Naoki Ando and Shiho Nakamura

Intraregional Cultural Diversity and Foreign Subsidiary Staffing

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Naoki Ando
Hosei University

Shiho Nakamura
Ritsumeikan University

Abstract

How multinational enterprises (MNEs) staff foreign subsidiaries has been examined, focusing on the determinants at the subsidiary, host country, and parent firm levels. This study extends previous research on foreign subsidiary staffing by investigating the impact of factors at the geographic region level. The effect of regional factors on foreign subsidiary staffing is examined using a panel dataset of foreign direct investments of MNEs in three geographic regions. This study finds that cultural diversity within a region has an inverted U-shaped relationship with the ratio of host country nationals (HCNs) in foreign subsidiaries. It also demonstrates that the curvilinear relationship between intraregional cultural diversity and the ratio of HCNs is moderated by the competence levels of local managers in the host country and MNEs' operational experience in the region. This study suggests that to advance the understanding of how MNEs staff foreign subsidiaries, regional-level factors need to be incorporated into analytical frameworks, highlighting the intraregional activities of MNEs.

 Keywords: inter-subsidiary cooperation, intraregional cultural diversity, foreign subsidiary staffing, human capital, intraregional geographic expansion

Intraregional cultural diversity and foreign subsidiary staffing

Introduction

Foreign subsidiary staffing has long been a primary research area in international business. The literature has explored how the staffing of foreign subsidiaries, such as the appointment of parent country nationals (PCNs) and host country nationals (HCNs), is determined (Bonache Pérez and Pla-Barber, 2005; Lee, Yoshikawa, and Harzing, 2022; Peng and Beamish, 2014; Rickley and Karim, 2018; Widmier, Brouthers, and Beamish, 2008). They primarily investigate subsidiary-, host country-, and parent firm-level factors as determinants of foreign subsidiary staffing (Ge, Ando, and Ding, 2022; Gong, 2003; Peng and Beamish, 2014; Widmier et al., 2008). Focusing on the determinants at these three levels implies the literature's assumption that foreign subsidiaries are stand-alone organizations and interact only with the parent firm. In other words, previous studies have not considered the possibility that foreign subsidiaries interact with sister subsidiaries located in geographically proximate countries and that interactions with sister subsidiaries affect these subsidiaries' staffing.

Recent studies contend that multinational enterprises (MNEs) expand the geographic scope of business activities intraregionally rather than globally (Collinson and Rugman, 2008; Rugman and Verbeke, 2004). Institutional and sociocultural environments tend to have similar attributes across countries in a geographic region (Harzing and Pudelko, 2016; Qian, Li, and Rugman, 2013; Ronen and Shenkar, 2013). The similarity of formal and informal institutions in a region reduces the cost that MNEs incur when expanding to other countries within the same region (Qian, Li, Li, and Qian,

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2008). This reduced cost of entry may motivate MNEs to expand their geographical scope regionally and operate multiple foreign subsidiaries within the region.

Foreign subsidiaries in the same region may cooperate to implement the regional strategy formulated by the parent firm or regional headquarters (Mohr, Batsakis, and Stone, 2018; Phene and Almeida, 2008). The staffing of foreign subsidiaries can play a critical role in facilitating cooperation among subsidiaries in the region because frequent communication, discussion, negotiation, and joint decision making are conducted while working with sister subsidiaries. Inter-subsidiary communication and joint decision making are considerably influenced by interactions among foreign subsidiary managers. Therefore, MNEs may consider inter-subsidiary relationships when determining foreign subsidiary staffing in a region.

This study extends previous research on foreign subsidiary staffing by investigating the impact of MNEs' intraregional activities on foreign subsidiary staffing. Specifically, it explores how cultural diversity across host countries within a region impacts foreign subsidiary staffing. This study contributes to research on foreign subsidiary staffing in the following ways. First, it introduces regional-level factors as determinants of foreign subsidiary staffing, which refines the frameworks that explain how foreign subsidiary staffing is determined. Second, it incorporates intraregional cultural diversity as a regional factor, which reveals a curvilinear relationship between intraregional cultural diversity and the staffing of foreign subsidiaries operating in the region. Third, results reveal that the availability of competent local managers in the host country and MNEs' regional operating experience moderate the inverted U-shaped relationship between intraregional cultural diversity and the assignment of HCNs.

