

MNC Subsidiary's Entrepreneurship and Knowledge Transfer: Evidence from MNC Subsidiaries in South Korea*

Kangmun Lee

Department of Business Administration, Chonnam National University, South Korea

Ji Yeon Yang

Department of Global Business, The University of Suwon, South Korea

Taewoo Roh[†]

Department of International Trade and Commerce, Soonchunhyang University, South Korea

JKT 24(8)

Received 11 September 2020

Revised 30 November 2020

Accepted 28 December 2020

Abstract

Purpose – This paper attempted to verify the process by which a multinational corporation (MNC)'s subsidiary practices entrepreneurship to create effective knowledge (KC) in the local market. We have looked at whether subsidiary entrepreneurship (SENT) has a moderation effect in creating knowledge for the local market when a subsidiary has been given autonomy (AUT) from the headquarters (HQ). We also argue that when a subsidiary creates meaningful knowledge, the effect of the increased status by the HQ within the MNC network position (NP) has an indirect effect on whether knowledge is transferred to other overseas subsidiaries (KTO).

Design/methodology – This paper used a structural equation model (SEM) of 282 effective foreign companies invested in Korea. To test the hypothesis about the process of SENT on KTO, descriptive statistics, confirmatory factor analysis, reliability, convergent and discriminant validities, and common method bias were analyzed using STATA. In addition, the moderation effect was verified along with SEM. The moderation effect of AUT on SENT and KC was presented graphically by confirming $\mathit{\pm 1}$ standard deviation of AUT for the main effect.

Findings – Our findings are as follows. First, while the hypothesis about the direct effect of SENT and KC on KTO was not supported, all other hypotheses were supported. Second, both the AUT and moderating effect and the indirect effect of NP were significant. In the conclusion, these findings are discussed in relation to its various theoretical and practical implications.

Originality/value – This study attempted to contribute to the knowledge creation theory of MNC by contemplating how subsidiaries can move away from HQ and grow in the local market. Although there is still a shortage of foreign investment in the Korean market, our practical implications offer guidance for how current subsidiaries can develop more than other overseas subsidiaries.

Keywords: Knowledge Transfer to Overseas Subsidiaries, Multinational Corporation, Subsidiary Autonomy, Subsidiary Entrepreneurship, Subsidiary Knowledge Creation, Subsidiary Network Position

JEL Classifications: F23, L23, L62

1. Introduction

Since discussions on the relationship between headquarters and subsidiaries first began, the role of subsidiaries has been recognized as an important factor in enhancing the capabilities of multinational corporations (MNCs). No matter how excellent the headquarter (HQ) is, it

* This work was supported by the Soonchunhyang University Research Fund.

[†] Corresponding author: troh@sch.ac.kr

© 2020 Korea Trade Research Association. All right reserved.

is also located in one country, meaning it is limited in its ability to secure the same level of information on various distant countries as it has on local companies. In fact, in the early stages, foreign subsidiaries of MNCs were given the resources and knowledge of the HQ to virtually enter the local market, accept the strategic direction of the HQ, and carry out this passive role (Adenfelt, 2010). However, in recent years, there have been many cases of subsidiaries helping enhance the capabilities of MNCs by creating and transferring knowledge in the local market (Paterson and Brock, 2002; Yang, Mudambi and Mayer, 2008).

Then, more specifically, what differentiated factors did subsidiaries that accumulate and create knowledge as active subjects have compared to other subsidiaries? In the existing research on knowledge creation (KC) and transfer, knowledge characteristics such as tacit or formal knowledge (Nonaka, Katuhiro and Dai, 1996), the complexity of knowledge (Inkpen and Tsang, 2005), the relationship between the knowledge created by the subsidiary and the knowledge of HQs (Yang et al., 2008), and the knowledge transfer process (Goh, 2002; Zhang et al., 2010) as important factors influencing successful KC and transfer. However, this presupposes that all overseas subsidiaries act as active agents (Gupta and Govindarajan, 2000). In other words, there had been insufficient consideration of the fundamental factors for the overseas subsidiary to act as an active entity (Minbaeva, 2007). KC and knowledge transfer to overseas subsidiaries (KTO) can improve the competitive advantages of HQs and other subsidiaries, but not all overseas subsidiaries can play this role. In fact, there are differences in roles depending on the knowledge gap between overseas subsidiaries (Yang et al., 2008), so it is important to consider the preceding factors that caused these differences. Further, for effective reverse knowledge transfer, it is important to understand what factors the foreign subsidiary should consider as a transferring entity.

Which subsidiaries can create knowledge more effectively? Further, which subsidiaries can more effectively transfer this created knowledge? In this study, we examine the above two research questions. Research on KC of MNCs has also been conducted from two perspectives. One is the transfer of knowledge from HQ to an overseas subsidiary, and the other is when knowledge is transferred from a specific subsidiary to the HQ or to other subsidiaries (Gupta and Govindarajan, 2000). Initially, the foreign subsidiary of an MNC was recognized as the entity executing the knowledge transferred from the HQ, so the research was conducted with a narrow focus on the transfer of knowledge from the HQ to the subsidiary (Minvaeva et al., 2003). Another early study on subsidiaries considered them as active entities that seek and acquire new resources and capabilities rather than settling for the current situation (Ambos, Ambos and Schlegelmilch, 2006; Birkinshaw, Hood and Young, 2005; Lee, 2011; Sumelius and Sarala, 2008). The subsidiary is an independent organization and makes various strategic choices in a process that is influenced by the entrepreneurship and autonomy of the subsidiary (O'Brien et al., 2019). In this regard, existing research on KC has inexplicably focused on the absorptive capacity of a company. However, there has been insufficient research on how the creation of knowledge is activated or when the absorptive capacity is achieved through knowledge sharing within an MNC's network (Song, 2014). However, the entrepreneurship and autonomy act (AUT) is a critical motivating factor for the organization's KC (Dess et al., 2003; Zahra, Nielsen and Bogner, 1999). The entrepreneurship of a subsidiary is formed by a subsidiary that conducts business activities locally, and it can ultimately be seen as an essential factor in expanding the contribution of subsidiaries to the global competitiveness of MNCs (Birkinshaw, 1999).

The autonomy of subsidiaries under entrepreneurship is also vital for the transfer of created knowledge. Yuhan-Kimberly, a joint venture subsidiary between Yuhan from Korea and Kimberly-Clark from the United States (U.S.), sold products manufactured in Korea to the local market. However, Yuhan Kimberly's performance in the Korean market was

remarkable. While Kimberly-Clark was inferior in the global market compared to its main rival, Procter & Gamble (P&G), it showed an overwhelming market share in the Korean market. Based on these achievements, Yuhan-Kimberly was given the authority to oversee six Northeast Asian countries, including Korea, Japan, China, Taiwan, Hong Kong, and Mongolia (Cho Dong-Sung, 2014). This example demonstrates the importance of subsidiary autonomy and entrepreneurship in the transfer of subsidiary knowledge.

