subsidiary has been established by the postal address given in the Dun and Bradstreet database. If the subsidiary was located in the global city of Taipei proper it has been coded ‘1’ and ‘0’ otherwise.

We also controlled for relevant factors based on the theoretical concepts applied in this study. For instance, the *age* of the establishment has been included because firms learn over time and can hence reduce local transaction costs (Cantwell, 2009). *Relative size* and product and service *relatedness* have been included. This is because the resource-based view of the firm suggests that relatively larger subsidiaries might be more important knowledge sources (Peng & Beamish, 2014), at the same time, subsidiaries with greater relatedness can fall back on a bigger headquarters knowledge base and are likely to provide relevant knowledge for the MNE (Rugman & Verbeke, 2001). Last, we distinguished between service (1) and manufacturing (0) industry. *Service* sector subsidiaries might face greater transaction costs due to their consumer facing nature of business.

3.3. SEM-PLS analysis

We applied SEM-PLS for our initial analysis since it fits our exploratory research approach (Venai, Midgley, & Devinney, 2005). It also has the advantage of having less restrictive data and sample size requirements (Hair, Sarstedt, Pieper, & Ringle, 2012). It further allows the investigation of complex relationships between variables such as moderating effects (Silva, Styles, & Lages, 2017). As software, we use WarpPLS 5.0.

3.3.1. Measurement model

We tested the convergent and discriminant validity of the knowledge transfer and relatedness constructs. The validity values in Tables 2

Table 2
Measurement model and constructs.

	Convergent validity	Composite reliability	Cronb. alpha	AVE	VIF
Knowledge sourcing		0.919	0.881	0.739	1.331
<i>Please estimate the extent to which, over the last three years, your subsidiary has transferred knowledge to the headquarters or other sister units</i>					
Sales and marketing know-how	0.859				
Strategy know-how (e.g. knowledge about customers)	0.905				
Knowledge about technologies	0.773				
Management know-how	0.896				
Geographic distance	Formative				1.162
Global City Location	Formative				1.228
Expatriate MD	Formative				1.09
<i>Moderators:</i>					
Expatriate MD * Geographic distance	Formative				1.052
Expatriate MD * Global City location	Formative				1.083
<i>Controls:</i>					
Relatedness		0.865	0.688	0.762	1.337
<i>To what extent do you agree with the following statements?</i>					
“Generally, products and services at our site are the same as our parents company”	0.873				
“Generally, we operate in the same industry as our parents company”	0.873				
Service industry	Formative				1.444
Age	Formative				1.225
Relative Size	Formative				1.032

Table 3
Discriminant validity and descriptive statistics.

	Mean	Median	Std. dev.	Min	Max	1	2	3	4	5	6	7	8	9	10
1 Knowledge sourcing	5.14	5.25	1.26	1	7	<i>0.86</i>									
2 Expatriate MD	0.41	0	0.49	0	1	0.016	<i>1</i>								
3 Geographic distance	6354.43	2103.05	4894.17	1475.76	12,532.54	0.185*	−0.180*	<i>1</i>							
4 Global City	0.51	1	0.50	0	1	0.096	0.088	0.031	<i>1</i>						
5 Relative Size	0.11	0.02	0.20	0.01	0.96	0.021	0.047	0.046	−0.068	<i>1</i>					
6 Age	19.93	20	11.33	1	52	0.099	0.041	−0.056	−0.067	−0.003	<i>1</i>				
7 Relatedness	5.84	6	1.16	1	7	0.430**	−0.06	0.240**	−0.042	−0.058	0.052	<i>0.873</i>			
8 Service Industry	0.68	1	0.47	0	1	−0.112	0.133	0.131	0.381**	−0.101	−0.327**	0.016	<i>1</i>		
9 MD GeoDist	2159.42	0	3922.46	0	12,532.54	0.105	0.666**	0.327**	0.089	0.03	−0.069	0.134	0.204*	<i>1</i>	
10 MD TPE	0.23	0	0.42	0	1	0.111	0.658**	−0.09	0.535**	0.011	0.115	0.016	0.281**	0.473**	<i>1</i>

Note: Diagonals in *Italic* are the square roots of the average variance extracted and off-diagonal are the bivariate correlations between the constructs.

* Correlation is significant at the 0.05 level.

** Correlation is significant at the 0.01 level (2-tailed).

and 3 are in line with the general thresholds applied in the field. For instance, average variance extracted reported in Table 2 is well above the 0.5 cut-off point. Discriminant validity is confirmed in Table 3, which shows that the square root of all the average variance extracted is higher than the correlation between the constructs (Fornell & Larcker, 1981). The variance inflation factors (VIF) and an additionally conducted Harman one factor test show no evidence of common method bias in our data.