The remainder of this paper is organized as follows. The next section reviews the literature on foreign subsidiary staffing and the intraregional geographic expansion of MNEs. In the subsequent

section, hypotheses predicting the relationship between intraregional cultural diversity and foreign subsidiary staffing are presented, followed by a description of the dataset and an analytical method. After reporting the results of the empirical analysis, the implications and limitations of this study are discussed.

Foreign subsidiary staffing and human capital

One of the primary purposes of the studies on foreign subsidiary staffing is to explore the conditions under which PCNs are preferred over HCNs to fill middle and senior management positions in a foreign subsidiary. Previous studies contend that PCNs and HCNs have distinct knowledge and expertise, which affects the assignments of PCNs and HCNs to foreign subsidiaries (Gaur, Delios, and Singh, 2007; Gong, 2003; Tan and Mahoney, 2006). PCNs are used as a medium to control foreign subsidiaries and transfer firm-specific advantages from the parent firm to these subsidiaries (Fang et al., 2010; Gong, 2003; Tan and Mahoney, 2006). In comparison, HCNs are used to acquire local knowledge (Fang et al., 2010; Gong, 2003; Tan and Mahoney, 2006). Differences in knowledge and expertise between PCNs and HCNs affect foreign subsidiary staffing. Many previous studies on the determinants of foreign subsidiary staffing have maintained that the alignment of the knowledge and expertise of PCNs and HCNs with the needs of foreign subsidiaries determines how they are staffed.

Recent studies in international business have applied human capital theory to foreign subsidiary staffing (Ando, 2021; Chung et al., 2015; Morris, Snell, and Björkman, 2016). Human capital consists of the knowledge, skills, and abilities embedded in an individual (Becker, 1993; Morris et al., 2016; Ployhart, Weekley, and Ramsey, 2009). Human capital theory has been applied

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to studies on international human resource management, with researchers noting that there are two types of human capital in foreign subsidiaries. One is firm-specific human capital and the other is local-specific human capital (Chung et al., 2015; Morris et al., 2016). Firm-specific human capital consists of the knowledge, skills, and abilities valuable in the context of a particular MNE (Morris et al., 2016; Wright, Coff, and Moliterno, 2014). In comparison, local-specific human capital consists of the knowledge, skills, and abilities that are valuable in the context of a particular host country (Chung et al., 2015; Morris et al., 2016). PCNs embody firm-specific human capital accumulated through work experience in the parent firm (Berry, 2015; Fang et al., 2010; Morris et al., 2016). In comparison, HCNs embody local-specific human capital developed through training and work experience in the host country (Chung et al., 2015; Morris et al., 2016; Tan and Mahoney, 2006). Studies on foreign subsidiary staffing grounded in human capital theory argue that foreign subsidiaries are staffed to align a type of human capital embodied in PCNs and HCNs with the subsidiary's organizational imperatives (Chung et al., 2015; Collings, Mellahi, and Cascio, 2019; Morris et al., 2016).

Intraregional geographic expansion

Recent studies contend that MNEs are inclined to expand the geographic scope of business activities inside a region (Collinson and Rugman, 2008; Rugman and Verbeke, 2004). Geographically proximate countries share commonalities, such as legal, political, economic, and sociocultural institutions (Arregle et al., 2013; Qian et al., 2013). MNEs establish multiple foreign subsidiaries within a geographic region by exploiting institutional similarities and geographic proximity (Arregle et al., 2013; Qian et al., 2013). Geographic proximity reduces transportation and distribution costs (Qian et al., 2010). Additionally, institutional similarity may mitigate the

liabilities of foreignness that MNEs encounter when entering another country in the same region (Arregle, Beamish, and Hébert, 2009; Arregle et al., 2016; Qian et al., 2013). Experiential knowledge acquired from operations in host countries in a region can be applied to operations in other countries in the same region, with minor adjustments (Eriksson et al., 1997; Qian et al., 2013). Thus, institutional similarity throughout a region lowers the uncertainty and psychic distance perceived by MNEs and reduces transaction costs incurred by them when entering and operating in a new host country in the same region (Arregle et al., 2013; Banalieva, Santoro, and Jiang, 2012; Puck, Holtbrügge, and Mohr, 2009).