The extant studies have mentioned various obstacles to the transfer of knowledge of foreign subsidiaries, that is, the transfer of reverse knowledge. This is because various situational factors must be met to transfer and utilize knowledge from overseas subsidiaries to HQs and other subsidiaries. For example, the transfer of knowledge from HQs to subsidiaries is natural. However, the transfer of knowledge from a foreign subsidiary to a HQ requires the HQ to recognize the value of the knowledge generated by the subsidiary, and even if the value is recognized, it must undergo various verifications of the possibility of transferring knowledge (Yang et al., 2008). This indicates that the relationship between HQs and subsidiaries and knowledge integration mechanisms (Gupta and Govindarajan, 2000; Hakanson and Nobel, 2001) or the absorptive capacity of HQs and subsidiaries (Ambos et al., 2006), which have been discussed primarily in previous studies on KTO, need to be further discussed and supplemented. Accordingly, this study aims to contribute to the existing research and provide practical implications for MNCs by presenting discussions on (1) effective KC and (2) effective transfer of the knowledge created by active subsidiaries.

The composition of this study is as follows. In the literature review and hypotheses part, entrepreneurship, KC, and KTO are discussed, and based on these discussions, six hypotheses are presented. In the methodology part, samples, data collection, estimation models, and operational definitions for each variable are described. Next, the research results, descriptive statistics, reliability analysis, factor analysis, correlation, and structural equation model (SEM) results are presented. Finally, in the conclusions and implications section, the study is summarized, theoretical and practical implications are discussed, and the limitations and future research directions are discussed.

2. Literature Review and Hypothesis Development

2.1. MNC Subsidiary's Entrepreneurship

Entrepreneurship is a key element for a company's survival, change, and growth (Dess et al., 2003; Zahra et al., 1999). Entrepreneurship has also been addressed in a variety of contexts in research on MNCs. Strategic entrepreneurship is used to innovate products, technologies, and processes, establish new organizations to foster entrance to new sectors and markets, and secure organizational competitive advantage. Moreover, the subsidiary initiative refers to the active, autonomous, and risk-taking behaviors of MNCs' overseas subsidiaries, and it is included in the main topic of entrepreneurship research (Ahsan and Fernhaber, 2019). Therefore, this study understands the entrepreneurship of subsidiaries as the leading acts of subsidiaries, and our discussion proceeds according to this.

Subsidiary entrepreneurship (SENT) is formed by a unit organization that performs management activities locally, and it can ultimately be regarded as a focal factor that expands the subsidiary's contribution to the global competitiveness of MNCs (Birkinshaw, 1999; Scott et al., 2010). Existing studies of MNCs have generally discussed the roles of subsidiaries through two approaches. The first approach recognizes the subsidiary as a passive entity that simply follows the orders of the HQ. The HQ is at the center of an MNC's decision-making

structure, and its subsidiaries are sub-organizations within the MNC, and they are subject to coordination and integration (Gates and Egelhoff, 1986; Picard, 1980).

However, a new research approach for SENT has begun to appear. Studies using this approach have attempted to understand HQ in the context of subsidiary management, which differs from the conventional method of understanding subsidiaries in the context of HQ management. As independent organizations, subsidiaries are active entities that develop unique resources and capabilities for their survival and growth (Young et al., 1994), and in this development process, subsidiaries make various strategic choices (Birkinshaw, 1997). The various actions taken by a subsidiary in an attempt to survive and grow can be seen as actions influenced by SENT (O'Brien et al., 2019; Scott, Gibbons and Coughlan, 2010). In the stream of literature on MNCs, SENT has been discussed in various forms. Among them, as mentioned earlier, Birkinshaw (1997) named the subsidiary's entrepreneurship-reflected behaviors as subsidiary initiatives and defined subsidiary initiatives as active, proactive actions that lead to new approaches attempting to leverage and expand the resources held by subsidiaries. Recent studies on SENT have mainly focused on the influence of entrepreneurship on the generation of unique resources and the capabilities of subsidiaries, as well as the relationship between entrepreneurship and various environmental factors for subsidiaries. The level of the relationship between the HQs and subsidiaries, which is affected by various activities (i.e., sales, evaluation, and acceptance of subsidiary ideas), is closely related to the entrepreneurship of subsidiaries (Schmid et al., 2014).

2.2. Subsidiary Entrepreneurship (SENT) and Knowledge Creation (KC)

In general, subsidiary entrepreneurship contributes to the evolution of subsidiary roles. In other words, the entrepreneurial subsidiary acquires a more critical role and corresponding obligation within the MNC network (Birkinshaw and Hood, 1998; Birkinshaw, 1998). The entrepreneurship level of the subsidiary contributes to its responsiveness to the local market as well as its global learning and integration capabilities (Birkinshaw, 1997). Further, the entrepreneurship of subsidiaries can help them seize various opportunities in the local market, the internal market of MNCs, and the global market, while also contributing to the development of new products and markets, or enabling the more efficient operation of MNCs across the enterprise (Clark and Ramachandran, 2019). However, subsidiaries that lack entrepreneurship tend to be less sustainable (Reilly et al., 2012). In addition, low levels of entrepreneurship lead to inefficient operations, loss of goals, reduced motivation from the intervention of the HQ, and lack of trust in subsidiaries (Foss et al., 2012). In particular, roles and responsibilities corresponding to the evolution of subsidiaries include activities involving the transferring or sharing of knowledge (Lee et al., 2020). In this regard, if a specific subsidiary aims to play a more influential role within the hierarchical network of MNCs, a subsidiary with a higher level of entrepreneurship can achieve higher performance (Williams and Lee, 2011). Some of the actions taken by a subsidiary to achieve entrepreneurship may include the transfer of knowledge by the subsidiary to its HQs or to peer subsidiaries within the multinational network (Ambos and Birkinshaw, 2010; Dörrenbächer and Gammelgaard, 2016). Based on this, this study can derive the following logic based on a study indicating that the entrepreneurship of subsidiaries and active activities in the network have a positive relationship with each other. Subsidiaries cannot increase their influence through the initiative of their subsidiaries unless they draw the attention of the HQ (Ambos et al., 2010). Therefore, subsidiaries will focus on actively developing their capabilities and publicizing their achievements to attract favorable attention from HQs. In this process, entrepreneurship can make the efforts of subsidiaries more active to foster a positive interest in HQs (Conroy and Collings, 2016). Moreover, this effort can be

implemented as an action of expanding knowledge transfer to peers of the subsidiary (Bouquet and Birkinshaw, 2008; Frost et al., 2002).

In transferring a subsidiary to the HQ and peers, the first step is to create knowledge compatible with the MNC's global strategy. In our study, we suppose that a subsidiary's entrepreneurship can contribute to the creation of such knowledge. In general, entrepreneurial-based organizations are proactively and voluntarily oriented toward risk-taking, learning, and change (Kostova, 1999; Zahara and Covin, 1995). In addition, entrepreneurial organizations (corporations) value active communication among members, emphasize the development and sharing of new ideas, and provide corresponding rewards (Mudambi, Piscitello and Rabbiosi, 2014).

Therefore, in general, the higher the level of entrepreneurship of a subsidiary, the more the subsidiary can accumulate its knowledge and know-how in the process of grasping various opportunities related to local business (Clark and Ramachandran, 2019) and actively overcome them (Scott et al., 2010). The subsidiary achieves KC in the process of securing the capability to respond to the local market, and through this process it ultimately evolves itself. The main driving force behind this evolutionary process is the subsidiary initiative (Birkinshaw and Hood, 1998), which this study regards to be the same as the subsidiary's entrepreneurship.