3.3.2. Structural model

The structural model is used to test the hypothesised relationships. In line with the conventions in the literature (Silva et al., 2017), we first test the direct associations and then have a second model that includes the moderators. Each model's fit and quality indices are reported in Appendix A. The R-Squared for the knowledge sourcing variable was 0.29 in the baseline and 0.30 in the moderated model. Overall, we found support for some of our hypothesis. The direct positive effects of global city location and larger geographic distance have been confirmed. Furthermore, the direct positive association between expatriate managing director usage and knowledge sourcing has also been confirmed, although the *P*-value was with 0.07 comparatively low.

The moderation effects have been partially confirmed. We expected that the usage of expatriate managing directors would positively moderate the associations between location and knowledge sourcing. However, this has only been confirmed for the geographic distance, but not for the global city location. It is also worth mentioning the control

variables for relative size ($\beta = 0.19$), industry ($\beta = -0.19$) and relatedness (0.40) were significant at $P < 0.1$ levels. Age, on the other hand only at the margin with $\beta = 0.1$ and $P = 0.1$. In order to test our equifinality hypothesis, we need to employ fsQCA method, which will be discussed next. (See Table 4).

3.4. fsQCA analysis

In order to test our final hypothesis and to identify equifinality we use fsQCA. fsQCA is appropriate for our research context because it overcomes some of the limitations of the traditionally used symmetric methods such as allowing for non-symmetric relationships between variables (Ragin, 2008) or for multiple combinations of conditions that can lead to the same outcome (equifinality) (Cuervo-Cazurra et al., 2016; Fiss, 2007). fsQCA is based on Boolean algebra and is therefore using a set theoretic approach to data analysis. Accordingly, the variables need to be calibrated in order to establish set membership, as it will be outlined next.

3.4.1. Calibration

fsQCA requires all the values to be calibrated into set membership scores reaching from 0 (full absence of a condition) to 1 (full presence of a condition) (Ragin, 2008). In this article we follow adjacent studies such as Pappas, Kourouthanassis, Giannakos, and Chrissikopoulos (2016) and Leischnig and Kasper-Brauer (2016) and use the maximum value as full membership score (1) and the minimum as non-

Table 4
PLS-tests.

	Path coefficient	P-Value	Hypothesis supported
Hypothesis 1: There is a positive association between global city location and knowledge sourcing.	$\beta = 0.15$	$P = 0.02$	Yes
Hypothesis 2a: Greater geographic distance is positively associated with knowledge sourcing.	$\beta = 0.15$	$P = 0.03$	Yes
Hypothesis 2b: Greater geographic distance is negatively associated with knowledge sourcing.			No
Hypothesis 3: The use of expatriates as managing directors shows a positive association with knowledge sourcing	$\beta = 0.12$	$P = 0.07$	Yes
Hypothesis 4a: The use of expatriates as managing directors amplifies the positive association between geographic distance and knowledge sourcing	$\beta = 0.15$	$P = 0.03$	Yes
Hypothesis 4b: The use of expatriates as managing directors amplifies the positive association between global city location and knowledge sourcing	$\beta = 0.04$	$P = 0.29$	No

membership (0). As a cut-off point, we chose the mid-point of the measurement scale for knowledge sourcing and relatedness, and the median for all other variables (see Table 3). That seems justified given that previous empirical or theoretical literature does not suggest any other cut off points for the conditions used in our study.

3.4.2. Results fsQCA

After the calibration process the data is being analysed. We first look for necessary conditions, which helps to identify those conditions that are very important in achieving knowledge sourcing in subsidiaries. Necessary condition analysis is presented in Table 5. Relatedness reaches a consistency value of > 0.9 , which indicates that this condition is necessary (Ragin, 2008). None of the other conditions reached that threshold, although geographic distance just falls short with 0.861.

Following that, a truth table is created that provides coverage and consistency values. Rows with 0 cases have been excluded from further analysis (Ragin, 2008). The consistency cut-off points have been established via a natural drop-off method in addition to the recommended cut off point of 0.75. Two fsQCAs have been run: The first with only the Expatriate MD, Geographic distance, and Global City conditions. The second one also contained the ‘control’ conditions from the SEM-PLS analysis i.e. age, relatedness, relative size, and industry. In line with the conventions in the field (Ragin, 2008) only the intermediate solutions are presented. Intermediate means that those have been simplified but not to the highest degree. They therefore present a solution that is easier to interpret and at the same time retains much of the data richness. The results can be found in Tables 6a and 6b. $\otimes$ means the condition is absent, $\bullet$ means the condition is present and a blank space means the condition can be present or absent for achieving high knowledge sourcing.

Hypothesis 5 is overall supported in both models. From the core

Table 5
Necessary conditions.