Geographic proximity and institutional similarity may enable foreign subsidiaries to cooperate with sister subsidiaries operating in the same region (Phene and Almeida, 2008). Geographic proximity and institutional commonality may also encourage MNEs to formulate regional strategies (Mingo, Morales, and Dau, 2018). Foreign subsidiaries in a region may collaborate to achieve regional goals. To do this, a foreign subsidiary needs to communicate, make joint decisions with sister subsidiaries, and take joint action with them. MNEs need to staff foreign subsidiaries to facilitate cooperation among subsidiaries in the same region and implementation of regional strategies. These arguments imply that MNEs consider regional factors when determining foreign subsidiary staffing.

Hypotheses

An MNE sets up multiple foreign subsidiaries in a region as a result of intraregional expansion of its geographic scope. Foreign subsidiaries cooperate with sister subsidiaries in the same region to achieve the MNE's regional goals. Cooperation among regional subsidiaries is accompanied by

communication, knowledge sharing, joint decision making, and joint action. Cultural differences among subsidiaries' host countries in a region may affect the quality of inter-subsidiary cooperation (Arregle et al., 2009; Lee, 2019). As the number of host countries increases within the region, cooperation among subsidiaries becomes more complex. Although host countries in the same region may be culturally similar, the culture of each country cannot be homogeneous. As MNEs establish more foreign subsidiaries in a region, the cultural diversity among host countries in the same region increases. In some regions, the variation in cultures across countries is large, amplifying intraregional cultural diversity. Intraregional cultural diversity increases the complexity and difficulty of communication, knowledge sharing, joint decision making, and joint action by regional sister subsidiaries (Lee, 2019). For intraregional cooperation among subsidiaries to function, managers in the foreign subsidiary need to understand and address the different cultures of the multiple host countries in which sister subsidiaries operate.

For effective inter-subsidiary cooperation, a manager in a foreign subsidiary is required to collaborate with managers in regional sister subsidiaries embedded in different cultural environments. For instance, managers in a German subsidiary work with those in a French, Italian, or Spanish subsidiary. Understanding of and familiarity with the culture of sister subsidiaries' host countries are required for collaboration with managers in sister subsidiaries. Firm-specific human capital embodied by PCNs may work when communicating and collaborating with the parent firm, but may not be valuable when addressing various cultures in multiple host countries. As intraregional cultural diversity increases, PCNs have difficulty communicating and collaborating with sister subsiiary managers. HCNs that embody local-specific human capital may be able to collaborate better with managers from multiple cultural environments (Collings et al., 2010). The culture of host countries in the same region differs, but shares a certain degree of similarity

(Harzing and Pudelko, 2016; Qian et al., 2013; Ronen and Shenkar, 2013). Therefore, the local-specific human capital possessed by HCNs may enable them to understand the culture of other countries in the same region using regional cultural commonality as a clue (Collings et al., 2010; Levy et al., 2015; Trąpczyński and Banalieva, 2016). HCNs may also have more experience interacting with people from other countries in the same region than PCNs (Levy et al., 2015). Therefore, HCNs may be a preferred option as intraregional cultural diversity increases.

However, increasing intraregional cultural diversity adds further complexity to cooperation among regional sister subsidiaries. When regional cultural diversity surpasses a certain threshold, HCNs may begin to have difficulty collaborating with culturally different managers in regional sister subsidiaries (Powell, Lim, and Ando, 2021). The complexity derived from increasing intraregional cultural diversity exceeds the degree to which local-specific human capital can address. After surpassing a certain threshold of intraregional cultural diversity, MNEs may alter their staffing policies to address the increasing complexity. They may replace HCNs with PCNs and build a network of PCNs across regional subsidiaries because PCNs share the same cultural background (Harzing, 2001). Cultural differences are not a concern when communication and collaboration are conducted between PCNs. By creating a network of PCNs in a region, MNEs can reduce the cost of cooperation among foreign subsidiaries in culturally diverse regions (Harzing, 2001; Singh, Pattnaik, Lee, and Gaur, 2019). Hence, the following hypothesis is proposed:

Hypothesis 1: An inverted U-shaped relationship exists between the intraregional cultural diversity faced by an MNE and HCNs assigned to a foreign subsidiary in the region.