Birkinshaw and Hood (1998) noted that MNC's HQs could induce innovation in subsidiaries by providing them with new management opportunities and projects that they have not experienced while also ensuring dynamic local activities. In other words, by making efforts to promote the entrepreneurship of subsidiaries (such as capturing new market opportunities), HQs ultimately induce the subsidiary to create new knowledge. Mudambi et al. (2014) presupposed that entrepreneurship contributes to the creation of new knowledge, and also mentioned that it plays a positive role in acquiring local knowledge of subsidiaries. In particular, Mudambi et al. (2014) suggested that the direction of the entrepreneurship of the subsidiary should be compatible with that of the HQ, and that the knowledge acquired or created by the subsidiary should also have an appropriate scope compared to the knowledge of the HQ. The KC of subsidiaries can be realized by subsidiaries accepting the entrepreneurship of MNCs within the subsidiary organization (Lee and Williams, 2007; Wang and Wang, 2020). In other words, entrepreneurship can contribute to the organization's KC activities. Scott et al. (2010) noted that entrepreneurship could help companies establish creative strategies in response to various local environmental changes. Further, the establishment of a creative response strategy is refined as knowledge inside the organization is accumulated, and this can ultimately serve as the basis for the creation of new knowledge.

H1: SENT of an MNC has a positive effect on KC for the local market.

2.3. Moderating effect of Subsidiary Autonomy (AUT) between SENT and KC

Clark and Ramachandran (2019) found that the higher the level of entrepreneurship of a subsidiary, the more that subsidiary can grasp various opportunities related to local business in general and accumulate unique knowledge and know-how in the process of actively overcoming any obstacles (Scott et al., 2010). In the process of overcoming these obstacles, the identification of various opportunities and proactive responses can be considered to be closely related to the AUT of subsidiaries. Lumpkin et al. (2009) mentioned that the AUT enjoyed by an organization is ultimately closely related to the level of entrepreneurship of that organization. Their research presented AUT as a tool for measuring the level of

entrepreneurship. However, in studies on MNCs, the entrepreneurship of subsidiaries can be discussed separately from AUT. This is because the subsidiary's AUT cannot be secured by itself, but the scope of the subsidiary's activity, that is, the AUT, is regulated under the approval of the HQ (Gammelgaard et al., 2012). Therefore, the higher the level of AUT enjoyed by the subsidiary, the broader the scope of the subsidiary to identify and respond to market opportunities in the local market, which will also contribute to an increased possibility that the subsidiary will accumulate unique knowledge and know-how (Geleilate et al., 2019). It can also be inferred that the AUT of the subsidiary will have a positive moderating effect independently of the relationship between the entrepreneurship and KC of the subsidiary. Therefore, we propose the following hypothesis regarding the moderating effect of AUT.

H2: AUT in the local market will positively moderate the relationship between SENT and KC.

2.4. Subsidiary Network Position (NP) between KC and Knowledge Transfer to Overseas Subsidiaries (KTO)

Subsidiaries of MNCs evolve through the accumulation of capabilities. Evolution simply means advancements in the management activities of subsidiaries, but the accumulation of capabilities leads to a change in both the network position (NP) and the activities of the subsidiary within the MNC (Birkinshaw and Hood, 1998; Gupta and Govindarajan, 1994). The act of developing and accumulating subsidiary-specific knowledge capabilities is the first step toward changing the properties of subsidiaries as centers of excellence (CoE). Subsidiaries with unique knowledge capabilities outperform other subsidiaries, which can in turn lead to additional investments in HQ (Frost et al., 2002). Egeraat and Breathnach (2012) summarized the change in capability as an improvement in the R&D process and noted that this could be a foremost driver for the evolution of subsidiaries of MNC. In other words, the existence of an appropriate system for developing new knowledge and accumulating it is closely related to the evolution of subsidiaries.

However, it is important to note that the enhancement of NP within an MNC's network is based on the strategic decision of the HQ. In the organizational structure of MNCs, subsidiaries are obliged to follow the orders of HQs. AUT discussed in subsidiary studies mostly refers to the AUT of local management activities (Kawai and Strange, 2014), and the evolution of NP within the MNC network is not an issue that subsidiaries can decide for themselves. The HQ of an MNC set criteria for the evaluation of the activities of its subsidiaries. These criteria are used to analyze and evaluate the contribution of subsidiaries (Corry and Cormican, 2019), and in turn change the NP of certain subsidiaries in the network of MNC (Andersson et al., 2005; Sumelius and Sarala, 2008).

In summary, subsidiaries of MNCs are evaluated by HQs in the process of self-knowledge-generating actions. If the created knowledge is recognized as having value, the HQ is more likely to enhance the status of its subsidiary. Therefore, the following hypothesis can be proposed.

H3: KC of an MNC will has a positive effect on NP within the MNC network.

If the subsidiary shares the unique knowledge it has acquired locally within the MNC network, the subsidiary has to risk the disappearance of the scarcity of its knowledge. In other words, the competitive advantage of the subsidiary based on KC may be lost. Therefore, the HQ must reward subsidiaries for their KTO and attempt to serve as a catalyst to enrich knowledge-sharing behavior (Björkman et al., 2004). In addition, support from HQs is also required for expenses such as securing infrastructure for knowledge sharing (Forsgren et al.,

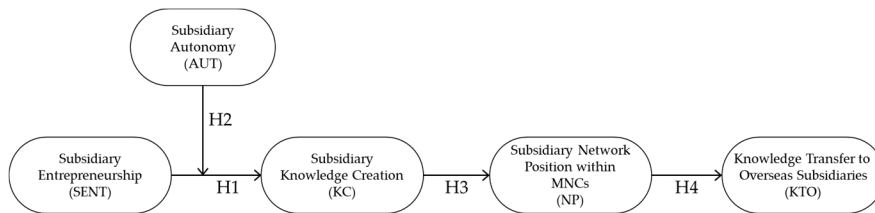
2000; Szulanski, 1996). Therefore, when the HQ has a system in place to promote KTO, the HQ may recognize the contributing activities of certain subsidiaries and suggest elevated NP, additional investment, and extended scope of activities compared to other subsidiaries in the multinational network. This will allow HQs to appropriately motivate the subsidiary's KTO (Dellestrand, 2020; Frost et al., 2002; Want et al., 2019).

Additionally, enhancing the NP of subsidiaries can create a positive circulation structure between knowledge sharing and NP enhancement, in addition to the meaning of HQs' compensation for knowledge sharing activities. Subsidiaries that have once experienced NP enhancement will continue to focus on KTO to maintain enhancement. Enhancing and maintaining the influence of subsidiaries within the network of MNCs can be a sufficient motivating factor for knowledge sharing (Najafi-Tavani et al., 2015).

H4: NP of an MNC will have a positive effect on KTO within the MNC network.

The order of the discussions mentioned above is illustrated in Fig. 1 below.

Fig. 1. Research Model



3. Methodology

3.1. Samples

Recently, in Korea, an innovative economy has emerged that creates high added value. In achieving the creation of new growth engines, the development of in-house technology capabilities is also important, but it is possible to achieve these goals more quickly through acquiring skills by attracting foreign leading companies using foreign direct investment. Notably, in the case of industries where the technology level is not high but where development is required, such a strategy using foreign direct investment can be very useful. In consideration of these points, this study attempts to examine the functions and roles of MNC subsidiaries invested in Korea from the perspective of subsidiary entrepreneurship.