Outcome variable: Knowledge sourcing		
Conditions tested:	Consistency	Coverage
Expatriate MD	0.462	0.611
~ Expatriate MD	0.625	0.587
Geographic distance	0.861	0.703
~ Geographic distance	0.455	0.763
Global City	0.577	0.620
~ Global City	0.514	0.578
Relative size	0.508	0.754
~ Relative size	0.783	0.683
Age	0.627	0.770
~ Age	0.717	0.714
Relatedness	0.982	0.660
~ Relatedness	0.257	0.772
Service Industry	0.678	0.568
~ Service Industry	0.413	0.659

Note: ~ stands for ‘NOT’.

Values in bold reach a consistency value of < 0.9 , which indicates a necessary condition.

Table 6a
fsQCA results core model.

Configurations for high knowledge sourcing (Core model)		
Condition	Solution	
	1	2
Expatriate MD		$\bullet$
Geographic distance	$\otimes$	
Global City		
Raw coverage	0.455	0.462
Unique coverage	0.196	0.204
Consistency	0.763	0.611
Overall solution consistency		0.6442
Overall solution coverage		0.6589

Note: Intermediate solution given; consistency cut-off: 0.882; frequency cut-off: 0. $\otimes$ = absent, $\bullet$ = present, blank space means “do not care”.

model in which we only include the locational and expatriate conditions, we see that two different paths lead to the same outcome i.e. knowledge sourcing in foreign-owned subsidiaries. The first is being geographically close to the home country, and the second is having an expatriate as managing director. That is interesting, because it suggests that it is indeed a competing rather than combination of transaction and resource-based conditions that facilitate knowledge sourcing.

The extended model offers a total of ten different solutions that lead to the same outcome. This indicates further support for our equifinality hypothesis (Fiss, 2007; Kingkaew & Dahms, 2018). We discuss the solutions with the highest raw coverage, in our case solutions 4 and 5, and solution 1 for manufacturing subsidiaries. Accordingly, solution 4 suggests that younger subsidiaries, with an expatriate as managing director, located at a larger geographic distance, being part of the service sector, and show a high degree of relatedness are more disposed to high knowledge sourcing. Solution 5 suggests that service sector subsidiaries, located at a larger geographic distance, at an older age, located in a global city, and show a high degree for relatedness are also likely to be important knowledge sources. We also note that solution 1 covers many cases from the manufacturing sector, in which larger geographic distance, greater age, high relatedness and being located outside a global city provides knowledge sourcing opportunities. From those three solutions, we can derive that transaction cost differentials, caused by larger geographic distance, is a main factor in determining knowledge sourcing in foreign-owned subsidiaries. This is a meaningful extension compared to other studies that rarely distinguish different causes of transaction cost differences in that context (e.g. Frost, 2001). In our case, the results confirm the persistent higher costs associated with managing subsidiaries located at a larger geographic distance. In addition, the results also indicate that those costs cannot be easily offset by other transaction cost determinants such as place, or more specifically a global city location.

Table 6b
fsQCA results extended model.

Configurations for high knowledge sourcing (Extended model)										
Condition	Solution									
	1	2	3	4	5	6	7	8	9	10
Expatriate MD		⊗	⊗	●		⊗	⊗	⊗	⊗	●
Geographic distance	●	●	●	●	●		●	⊗	●	⊗
Global City	⊗				●	⊗			●	⊗
Relative Size		●				●	⊗	●	⊗	⊗
Age	●	●	●	⊗	●	⊗	⊗	⊗	⊗	⊗
Relatedness	●	●	●	●	●	●	●	●	●	⊗
Service Industry	⊗		●	●	●	⊗	⊗	●		●
raw coverage	0.232	0.244	0.258	0.266	0.298	0.153	0.182	0.137	0.252	0.108
unique coverage	0.065	0.002	0.035	0.079	0.029	0.020	0.014	0.021	0.036	0.003
consistency	0.860	0.897	0.854	0.819	0.896	0.901	0.919	0.922	0.914	0.912
Overall solution consistency						0.798				
Overall solution coverage						0.750				

Note: Intermediate solution given; consistency cut-off: 0.759; frequency cut-off: 0. frequency cut-off: 0. ⊗ = absent, ● = present, blank space = “do not care”.

3.5. Symmetric and non-symmetric results comparison

It has been suggested in recent literature that symmetric methods ought to be used in combination with non-symmetric ones in order to provide a better understanding of the theories that are empirically investigated (Cuervo-Cazurra et al., 2016; Woodside, 2013). We answered that call and showed that the symmetric investigation overlooked important details that only became visible by applying supplementary fsQCA. For instance, while larger geographic distance was expected to be positively associated with knowledge sourcing in foreign-owned subsidiaries; the fsQCA results indicate that there are at least two configurations where that is not the case. We also showed that the use of expatriates as managing directors works not in all cases as a facilitator of knowledge sourcing. For instance, in service sector subsidiaries is the use of expatriate managers to drive knowledge sourcing only in recently established subsidiaries meaningful. However, nationality of the managing director seems not to matter in older subsidiaries located in global cities. This might indicate that over time the impact of expatriate managers as drivers for knowledge sourcing diminishes. In other words, the impact of the resource appears to somewhat weaken with the time the subsidiary operates in the host country. In the manufacturing sector, the expatriate manager appears not to play a large role in knowledge sourcing. This could be because of the sector specific standardization, which might render the resource of an expatriate managing director less impactful to drive knowledge sourcing. Additionally, being in a global city seems to play a less pronounced role overall in knowledge sourcing than previously assumed (Goerzen et al., 2013; McCann & Mudambi, 2005).