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The argument to deduce Hypothesis 1 is grounded in the implicit assumption that all HCNs equally embody the same level of local-specific human capital. Human capital quality depends on the education and training individuals receive in their respective countries (Becker, 1993; Ployhart et al., 2009). The quality of education and training differs across countries; therefore, the level of local-specific human capital embodied by individuals is not uniform across countries (Becker, 1993; Hatch and Dyer, 2004). In some countries, a large pool of competent local managers exists, where individuals in the labor market embody high-quality local-specific human capital owing to the high quality of education and training. By contrast, in other countries, the availability of competent local managers is low because of less sophisticated education and training systems. The competence level of local managers in a host country may affect the quality of the local-specific human capital acquired by foreign subsidiaries through the assignment of HCNs (Ando, 2021; Hatch and Dyer, 2004).

In a host country with a high competence level of local managers in the labor market, foreign subsidiaries have a greater opportunity to hire qualified HCNs with high-quality local-specific human capital. The higher quality of local-specific human capital enables HCNs to better address cross-cultural activities, such as communication, knowledge sharing, joint decision making, and joint action with culturally diverse managers in sister subsidiaries. Therefore, staffing a foreign subsidiary with HCNs may be preferable to facilitate inter-subsidiary cooperation in countries with a high availability of competent local managers. Consequently, when intraregional cultural diversity is low to medium, MNEs rely on HCNs when local managers' competence levels are high. This implies that a one-unit increase in intraregional cultural diversity does not induce a significant switch from PCNs to HCNs, flattening the slope of the curve representing the relationship between intracultural regional diversity and HCNs assigned to foreign subsidiaries.

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Even after exceeding a certain level of intraregional cultural diversity, high-quality local-specific human capital enables HCNs to cope with the challenges derived from growing complexity. The existence of a large pool of competent local managers reduces the need to establish a network of PCNs in the region. Therefore, when intraregional cultural diversity is medium to high, replacing HCNs with PCNs to deal with increasing cultural diversity is less likely when the competence level of the local managers is high. Hence, the following hypothesis is proposed:

Hypothesis 2: The inverted U-shaped relationship between the intraregional cultural diversity faced by an MNE and HCNs assigned to a foreign subsidiary in the region is moderated by the competence level of local managers in the host country; the inverted U-shaped curve is flattened when local managers' competence level in the host country is high.

As MNEs accumulate operational experience in host countries in a region, foreign subsidiaries acquire local knowledge (Johanson & Vahlne, 2009). Knowledge obtained through regional operational experience may include host countries' legal, political, economic, and sociocultural attributes, as well as know-how to cooperate with sister subsidiaries in the same region. The acquired knowledge may be pooled into a regional knowledge reservoir, which is shared by regional foreign subsidiaries (Ando, 2024). Managers at headquarters can also access the regional knowledge base and foster an understanding of the attributes of host countries in the region. A regional pool of knowledge may enable PCNs to cope with nuanced cultural differences among host countries and collaborate with managers from diverse cultural backgrounds. Consequently, in MNEs with considerable regional experience, the relative advantage of HCNs in cooperating with multiple sister subsidiaries in the same region diminishes. Thus, PCNs become indifferent to HCNs as MNEs accumulate regional operational experience. Therefore, from low to medium

intraregional cultural diversity, when MNEs have considerable regional operational experience, the abrupt replacement of PCNs with HCNs predicted in Hypothesis 1 is less likely because PCNs can also collaborate with managers in sister subsidiaries. Even after a certain level of regional cultural diversity is reached, the abrupt replacement of HCNs with PCNs predicted in Hypothesis 1 is less likely. As PCNs and HCNs are indifferent in terms of their ability to address intraregional cultural diversity, MNEs with more regional experience may be less motivated to build networks of PCNs. Even when faced with highly diverse cultural environments in the region, HCNs can collaborate with managers from culturally distinct host countries, drawing on knowledge accumulated in the regional knowledge reservoir and local-specific human capital. Additionally, considering the cost of expatriation, the motivation of MNEs to create a network of PCNs across regional subsidiaries may be low (Lee, 2019). Hence, the following hypothesis is proposed:

Hypothesis 3: The inverted U-shaped relationship between the intraregional cultural diversity faced by an MNE and HCNs assigned to a foreign subsidiary in the region is moderated by the regional operational experience of the MNE; the inverted U-shaped curve is flattened when the MNE's regional operational experience is high.