The sample of this study consisted of companies in Gyeonggi and Seoul; specifically, the population was the 17,938 foreign-invested companies registered in the Ministry of Trade, Industry and Energy (MOTIE). The sample was extracted by simple random sampling using the address book of companies registered in MOTIE. The survey was conducted over about 5 months, from August to December 2019. Among companies with subsidiaries in Gyeonggi and Seoul, 800 subsidiaries were randomly selected, 302 responded, and 282 valid companies were ultimately selected as the final sample (response rate: 37.6%). A pilot test was conducted for the companies in question through questionnaires, and as a result of the reliability measurement, Cronbach alpha was estimated to be 0.7 or higher, thereby ensuring reliability, as listed in Table 1. Then, Haman's single factor test (Podsakoff et al., 2003) and the variation inflation factor test (VIF) (Kock and Lynn, 2012) were conducted to confirm the common

method bias. The results confirmed that more than half of the explanatory power of the variance extracted through the total factors was explained, and that the coefficients of the correlation coefficient were all 0.8 or higher, thus showing a high correlation (Harman, 1976). The independent variable in this study is the subsidiary entrepreneurship (SENT), the dependent variable is knowledge transfer to overseas subsidiaries (KTO). In addition, the moderation variable is the subsidiary autonomy (AUT), and the subsidiary knowledge creation (KC) of the subsidiary and the subsidiary network position within MNCs (NP) serve as the indirect bridge to KTO. This study verified the proposed research model with the maximum likelihood of the structural equation (SEM) using STATA 16.

3.2. Variable Measurements and Validity

To measure each variable in this study, we use the 7-point Likert scale (1: not very much, 7: very agree). The Likert scale is a tool that can best measure whether or not a subject agrees or disagrees with the variable. Table 1 summarizes the measurements and data in terms of the variables considered in this study. In this study, Kostova (1999)'s tool was applied to measure ENT, and the KC of subsidiaries was measured using four questionnaires (Sumelius and Sarala, 2008). In addition, Li (2005) and Lee et al. (2008) were applied for the measurement of KTO while Najafi-Tavani et al. (2015) and Gammelgaard et al. (2012) were applied for AUT. Finally, NP was measured using four questionnaires (Andersson, Forsgren and Holm, 2002; Najafi-Tavani, Giroud and Andersson, 2014). After analyzing the reliability and convergent validity for all constructs, it was found that both exceeded the reference value. According to Fornell and Larcker (1981), the threshold of AVE should be higher than 0.5 to show that the measurement size of the proposed model converges, as presented in Table 1.

Table 1. Reliability and Convergent Validity

Construct	Item	Est.	Std. Est.	S.E.	p	t	AVE	C.R.	α	Ref.
SENT	SENT1	1.00	0.87	0.02	0.00	44.66	0.70	0.90	0.90	Kostova (1999)
	SENT2	0.86	0.83	0.02	0.00	35.86				
	SENT3	0.91	0.81	0.02	0.00	32.48				
	SENT4	0.89	0.82	0.02	0.00	34.60				
KC	KC1	1.00	0.92	0.01	0.00	86.38	0.76	0.93	0.93	Sumelius and Sarala (2008)
	KC2	1.02	0.97	0.01	0.00	126.1				
	KC3	0.84	0.78	0.03	0.00	30.54				
	KC4	0.90	0.81	0.02	0.00	36.56				
KTO	KTO1	1.00	0.75	0.03	0.00	27.12	0.68	0.89	0.89	Li (2005) and Lee et al. (2008)
	KTO2	1.45	0.98	0.01	0.00	82.06				
	KTO3	1.13	0.69	0.03	0.00	20.79				
	KTO4	1.29	0.84	0.02	0.00	42.20				
AUT	AUT1	1.00	0.77	0.03	0.00	27.96	0.71	0.91	0.90	Najafi-Tavani et al. (2015) and Gammelgaard et al. (2012)
	AUT2	1.08	0.80	0.03	0.00	31.20				
	AUT3	1.42	0.93	0.01	0.00	63.33				
	AUT4	1.28	0.86	0.02	0.00	46.28				
NP	NP1	1.00	0.84	0.02	0.00	39.10	0.74	0.92	0.92	Andersson et al. (2002) and Najafi-Tavani et al. (2014)
	NP2	0.94	0.81	0.02	0.00	34.50				
	NP3	1.06	0.93	0.01	0.00	69.56				
	NP4	0.91	0.85	0.02	0.00	44.93				

Note: SENT=Subsidiary entrepreneurship, KC=Subsidiary knowledge creation, KTO=Knowledge transfer to overseas subsidiaries, AUT=Subsidiary autonomy, NP=Subsidiary network position within MNCs, Est.=estimate, Std. Est.=standardized estimate, S.E.=standard error, AVE=average variation extracted, C.R.=composite reliability, α =Cronbach's alpha.

Table 2. Fit Indexes for CFA

Fit Indices	Value
Comparative fit index (CFI)	0.844
Tucker–Lewis index (TLI)	0.815
Standardized root mean squared residual (SRMR)	0.069
Root mean squared error of approximation (RMSEA)	0.073

In Table 2, CFA is mainly used for certain types of research for two reasons: First, CFA is used to determine the dimensions of the scale at which all concepts are measured. Secondly, it is used to test whether the measurements of the structure are consistent with the researcher's understanding of the nature of the proposed model ($\chi^2=509.784$, $df=202$). According to Hu and Bentler (1999), CFI and TLI must be 0.8 or higher, and SRMR and RMSEA must be less than 0.08 to be considered adequate. CFI and TLI were both found to be in the acceptable range of 0.844 and 0.815, respectively, while the SRMR was 0.069 and RMSEA was 0.073, meaning the results were within the valid ranges of all four indices. In the case of CFI, 0.036 was higher in CFA than in EFA, and 0.041 in CFA was also higher in TLI. It was confirmed that the SRMR decreased by 0.004, and that the RMSEA decreased by 0.012. Therefore, in this study, the factor was found to be better for CFA than for EFA.

Table 3. Intra-construct Correlations and Discriminant Validity

Constructs	1	2	3	4	5
1 SENT	0.87				
2 KC	0.54 [*]	0.84			
3 KTO	0.16 [*]	0.26 [*]	0.83		
4 AUT	0.19 [*]	0.28 [*]	0.08 [*]	0.86	
5 NP	0.11 [*]	0.37 [*]	0.37 [*]	0.01 [*]	0.82

Notes: 1. Correlations in diagonal are the square root of AVE.

2. ^{*} $p<0.05$.

As listed in Table 3, the square roots of AVE were ENT (0.87), KC (0.84), KTO (0.83), AUT (0.86), and NP (0.82), respectively; therefore, it shows a decent convergence validity. To determine the discriminant validity for the proposed model, the square root of AVE and the correlation coefficient were compared. Only KC was significant at 0.84, and all AVE square root values were higher than the correlation coefficient. In particular, the squared value of ENT was 0.87, thus showing the largest value, and the difference between AUT (0.86) and NP (0.01) was 0.85, with the largest difference between the AVE square root and the correlation coefficient, and with the smallest difference (0.33) between ENT (0.87) and KC (0.54). Therefore, the discriminant validity of this study was verified.