Lastly, we also included control variables in the fsQCA analysis. We see that relatedness is a dominating condition for subsidiaries to be functioning as knowledge sources for the rest of the MNE. However, we also had a configuration where relatedness was not part. This might represent the ‘satellite’ subsidiaries that scan the environment for new ideas that are not directly related to the main lines of business of the MNE (Doz et al., 2001). However, those represent only a small part of the surveyed subsidiaries. It is also worth mentioning that age and relative size were present and absent in several configurations. This suggests that subsidiary strategy varies with age and size, and both need to be considered.

4. Discussion and conclusions

4.1. Theoretical and methodological implications

This research combined insights from the international human resource management and location literatures to investigate the

knowledge sourcing patterns in foreign-owned subsidiaries. We embedded our research in the broader discussion on transactional and resource-based factors and their combinatory as well as competitive explanations for knowledge sourcing. We applied SEM-PLS to test for the competing and fsQCA for the combinatory effects (Dahms, 2017a; Woodside, 2013). Our study reveals that both sides of the arguments are present. We found that the transactional factor of greater geographic distance as well as being located in a global city does facilitate knowledge sourcing. We also showed that expatriates as managing directors facilitate knowledge sourcing. The use of expatriates as managing directors does also positively moderate the effects of geographic distance on knowledge sourcing, but not for subsidiaries located in global cities. Furthermore, we found evidence for equifinality in showing that, if taken in isolation, the absence of geographic distance or the presence of an expatriate managing director can each on their own facilitate knowledge sourcing.

We contribute to current literature on the theoretical and methodological level. First, we extend the discussion on the use of transaction cost theory and resource-based view of the firm as competing as well as combinatorial theoretical explanations to understand knowledge sourcing (Dahms, 2017a; Mahoney & Qian, 2013). By employing a symmetric regression method in the form of SEM-PLS as well as non-symmetric fsQCA we show that while competing explanations are possible, the latter method also allows for the understanding of combinatory explanations beyond the commonly used moderation effects (Fiss, 2007; Kingkaew & Dahms, 2018; Woodside, 2013).

Second, we demonstrate that locational as well as human resource factors can facilitate knowledge sourcing from foreign-owned subsidiaries. We thereby expand current literature such as Goerzen et al. (2013) by providing more detailed insights from the subsidiary level rather than the firm level. More specifically, we show that global cities are only partially a contributing factor for knowledge sourcing. By including the subnational level of analysis, we also expand adjacent studies such as Vlačić et al. (2018), Shin et al. (2017) or Stoermer et al. (2017). The only partially confirmed importance of global city locations could be because many emerging market host countries might still be seen as a sales driver rather than knowledge hubs per se.

Our results from the symmetric analysis showed that greater geographic distance positively affects knowledge sourcing. This suggests at a first glance support for the newness of knowledge arguments as put forward in Doz et al. (2001) or Cantwell (2009). However, if taken together in the non-symmetric fsQCA, we identified that for almost half of the subsidiaries in our sample, larger geographic distance is a hindrance to becoming a knowledge source within the MNE network (Ambos et al., 2006; Mudambi et al., 2018).

We also add to studies such as Harzing and Noorderhaven (2006)

and Gupta and Govindarajan (2000) that relied mostly on subsidiary typology literature. We extend their findings in showing that knowledge-sourcing explanations rely on differences of degree as well as kind. Furthermore, we also shed some new light on the transaction cost versus resource-based view discussion. In line with calls from Tan and Mahoney (2006), Rugman et al. (2011), and Hennart et al. (2015), we show that the use of resources such as expatriates depends on the transaction cost system in which the resource is deployed. For instance, global cities provide generally lower transaction costs for multinationals due to their characteristics of a more cosmopolitan workforce, global interconnectedness, and presence of producer services. This allows multinationals to transact at arm's length at a comparatively lower cost. This is different from transaction costs that are driven by geographic distance. The role of expatriate managers, especially in younger subsidiaries according to our results, seems to be to smoothen those costs by serving as a tried and trusted communication channel between the subsidiary and the headquarters. In other words, the likelihood that a subsidiary will become an important knowledge source within the multinational network depends as much on its location as it does on its resources.

Lastly, we also contribute by applying a combination of symmetric and non-symmetric methods to the field of research. We suggest that rather than relying exclusively on one method, a combination can help to shed more light on prevailing research questions. This is in particular the case when theories and their predictions are in need of being rigorously tested (Cuervo-Cazurra et al., 2016). This is because a combination of methods allows for asking more complex research questions as well as testing of different conceptual perspectives. In our case, we were able to show that equifinality exists between locational and international human resource management factors.

4.2. Managerial and policy implications

Our research also offers implications for managers and policy makers. Maybe most important for subsidiary as well as headquarter managers is that there is no single solution to the knowledge sourcing problem. While the use of expatriates is an important factor, we also show that location plays a role as well. For instance, incurring higher

rental costs for locating within global cities might not be the only way to source knowledge. Our findings from the fsQCA indicate that global city location plays only a peripheral role, especially in manufacturing sector subsidiaries.

We believe this might be also a welcoming insight for policy makers. For instance, the high rental costs of global city locations also affect the life quality of the local population. Our findings suggest that global city location might matter overall to a lesser extent and that alternative locations can be as attractive for MNEs and their knowledge sourcing activities. The promotion of other locations in the host country can therefore reduce price pressures in high demand locations such as global cities.

4.3. Limitations and future research

This research required detailed information on knowledge sourcing and other characteristics from foreign-owned subsidiaries in Taiwan. This level of detail was needed in order to overcome limitations of other knowledge sourcing studies that rely for instance on patent citation data (e.g. Frost, 2001). However, it would be very much of interest to see how knowledge sourcing changes over time (Chung & Dahms, 2018). The cross-sectional nature of our data does not provide that sort of information. Additionally, it would be also helpful to understand how the sourced knowledge is being used in the MNE as a whole. That would require information from the headquarters as well as the subsidiaries.

5. Conclusion

In conclusion, we believe that this paper could provide a new foundation for other researchers to understand knowledge sourcing in foreign-owned subsidiaries located in Taiwan and beyond. We apply resource-based and transaction costs perspectives and find support for both. We also provide methodological extensions by employing symmetric and non-symmetric methods, which allow to disentangle competing as well as combinatory explanations of the two theoretical lenses used in this research.

Appendix A. Model fit and quality indices

	Baseline model	Moderation model	Range
Average path coefficient (APC)	0.166, $P = 0.008$	0.185, $P = 0.004$	$P \leq 0.05$
Average R-squared (ARS)	0.296, $P < 0.001$	0.301, $P < 0.001$	$P \leq 0.05$
Average adjusted R-squared (AARS)	0.258, $P < 0.001$	0.258, $P < 0.001$	$P \leq 0.05$
Average block VIF (AVIF)	1.140	2.036	Acceptable if ≤ 5 , ideally ≤ 3.3
Average full collinearity VIF (AFVIF)	1.377	1.198	Acceptable if ≤ 5 , ideally ≤ 3.3
Tenenhaus GoF (GoF)	0.529	0.534	Small ≥ 0.1 , medium ≥ 0.25 , large ≥ 0.36
Sympson's paradox ratio (SPR)	1.000	0.889	Acceptable if ≥ 0.7 , ideally = 1
R-squared contribution ratio (RSCR)	1.000	0.945	Acceptable if ≥ 0.9 , ideally = 1
Statistical suppression ratio (SSR)	0.725	0.778	Acceptable if ≥ 0.7
Nonlinear bivariate causality direction ratio (NLBCDR)	0.813	0.833	Acceptable if ≥ 0.7

References

- Ambos, T. C., Ambos, B., & Schlegelmilch, B. B. (2006). Learning from foreign subsidiaries: An empirical investigation of headquarters' benefits from reverse knowledge transfers. *International Business Review*, 15(3), 294–312.
- Andersson, U., Cuervo-Cazurra, A., & Nielsen, B. B. (2014). From the editors: Explaining interaction effects within and across levels of analysis. *Journal of International Business Studies*, 45(9), 1063–1071.
- Asmussen, C. G., & Goerzen, A. (2013). Unpacking dimensions of foreignness: Firm-specific capabilities and international dispersion in regional, cultural, and institutional space. *Global Strategy Journal*, 3(2), 127–149.
- Attheye, S., Batsakis, G., & Singh, S. (2016). Local, global, and internal knowledge sourcing: The trilemma of foreign-based R&D subsidiaries. *Journal of Business Research*, 69(12), 5694–5702.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120.
- Beaverstock, J. V., Smith, R. G., & Taylor, P. J. (1999). A roster of world cities. *cities*, 16(6), 445–458.
- Birkinshaw, J., & Ridderstråle, J. (1999). Fighting the corporate immune system: A process study of subsidiary initiatives in multinational corporations. *International Business Review*, 8(2), 149–180.
- Cabrilo, S., & Dahms, S. (2018). How strategic knowledge management drives intellectual capital to superior innovation and market performance. *Journal of Knowledge Management*, 22(3), 621–648.
- Caligiuri, P., & Bonache, J. (2016). Evolving and enduring challenges in global mobility. *Journal of World Business*, 51(1), 127–141.
- Cantwell, J. (2009). Location and the multinational enterprise. *Journal of International Business Studies*, 40(1), 35–41.
- Cantwell, J., & Zaman, S. (2018). Connecting local and global technological knowledge