3.3. Common Method Bias Test

The risk of common method bias (CMB) is always inherent in structural equation models using surveys. Podsakoff et al. (2003) recommended Harman's single factor test using primary factor analysis and suggested that there is no problem with CMB when the variance-based explanatory power of one factor is lower than 50%. The result of the single-factor analysis in this study showed that the explanatory power was 25.7%; thus, there is no CMB issue. Next, in the recently emerged multivariate methodology, the latent variable (LV) is used more often than it had been in the past, and the methodology focuses on the multiple collinearities that can occur between the latent variables rather than Harman's single factor.

In this context, Kock and Lynn (2012) suggested that the risk for CMB is small when the lateral collinearity Variation inflation factor (VIF) between latent variables is lower than 3.3. This study adopted the method proposed by Podsakoff et al. (2003) and Kock and Lynn (2012) confirmed that the variance expansion factor between variables was lower than 2. Therefore, it was ultimately estimated that there was no risk of CMB. Lai et al. (2016) also verified CMB using this same method.

4. Empirical Results

4.1. Descriptive Analysis

Table 4 shows the results of descriptive statistics for the subsidiaries of MNC in Gyeonggi and Seoul in South Korea that have been randomly extracted for the analysis in this study. Of the 282 companies that submitted valid responses, U.S. companies accounted for the largest share with 105 (37.23%), followed by Japanese companies with 96 (34.04%), the second largest. The combined portion of U.S. and Japanese companies was 71.27%, which accounted for a high percentage of the total sample. Regarding the number of employees, 84 companies (29.79%) accounted for the largest share with 51 to 150 employees, while 72 companies (25.53%) with less than 25 employees accounted for the second-largest share. In terms of the year of the establishment of subsidiaries in Korea, the largest number was 102 (36.17%) between 1996 and 2000, and 30 (10.64%) since 2005 was the smallest number of companies established during the sample period. For total sales, 108 (38.3%) companies exceeded 950 billion won, and 93 (32.98%) companies accounted for between 11 billion won and 300 billion won. In terms of exports, 153 companies (39.36%) accounted for the highest proportion, with less than 10 billion won. Exports, which accounted for the next largest share, exceeded KRW 35 billion, and 96 companies (34.04%) accounted for this.

Table 4. Descriptive Statistics

Item	Category	Frequency (n)	Proportion (%)
Country of Origin	U.S.	105	37.23
	Japan	96	34.04
	Germany	21	7.45
	U.K.	18	6.38
	Sweden	12	4.26
	Others	30	10.64
Number of Employees	≤ 25	72	25.53
	26-50	66	23.4
	51-150	84	29.79
	> 150	60	21.28
Year Established in Korea	≤ 1995	78	27.66
	1996-2000	102	36.17
	2001-2005	72	25.53
	> 2005	30	10.64
Total Sales (Bil. Won)	≤ 10	24	8.51
	11-300	93	32.98
	301-950	57	20.21
	> 950	108	38.3
Export Sales (Bil. Won)	≤ 10	153	39.36
	11-35	33	11.7
	> 35	96	34.04
Total		282	100

4.2. SEM Results

Table 5 lists the results of testing six hypotheses through structural equations. The investigation showed that the fit of the model in this study was found to be acceptable ($\chi^2 = 502.604$, $df = 196$, $\chi^2/df = 2.564$, $RMSEA = 0.075$, $CFI = 0.856$, $TLI = 0.832$, $SRMR = 0.077$) (Hu and Bentler, 1999). Standardization coefficients were used for all variables. Among paths, the coefficient of H1 representing a path from SENT to KC was found to be the largest at 0.399 ($p < 0.001$). It was verified that AUT has a moderating effect on the relationship between SENT and KC, and it was confirmed to be significantly supported ($\beta = 0.171$, $p < 0.01$); thus, H2 was supported. The coefficient of KC on NP was positively significant ($\beta = 0.366$, $p < 0.01$). Therefore, H3 was also supported. Finally, regarding H4, the variable with the second greatest influence on the dependent variable KTO was NP ($\beta = 0.374$, $p < 0.001$). The explanatory power of the total effect on KC was 44.4% affected by SENT, and this was found to be significant at the 0.1% level.

Table 5. SEM Results

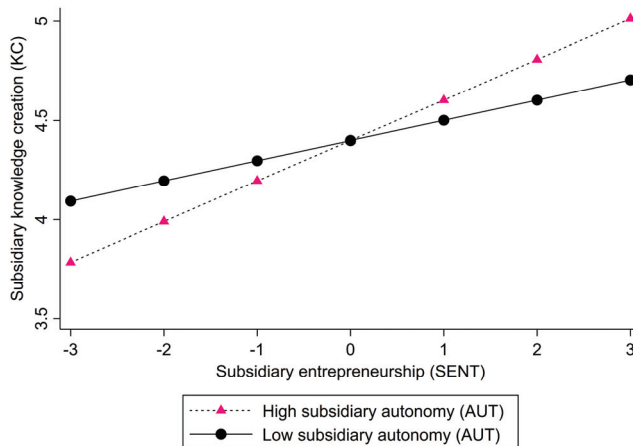
Hypothesized paths		Coefficient	t-value	Testing	
H1 SENT → KC		0.399	6.33	***	Supported
H2 SENT×AUT → KC		0.171	2.69	**	Supported
H3 KC → NP		0.366	6.67	***	Supported
H4 NP → KTO		0.374	6.62	***	Supported
Total effect				Indirect effect	
KC	NP	KTO	NP	KTO	
$\lambda_{SENT} = 0.444^{***}$	$\lambda_{KC} = 0.395^{***}$	$\lambda_{KC} = 0.089^{**}$	$\lambda_{SENT \times AUT} = 0.009'$	$\lambda_{KC} = 0.089^{***}$	
$\lambda_{SENT \times AUT} = 0.024^{**}$	$\lambda_{SENT \times AUT} = 0.009'$	$\lambda_{NP} = 0.226^{***}$	$\lambda_{SENT} = 0.175^{***}$	$\lambda_{SENT \times AUT} = 0.002'$	
	$\lambda_{SENT} = 0.175^{***}$	$\lambda_{SENT \times AUT} = 0.002'$		$\lambda_{SENT} = 0.040^{**}$	
		$\lambda_{SENT} = 0.040^{**}$			

Notes: 1. Standardized beta coefficients.

2. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

3. R² of Bentler-Raykov: $R_{KC}^2 = 0.263$, $R_{NP}^2 = 0.134$ and $R_{KTO}^2 = 0.140$.

Fig. 2. Moderation Effect of AUT between ENT and KC



Meanwhile, it was found to have 2.4% explanatory power when SENT and AUT interacted on KC ($p < 0.01$). The explanatory power of the total effect on NP was 39.5% ($p < 0.001$), it was 17.5% for SENT ($p < 0.001$), and it was 1.0% for the SENT interacting with AUT ($p < 0.05$). For KTO, KC, NP, and SENT had explanatory powers of 8.9%, 22.6%, and 4.0%, respectively, and they were found to be significant at the overall 5% level. When SENT interacted with AUT, the explanatory power for KTO was estimated to have a significance of 0.2% ($p < 0.05$). The indirect effect on NP was found to have 17.5% explanatory power in the case of SENT ($p < 0.001$), but the explanatory power decreased when SENT interacted with AUT ($p < 0.05$). Finally, in terms of the indirect effect on KTO, KC and ENT had respective explanatory powers of 8.9% ($p < 0.001$) and 4.0% ($p < 0.01$), while the explanatory power decreased to 0.2% when SENT interacted with AUT. As a result, the significance level also decreased to 5%, indicating that the explanatory power decreased when all variables interacted with the AUT. However, since all of the interaction terms between SENT and AUT were found to be significant, it can be seen that all of the moderating effects of AUT affect KC. According to Bentler-Raykov's explanatory power (R^2), KC was 26.3%, NP was 13.4%, and KTO was 14.0%.

4.3. Moderation Effect

In terms of the relationship between ENT and KC, Fig. 2 presents a graph showing the result when AUT interacts with ENT. When the involvement of AUT was high, the moderation effect on KT was found to be greater. In other words, the greater the autonomy of subsidiaries, the greater the moderating effect on KT. This moderation effect had already been confirmed by Lumpkin et al. (2009). However, this is a more differentiated finding because we have targeted the context of MNC subsidiaries that have invested directly in new countries.

4.4. Discussion

First, SENT was found to positively affect activities to learn new knowledge in the local market. In this study, since SENT was related to the spirit of challenge, risk-taking for innovation, and encouragement for creativity for new ideas, the adoption of H1 implies that the subsidiary's tendency contributes to actively motivating the organization's new knowledge learning activities. As subsidiaries belong to a hierarchical structure of HQ of MNCs, creating a unique organizational orientation and influence on local activities may be limited under the HQ control and management. However, the results of this study confirmed that the subsidiary's unique entrepreneurial propensity has a high significance on its local knowledge creation. In this vein, it was possible to confirm the importance of forming a unique entrepreneurial propensity. Second, it was possible to see how the focal subsidiary provided knowledge to other subsidiaries after creating the knowledge itself, not the benefits or support provided from the headquarters. Among the numerous subsidiaries connected to the HQ, the focal subsidiary will naturally dominate the subsidiary network when it has created excellent knowledge. This means that if the subsidiary is well equipped with SENT, its knowledge reaches the NP, proves its excellence to other companies, and spreads it to other subsidiaries. Third, we confirmed the empowerment effect of autonomy among the roles of the subsidiary. Local knowledge creation was reinforced when the HQ granted autonomy within the MNCs to which the subsidiary belongs. It is possible to recognize the importance

of establishing the direction that the subsidiary's entrepreneurial orientation should aim for in the HQ-subsidiary relationship. Thus, SENT-oriented organizational orientation (e.g., taking risks for challenge and innovation, encouraging creativity for new ideas) has a positive effect on learning unique local knowledge, while guaranteeing the autonomy of subsidiaries bolsters the knowledge network of MNCs.

5. Conclusion

This study aims to contribute to the existing research and provide practical implications to MNCs by presenting discussions on (1) effective knowledge creation and (2) valuable knowledge transfer within subsidiaries. Specifically, this study examined the effects of SENT and AUT as a major factor in the creation of subsidiary knowledge of MNCs, as well as the indirect effect of NP within MNCs between KC and KTO. The proposed model is verified through SEM to determine whether our hypotheses have sound reasoning.

All four of our hypotheses were significantly supported. First, in H1, it was found that enterprise and spirit had a positive effect on the KC of overseas subsidiaries. It can be concluded that SENT has a positive effect by acting as a motivating factor for the creation of new knowledge in the organization. Second, in H2, AUT confirmed the moderating effect on the relationship between SENT and KC. This leads to the logical reasoning that autonomy and delegation of authority are necessary for active KC because subsidiaries are clearly affected by the control of HQs. Third, the adoption of H3 and H4 confirmed the importance of NP as a knowledge transmitter from KC to KTO. NP within MNCs enables the logical reasoning that it increases knowledge transfer to the HQ and other subsidiaries by giving them a more favorable position from where they can appreciate the value of the knowledge created.

For example, to jointly develop a process that makes it possible to shorten the process and logistics, American company A attempted to contract an MOU with a Korean logistics company that has been trading for a long time. This was enough to be reported to the HQ office, and at the same time, attract attention and envy from other subsidiaries. However, as new knowledge (e.g., the patent for the new logistic process) was created from the MOU, the HQ shared these achievements with subsidiaries in the world, and as a result, the Korean subsidiary naturally gained authority power compared to other overseas subsidiaries. In this respect, the interviewee of the Korean subsidiary said that it had exhibited entrepreneurship because the company intentionally desired to be recognized by the HQ. He pointed out that if he had taken action to help other subsidiaries for shared assets, the outcome with a Korean logistics company might not have been excellent. In summary, it can be said that MNC's subsidiaries are knowingly or unknowingly competing with subsidiaries in other countries within their network, so they do not actively encourage knowledge transfer either directly or indirectly. On the other hand, if entrepreneurial behavior creates new knowledge and gains recognition and rewards from HQ to some extent, it can be understood that knowledge can be shared with other subsidiaries after that.

Based on the results of this study, we can draw the following implications. First, in this study, we confirmed that the knowledge-sharing activities of subsidiaries are directly affected by the original SENT. A series of actions based on SENT can be summarized as a Subsidiary Initiative (Ahsan and Fernhaber, 2019). Further, the Subsidiary Initiative refers to a subsidiary's actions that contribute to the enterprise level of MNC (Birkinshaw et al., 1998).

Existing studies dealing with the entrepreneurship of a subsidiary have viewed the Subsidiary Initiative, which reflects the entrepreneurial spirit of the subsidiary, as a competency (e.g., knowledge) creation or innovation activity of the subsidiary, and they have mainly focused on identifying the factors that influence this. By contrast, we attempted to deal with the impact of SENT on KC included in the Subsidiary Initiative and knowledge sharing (or reverse transfer) of subsidiaries (Birkinshaw and Hood, 1998). This allowed us to examine the internal structure of the Subsidiary Initiative.

Second, we examined the relationship between entrepreneurship, knowledge creation, and knowledge sharing activities of subsidiaries. Generally, entrepreneurship has a positive effect on knowledge creation (Sarabi et al., 2020). However, there have been an insufficient number of studies investigating the relationship with entrepreneurship in the case of knowledge sharing (or reverse transfer). We argued that there would be a process that requires further investigation between entrepreneurship and knowledge-sharing activities. Therefore, we presented both the creations of new knowledge by subsidiaries and rewards by HQ for acknowledging these contributing actions (e.g., improvement of the status in the network) as a component of the process that connects the entrepreneurship of the subsidiary and its knowledge-sharing activity. For example, it is difficult to attract the attention of the HQ because existing knowledge is of low value, and it is also difficult to use it for knowledge sharing activities of the subsidiary. Therefore, a subsidiary of an MNC can secure valuable knowledge by creating new knowledge and then share the knowledge created later (Egeraat and Breathnach, 2012). The newly created knowledge makes the HQ interested in the subsidiary, and this leads the HQ to positively evaluate the subsidiary (Corry and Cormican, 2019). Based on the positive evaluation, the HQ is likely to allocate more slack resources to the subsidiary (Dellestrand et al., 2020) and improve its subsidiary in its MNC network (Baraldi and Ratajczak-Mrozek, 2019). Ultimately, the subsidiary can play as a CoE, leading itself to have experienced an improved position to actively perform knowledge sharing activities. Such an in-substitutable role will become more appropriate to their principal position to maintain network power (Frost et al., 2002).