- sourcing. *Competitiveness Review: An International Business Journal*, 28(3), 277–294 just-accepted.
- Chang, S. J., Van Witteloostuijn, A., & Eden, L. (2010). From the editors: Common method variance in international business research. *Journal of International Business Studies*, 41(2), 178–184.
- Chang, Y. Y., Gong, Y., & Peng, M. W. (2012). Expatriate knowledge transfer, subsidiary absorptive capacity, and subsidiary performance. *Academy of Management Journal*, 55(4), 927–948.
- Chung, H. M., & Dahms, S. (2018). Ownership strategy and foreign affiliate performance in multinational family business groups: A double-edged sword. *Journal of International Management*, 24(4), 303–316.
- Cuervo-Cazurra, A., Andersson, U., Brannen, M. Y., Nielsen, B. B., & Reuber, A. R. (2016). From the editors: Can I trust your findings? Ruling out alternative explanations in international business research. *Journal of International Business Studies*, 47(8), 881–987.
- Dahms, S. (2017a). A fuzzy set analysis of foreign-owned subsidiary performance: Insights from East Asia. *Journal of Asia-Pacific Business*, 18(4), 224–241.
- Dahms, S. (2017b). Institutional development and subsidiary decision making autonomy: Theory and evidence from Taiwan. *International Journal of Business and Emerging Markets*, 9(2), 124–147.
- Dahms, S. (2018). The effects of networks and autonomy on foreign-owned subsidiary competence development in Taiwan. *International Journal of Emerging Markets*, 13(6), 1615–1634.
- Dahms, S. (2019). The influence of competences and institutions on the international market orientation in foreign-owned subsidiaries. *European Journal of International Management*, 13(3), 354–380.
- Dahms, S., & Kingkaew, S. (2016). University business incubators: An institutional demand side perspective on value adding features. *Entrepreneurial Business and Economics Review*, 4(3), 41–56.
- Dow, D., & Karunaratna, A. (2006). Developing a multidimensional instrument to measure psychic distance stimuli. *Journal of International Business Studies*, 37(5), 578–602.
- Doz, Y. L., Santos, J., & Williamson, P. J. (2001). *From global to metanational: How companies win in the knowledge economy*. Harvard Business Press.
- Dunning, J. H. (1998). Location and the multinational enterprise: A neglected factor? *Journal of International Business Studies*, 29(1), 45–66.
- Fang, Y., Jiang, G. L. F., Makino, S., & Beamish, P. W. (2010). Multinational firm knowledge, use of expatriates, and foreign subsidiary performance. *Journal of Management Studies*, 47(1), 27–54.
- Feurer, S., Baumbach, E., & Woodside, A. G. (2016). Applying configurational theory to build a typology of ethnocentric consumers. *International Marketing Review*, 33(3), 351–375.
- Fiss, P. C. (2007). A set-theoretic approach to organizational configurations. *Academy of Management Review*, 32(4), 1180–1198.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Frost, T. S. (2001). The geographic sources of foreign subsidiaries' innovations. *Strategic Management Journal*, 22(2), 101–123.
- Ghemawat, P. (2001). Distance still matters. *Harvard Business Review*, 79(8), 137–147.
- Goerzen, A., Asmussen, C. G., & Nielsen, B. B. (2013). Global cities and multinational enterprise location strategy. *Journal of International Business Studies*, 44(5), 427–450.
- Gupta, A. K., & Govindarajan, V. (2000). Knowledge flows within multinational corporations. *Strategic Management Journal*, 21(4), 473–496.
- Haas, M. R., & Cummings, J. N. (2015). Barriers to knowledge seeking within MNC teams: Which differences matter most? *Journal of International Business Studies*, 46(1), 36–62.
- Hair, J. F., Sarstedt, M., Pieper, T. M., & Ringle, C. M. (2012). The use of partial least squares structural equation modeling in strategic management research: A review of past practices and recommendations for future applications. *Long Range Planning*, 45(5), 320–340.
- Håkanson, L., & Ambos, B. (2010). The antecedents of psychic distance. *Journal of International Management*, 16(3), 195–210.
- Harzing, A. W. (2002). Are our referencing errors undermining our scholarship and credibility? The case of expatriate failure rates. *Journal of Organizational Behavior*, 23(1), 127–148.
- Harzing, A. W., & Noorderhaven, N. (2006). Geographical distance and the role and management of subsidiaries: The case of subsidiaries down-under. *Asia Pacific Journal of Management*, 23(2), 167–185.
- Harzing, A. W., Pudelko, M., & Sebastian Reiche, B. (2015). The bridging role of expatriates and inpatriates in knowledge transfer in multinational corporations. *Human Resource Management*, 55(4), 679–695.
- Hennart, J. F., Sheng, H. H., & Pimenta, G. (2015). Local complementary inputs as drivers of entry mode choices: The case of US investments in Brazil. *International Business Review*, 24(3), 466–475.
- Hoskisson, R. E., Wright, M., Filatotchev, I., & Peng, M. W. (2013). Emerging multinationals from mid-range economies: The influence of institutions and factor markets. *Journal of Management Studies*, 50(7), 1295–1321.
- Jackson, G., & Ni, N. (2013). Chapter 6 understanding complementarities as organizational configurations: Using set theoretical methods. *Configurational theory and methods in organizational research* (pp. 129–158). Emerald Group Publishing Limited.
- John, G., & Weitz, B. A. (1988). Forward integration into distribution: An empirical test of transaction cost analysis. *Journal of Law, Economics, & Organization*, 4(2), 337–355.
- Johnson, K. L., & Duxbury, L. (2010). The view from the field: A case study of the expatriate boundary-spanning role. *Journal of World Business*, 45(1), 29–40.
- Kingkaew, S., & Dahms, S. (2018). Headquarters value added and subsidiary performance: Insights from Thailand. *Review of International Business and Strategy*, 28(2), 150–168.
- Kogut, B., & Zander, U. (1993). Knowledge of the firm and the evolutionary theory of the multinational corporation. *Journal of International Business Studies*, 24(4), 625–645.
- Kostova, T., Marano, V., & Tallman, S. (2016). Headquarters–subsidiary relationships in MNCs: Fifty years of evolving research. *Journal of World Business*, 51(1), 176–184.
- Lado, A. A., & Wilson, M. C. (1994). Human resource systems and sustained competitive advantage: A competency-based perspective. *Academy of Management Review*, 19(4), 699–727.
- Leischnig, A., & Kasper-Brauer, K. (2016). How to sell in diverse markets? A two-level approach to industry factors and selling factors for explaining firm profitability. *Journal of Business Research*, 69(4), 1307–1313.
- Levy, O., Taylor, S., Boyacigiller, N. A., Bodner, T. E., Peiperl, M. A., & Beechler, S. (2015). Perceived senior leadership opportunities in MNCs: The effect of social hierarchy and capital. *Journal of International Business Studies*, 46(3), 285–307.
- Lorenzen, M., & Mudambi, R. (2012). Clusters, connectivity and catch-up: Bollywood and Bangalore in the global economy. *Journal of Economic Geography*, 13(3), 501–534.
- Mahoney, J. T., & Qian, L. (2013). Market frictions as building blocks of an organizational economics approach to strategic management. *Strategic Management Journal*, 34(9), 1019–1041.
- McCann, P., & Mudambi, R. (2005). Analytical differences in the economics of geography: The case of the multinational firm. *Environment and Planning A*, 37(10), 1857.
- Mudambi, R., Li, L., Ma, X., Makino, S., Qian, G., & Boschma, R. (2018). Zoom in, zoom out: Geographic scale and multinational activity. *Journal of International Business Studies*, 49(8), 929–941. <https://doi-org.elibrary.jcu.edu.au/10.1057/s41267-018-0158-4>.
- Mudambi, R., & Santangelo, G. D. (2016). From shallow resource pools to emerging clusters: The role of multinational enterprise subsidiaries in peripheral areas. *Regional Studies*, 50(12), 1965–1979.
- Noorderhaven, N., & Harzing, A. W. (2009). Knowledge-sharing and social interaction within MNEs. *Journal of International Business Studies*, 40(5), 719–741.
- Pappas, I. O., Kourouthanassis, P. E., Giannakos, M. N., & Chrissikopoulos, V. (2016). Explaining online shopping behavior with fsQCA: The role of cognitive and affective perceptions. *Journal of Business Research*, 69(2), 794–803.
- Peng, G. Z., & Beamish, P. W. (2014). MNC subsidiary size and expatriate control: Resource-dependence and learning perspectives. *Journal of World Business*, 49(1), 51–62.
- Peteraf, M. A. (1993). The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal*, 14(3), 179–191.
- Ragin, C. C. (2008). *Redesigning social inquiry: Fuzzy sets and beyond*. Chicago: University of Chicago Press.
- Reeb, D., Sakakibara, M., & Mahmood, I. P. (2012). From the editors: Endogeneity in international business research. *Journal of International Business Studies*, 43(3), 211–218.
- Rugman, A. M., & Verbeke, A. (2001). Subsidiary-specific advantages in multinational enterprises. *Strategic Management Journal*, 22(3), 237–250.
- Rugman, A. M., Verbeke, A., & Nguyen, P. C. Q. T. (2011). Fifty years of international business theory and beyond. *Management International Review*, 51(6), 755–786.
- Santangelo, G. D., & Resbeut, M. (2018). Multinational enterprises and global cities setting the research agenda. *Competitiveness Review: An International Business Journal*, 28(3), 230–235.
- Sassen, S. (2001). *The global city*. New York, London, Tokyo: Princeton University Press.
- Schneider, C. Q., & Wagemann, C. (2010). Standards of good practice in qualitative comparative analysis (QCA) and fuzzy-sets. *Comparative Sociology*, 9(3), 397–418.
- Schotter, A., & Beamish, P. W. (2014). The hassle factor: An explanation for managerial locational shunning. *Location of international business activities* (pp. 181–225). London: Palgrave Macmillan.
- Shaffer, M. A., Kraimer, M. L., Chen, Y. P., & Bolino, M. C. (2012). Choices, challenges, and career consequences of global work experiences: A review and future agenda. *Journal of Management*, 38(4), 1282–1327.
- Shin, D., Hase, V. C., & Schotter, A. P. (2017). Multinational enterprises within cultural space and place: Integrating cultural distance and tightness–looseness. *Academy of Management Journal*, 60(3), 904–921.
- Siegel, J. I., Licht, A. N., & Schwartz, S. H. (2013). Egalitarianism, cultural distance, and foreign direct investment: A new approach. *Organization Science*, 24(4), 1174–1194.
- Silva, G. M., Styles, C., & Lages, L. F. (2017). Breakthrough innovation in international business: The impact of tech-innovation and market-innovation on performance. *International Business Review*, 26(2), 391–404.
- Stahl, G. K., & Tung, R. L. (2015). Towards a more balanced treatment of culture in international business studies: The need for positive cross-cultural scholarship. *Journal of International Business Studies*, 46(4), 391–414.
- Stoermer, S., Davies, S., & Froese, F. J. (2017). Expatriates' cultural intelligence, embeddedness and knowledge sharing: A multilevel analysis. *Academy of management proceedings*. Vol. 2017. No. 1. *Academy of management proceedings* (pp. 16294–). Briarcliff Manor, NY 10510: Academy of Management.
- Tan, D., & Mahoney, J. T. (2006). Why a multinational firm chooses expatriates: Integrating resource-based, agency and transaction costs perspectives. *Journal of Management Studies*, 43(3), 457–484.
- Venaik, S., Midgley, D. F., & Devinney, T. M. (2005). Dual paths to performance: The impact of global pressures on MNC subsidiary conduct and performance. *Journal of International Business Studies*, 36(6), 655–675.
- Vernon, R. (1966). International investment and international trade in the product cycle. *The Quarterly Journal of Economics*, 80(2), 190–207.
- Vlajčić, D., Marzi, G., Caputo, A., & Dabić, M. (2018). The role of geographical distance on the relationship between cultural intelligence and knowledge transfer. *Business Process Management Journal*, 25(1), 104–125.
- Williamson, O. E. (1981). The economics of organization: The transaction cost approach. *American Journal of Sociology*, 87(3), 548–577.