Third, this study reaffirms the importance of AUT in the knowledge creation of a subsidiary (Kawai and Strange, 2014). For the first time, this study examined the effect of the autonomy enjoyed by subsidiaries in the field of product production on the knowledge creation of subsidiaries. The results of this study show that securing autonomy in the product design, technology development, and manufacturing process can more positively strengthen the impact of subsidiary entrepreneurship on knowledge creation.

Despite the above theoretical and practical implications, this study has the following limitations. First, SENT in this study is considered as the entrepreneurial spirit at the organizational level. Most existing studies have analyzed entrepreneurship as the degree of recognition of a firm's CEO or top management team (TMT). Since SENT in this study targets organizational units, it can be said that this study made a new attempt in terms of research analysis units for entrepreneurship of subsidiary. Future studies examining SENT should consider how the CEO perceives the subsidiaries' entrepreneurial statuses throughout the entire unit of analysis (Zahra et al., 1999). Second, the sample of the questionnaire conducted for analysis in this study was limited to South Korea. Although South Korea is a member of the OECD and has some degree of local knowledge that is distinct from emerging countries, it is expected that more meaningful implications can be drawn by comparing developed and emerging countries in which the motivations for knowledge learning may vary.

References

- Adenfelt, M. (2010), "Exploring the Performance of Transnational Projects: Shared Knowledge, Coordination and Communication", *International Journal of Project Management*, 28(6), 529-538.
- Ahsan, M. and S. A. Fernhaber (2019), "Multinational Enterprises: Leveraging a Corporate International Entrepreneurship Lens for New Insights into Subsidiary Initiatives", *Journal of International Management*, 25(1), 51-65.
- Ambos, T. C. and J. Birkinshaw (2010), "Headquarters' Attention and Its Effect on Subsidiary Performance", *Management International Review*, 50(4), 449-469.
- Ambos, T. C., B. Ambos and B. B. Schlegelmilch (2006), "Learning from Foreign Subsidiaries: An Empirical Investigation of Headquarters' Benefit from Reverse Knowledge Transfers", *International Business Review*, 15(3), 294-312.
- Ambos, T. C., U. Andersson and J. Birkinshaw (2010), "What Are the Consequences of Initiative-Taking in Multinational Subsidiaries?", *Journal of International Business Studies*, 41(7), 1099-1118.
- Andersson, U., I. Bjdersso and M. Forsgren (2005), "Managing Subsidiary Knowledge Creation: The Effect of Control Mechanisms on Subsidiary Local Embeddedness", *International Business Review*, 14(5), 521-538.
- Andersson, U., M. Forsgren and U. Holm (2002), "The Strategic Impact of External Networks: Subsidiary Performance and Competence Development in The Multinational Corporation", *Strategic Management Journal*, 23(11), 979-996.
- Baraldi, E. and M. Ratajczak-Mrozek (2019), "From Supplier to Center of Excellence and Beyond: The Network Position Development of a Business Unit Within "IKEA Industry", *Journal of Business Research*, 100, 1-15.
- Birkinshaw, J. (1999), "The Determinants and Consequences of Subsidiary Initiative in Multinational Corporations", *Entrepreneurship Theory and Practice*, 24(1), 9-36.
- Birkinshaw, J. and N. Hood (1998), "Multinational Subsidiary Evolution: Capability and Charter Change in Foreign-Owned Subsidiary Companies", *Academy of Management Review*, 23(4), 773-795.
- Birkinshaw, J., N. Hood and S. Jonsson (1998), "Building Firm-Specific Advantages in Multinational Corporations: The Role of Subsidiary Initiative", *Strategic Management Journal*, 19(3), 221-242.
- Birkinshaw, J., N. Hood and S. Young (2005), "Subsidiary Entrepreneurship, Internal and External Competitive Forces, and Subsidiary Performance", *International Business Review*, 14(2), 227-248.
- Björkman, I., W. Barner-Rasmussen and L. Li (2004), "Managing Knowledge Transfer in MNCs: The Impact of Headquarters Control Mechanisms", *Journal of International Business Studies*, 35(5), 443-455.
- Bouquet, C. and J. Birkinshaw (2008), "Weight Versus Voice: How Foreign Subsidiaries Gain Attention from Corporate Headquarters", *Academy of Management Journal*, 51(3), 577-601.
- Cho, D. S. (2014), *Mechanism-based Perspective: A New Strategic Paradigm for Integrated Management*, Seoul: Seoul Economics and Management Publication.
- Clark, K. and I. Ramachandran (2019), "Subsidiary Entrepreneurship and Entrepreneurial Opportunity: An Institutional Perspective", *Journal of International Management*, 25(1), 37-50.
- Conroy, K. M. and D. G. Collings (2016), "The Legitimacy of Subsidiary Issue Selling: Balancing Positive & Negative Attention from Corporate Headquarters", *Journal of World Business*, 51(4),

- 612-627.
- Corry, S. and K. Cormican (2019), "Towards Innovation in Multinational Corporation Subsidiaries: Development of an Instrument to Select and Evaluate Value Driven Strategies", *Journal of Technology Management & Innovation*, 14(1), 25-33.
- Dellestrand, H., P. Kappen and O. Lindahl (2020), "Headquarter Resource Allocation Strategies and Subsidiary Competitive or Cooperative Behavior: Achieving a Fit for Value Creation", *Journal of Organization Design*, 9(1), 1-16.
- Dess, G.G., R. D. Ireland, S. A. Zahra, S. W. Floyd, J. J. Jay and P. J. Lane (2003), "Emerging Issues in Corporate Entrepreneurship", *Journal of Management*, 29(3), 351-378.
- Dörrenbächer, C. and J. Gammelgaard (2016), "Subsidiary Initiative Taking in Multinational Corporations: The Relationship between Power and Issue Selling", *Organization Studies*, 37(9), 1249-1270.
- Fornell, C. and D. F. Larcker (1981), "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error", *Journal of Marketing Research*, 18(1), 39-50.
- Gammelgaard, J., F. McDonald, A. Stephan, H. Tüselmann and C. Dörrenbächer (2012), "The Impact of Increases in Subsidiary Autonomy and Network Relationships on Performance", *International Business Review*, 21(6), 1158-1172.
- Geleilate, J. M. G., D. S. Andrews and S. Fainshmidt (2019), "Subsidiary Autonomy and Subsidiary Performance: A Meta-Analysis", *Journal of World Business*, 55(4), 101049.
- Goh, S. W. (2002), "Managing Effective Knowledge Transfer: An Integrative Framework and Some Practice Implication", *Journal of Knowledge Management*, 6(1), 23-30.
- Gupta, A. K. and V. Govindarajan (2000), "Knowledge Flow within Multinational Corporations", *Strategic Management Journal*, 21(4), 473-496.
- Hakanson, L. and R. Nobel (2001), "Organizational Characteristics and Reverse Knowledge Transfer", *Management International Review*, 40(Special Issue), 29-48.
- Harman, H. H. (1976), *Modern Factor Analysis*, Chicago, IL: University of Chicago Press.
- Hu, L. T. and P. M. Bentler (1999), "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives", *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55.
- Inkpen, A. C. and E. W. Tsang (2005), "Social Capital, Networks, and Knowledge Transfer", *Academy of Management Journal*, 30(1), 146-165.
- Kawai, N. and R. Strange (2014), "Subsidiary Autonomy and Performance in Japanese Multinationals in Europe", *International Business Review*, 23(3), 504-515.
- Kim, J. O. and C. W. Mueller (1978), *Factor Analysis: Statistical Methods and Practical Issues*, Newbury Park, CA: Sage.
- Kock, N. and G. Lynn (2012), "Lateral Collinearity and Misleading Results in variance-based Sem: An Illustration and Recommendations", *Journal of The Association for Information Systems*, 13(7), 546-580.
- Kostova, T. (1999), "Transnational Transfer of Strategic Organizational Practices: A Contextual Perspective", *Academy of Management Review*, 24(2), 308-324.
- Lai, C., Q. Wang, X. Li and X. Hu (2016), "The Influence of Individual Espoused Cultural Values on Self-Directed Use of Technology for Language Learning Beyond the Classroom", *Computers in Human Behavior*, 62, 676-688.
- Lee, J. Y., A. Jiménez and K. R. Bhandari (2020), "Subsidiary Roles and Dual Knowledge Flows between MNE Subsidiaries and Headquarters: The Moderating Effects of Organizational Governance Types", *Journal of Business Research*, 108, 188-200.
- Lee, Kang-Moon (2011), "The Determinants of Subsidiary Reverse Knowledge Transfer: The Case