- Woodside, A. G. (2013). Moving beyond multiple regression analysis to algorithms: Calling for adoption of a paradigm shift from symmetric to asymmetric thinking in data analysis and crafting theory. *Journal of Business Research*, 66(4), 463–472.
- World Bank (2011). World Bank's ENTERPRISE SURVEY UNDERSTANDING THE QUESTIONNAIRE. <http://www.enterprisesurveys.org/~media/GIAWB/EnterpriseSurveys/Documents/Methodology/Questionnaire-Manual.pdf>, accessed online, 14.09.2016.
- Zaheer, S., Schomaker, M. S., & Nachum, L. (2012). Distance without direction: Restoring credibility to a much-loved construct. *Journal of International Business Studies*, 43(1), 18–27.
- Zeng, R., Grøgaard, B., & Steel, P. (2018). Complements or substitutes? A meta-analysis of the role of integration mechanisms for knowledge transfer in the MNE network. *Journal of World Business*. <https://doi.org/10.1016/j.jwb.2018.02.001>.
- Sven Dahms** is Assistant Professor at the Asian Institute of Management in Manila (Philippines). He holds a PhD in Business & Management from Manchester Metropolitan University (UK). His current research focuses on the strategic development of Multinational Enterprises as well as knowledge management and innovation in a broader context. He has published in top tier journals such as *Journal of International Management*, *Journal of Knowledge Management*, and *Personnel Review*, among others.