- of Foreign MNC Subsidiaries in Korea”, *Journal of CEO and Management Studies*, 14(1), 1-25.
- Lee, R. P., Q. Chen, D. Kim and J. L. Johnson (2008), “Knowledge Transfer between Multinational Corporations’ Headquarters and Their Subsidiaries: Influences on and Implications for New Product Outcomes”, *Journal of International Marketing*, 16(2), 1-31.
- Lee, S. H. and C. Williams (2007), “Dispersed Entrepreneurship within Multinational Corporations: A Community Perspective”, *Journal of World Business*, 42(4), 505-519.
- Li, J. and R. P. Lee (2015), “Can Knowledge Transfer within MNCs Hurt Subsidiary Performance? The Role of Subsidiary Entrepreneurial Culture and Capabilities”, *Journal of World Business*, 50(4), 663-673.
- Li, L. (2005), “The Effects of Trust and Shared Vision on Inward Knowledge Transfer in Subsidiaries’ Intra-and Inter-Organizational Relationships”, *International Business Review*, 14(1), 77-95.
- Lumpkin, G. T., C. C. Coglisier and D. R. Schneider (2009), “Understanding and Measuring Autonomy: An Entrepreneurial Orientation Perspective”, *Entrepreneurship Theory and Practice*, 33(1), 47-69.
- Minbaeva, D. T. (2007), “Knowledge Transfer in Multinational Corporations”, *Management International Review*, 47(4), 567-593.
- Minbaeva, D. T. P., I. Bjorkman, C. Fey and H. J. Park (2003), “MNC Knowledge Transfer, Subsidiary Absorptive Capacity and HRM”, *Journal of International Business Studies*, 34(1), 586-599.
- Mudambi, R., L. Piscitello and L. Rabbiosi (2014), “Reverse Knowledge Transfer in MNEs: Subsidiary Innovativeness and Entry Modes”, *Long Range Planning*, 47(1-2), 49-63.
- Najafi-Tavani, Z., A. Giroud and U. Andersson (2014), “The Interplay of Networking Activities and Internal Knowledge Actions for Subsidiary Influence Within MNCs”, *Journal of World Business*, 49(1), 122-131.
- Najafi-Tavani, Z., G. Zaefarian, P. Naudé and A. Giroud (2015), “Reverse Knowledge Transfer and Subsidiary Power”, *Industrial Marketing Management*, 48, 103-110.
- Nonaka, I., U. Katushiro, and S. Dai (1996), “From Information Processing to Knowledge Creation: A Paradigm Shift in Business Management”, *Technology in Society*, 18(2), 203-218.
- O’Brien, D., S. P. Scott, U. Andersson, T. Ambos and N. Fu (2019), “The Microfoundations of Subsidiary Initiatives: How Subsidiary Manager Activities Unlock Entrepreneurship”, *Global Strategy Journal*, 9(1), 66-91.
- Paterson, S. L. and D. M. Brock (2002), “The Development of Subsidiary Management Research: Review and The Practical Analysis”, *International Business Review*, 11(1), 139-163.
- Podsakoff, P. M., S. B. Mackenzie, J.-Y. Lee and N. P. Podsakoff (2003), “Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies”, *Journal of Applied Psychology*, 88(5), 879-903.
- Scott, P., P. Gibbons and J. Coughlan (2010), “Developing Subsidiary Contribution to the MNC—Subsidiary Entrepreneurship and Strategy Creativity”, *Journal of International Management*, 16(4), 328-339.
- Song, J. Y. (2014), “Subsidiary Absorptive Capacity and Knowledge Transfer within Multinational Corporations”, *Journal of International Business Studies*, 45(1), 73-84.
- Sumelius, J. and R. Sarala (2008), “Knowledge Development in MNC Subsidiaries: The Influence of MNC Internal and External Knowledge and Control Mechanisms”, *Thunderbird International Business Review*, 50(4), 245-258.
- Van Egeraat, C. and P. Breathnach (2012), “The Drivers of Transnational Subsidiary Evolution: The Upgrading of Process R&D in The Irish Pharmaceutical Industry”, *Regional Studies*, 46(9), 1153-1167.

- Wang, N. and Y. Wang (2020), "Does Parenting Matter in Subsidiary Innovation in Emerging Economies? Exploring the Role of Parent Superior Competitiveness in Affecting Subsidiary Contextual Ambidexterity", *International Business Review*, 101673 (forthcoming).
- Wang, N., Y. Hua, G. Wu, C. Zhao and Y. Wang (2019), "Reverse Transfer of Innovation and Subsidiary Power: A Moderated Mediation Model", *Journal of Business Research*, 103, 328-337.
- Yang, Q., R. Mudambi and K. E. Mayer (2008), "Conventional and Reverse Knowledge Flows in Multinational Corporation", *Journal of Management*, 34(5), 882-902.
- Yu, Y., Y. Liu and T. Bai (2019), "Does Attention from Headquarters Influence Subsidiary Behavior? A Social Psychological Perspective", *Long Range Planning*, 52(4), 101877.
- Zahra, S. A., A. P. Nielsen and W. C. Bogner (1999), "Corporate Entrepreneurship, Knowledge, and Competence Development", *Entrepreneurship Theory and Practice*, 23(3), 169-189.
- Zhang, H., C. Shu, X. Jiang and A. Malter (2010), "Managing Knowledge for Innovation: The Role of Cooperation, Competition, and Alliance Nationality", *International Journal of Marketing*, 18(4), 74-94.