Method

Sample

A panel dataset was constructed to test the hypotheses by drawing on the database of Japanese firms' foreign direct investments (FDIs). Japanese MNEs are a major source of FDI and own foreign subsidiaries in many geographical regions (Fang et al., 2013). A large number of MNEs operating in many regions is a condition for an appropriate research setting to test the hypotheses

developed in this study; Japanese MNEs meet this requirement. Service MNEs were excluded from the sample because the inseparable and perishable nature of services may make it difficult for sister subsidiaries located in different countries to cooperate (Sanchez-Peinado, Pla-Barber, and Hebert, 2007).

This study views a geographic region as a group of physically continuous and proximate countries (Arregle et al., 2009; Arregle et al., 2013; Banalieva and Dhanaraj, 2013). Countries were grouped into four regions, primarily based on the geographic region classification by the United Nations and previous studies (Banalieva and Dhanaraj, 2013). The four regions were the Americas, Europe, Asia-Pacific, and Africa. Africa was not included in the analysis because of a small number of observations.

The primary data source for this study was *Overseas Japanese Companies Data* compiled by *Toyo Keizai Shimpo*. Using this database, this study produced an unbalanced panel dataset of foreign subsidiaries whose observation period was from 2007 to 2015 with two-year intervals. The primary data source at the parent firm level is the *Nikkei NEEDS* database compiled by *Nihon Keizai Shimbun*. The removal of observations with missing data produced a final sample of 22,406 firm-year observations.

Measures

The dependent variable in this study is HCNs assigned to a foreign subsidiary. Data on the number of PCNs assigned to a foreign subsidiary are available from *Overseas Japanese Companies Data*. Using this information, the construct of HCNs assigned to a foreign subsidiary was operationalized as the ratio of HCNs as follows.

$$HCN\ ratio = 1 - \frac{The\ number\ of\ PCNs}{The\ number\ of\ subsidiary\ employees}$$

The main predictor is intraregional cultural diversity. To operationalize this, the GLOBE study's nine cultural dimensions of societal practices were used (House et al., 2004). Intraregional cultural diversity was calculated using a modified version of regional institutional diversity developed by Arregle et al. (2016). It was calculated for each region and MNE using the following formula;

$$Regional\ cultural\ diversity = \sum_{c=1}^{n} W_c \cdot \frac{1}{9} \sum_{g=1}^{9} \frac{\sum_{j=1}^{n} \sqrt{\left(x_{gc} - x_{gj}\right)^2}}{n-1}$$

where

n is the number of an MNE's host countries in Region r,

W_c is the number of an MNE's foreign subsidiaries in Country c / the number of the MNE's foreign subsidiaries in Region r,

X_{gc} is Country c's value on the g-th cultural dimension,

X_{gj} is Country j's value on the g-th cultural dimension.

The competence level of local managers in a host country was operationalized as a composite measure of four items: value-added per worker in industries, value-added per worker in services, tertiary school enrollment, and the labor force with advanced education. The data were collected from the World Bank. Each item was transformed into a value ranging from 0 to 1 and the values of the four items were averaged.

An MNE's operational experience in a region was operationalized as the sum of the ages of foreign subsidiaries in the region. The sum of the ages of foreign subsidiaries in a host country was calculated, and the value of each host country was weighted by the country's GDP and summed. Regional experience was calculated using the following formula:

$$Regional\ experience = \sum_{c=1}^{n} V_c . Z_c$$

where

n is the number of an MNE's host countries in Region r,

V_c is the GDP of Country c / sum of the GDP of the MNE's host countries in Region r,

Z_c is the sum of the ages of MNE's foreign subsidiaries in Country c.

Regional experience was calculated for each region and MNE. The log of the values calculated using this formula was incorporated into the analyses.

Several control variables are included in the analysis. The control variables at the parent-firm level include research and development (R&D) intensity, assets, and performance. The parent firm's R&D intensity was calculated as R&D expenditure divided by sales. The parent firm's assets were log-transformed when included in the analysis. The parent firm's performance was measured using return on assets (ROA).

The control variables at the subsidiary level were size, entry mode, and host country experience. The foreign subsidiary size was measured as the number of employees in the subsidiary divided by the total number of subsidiary employees in the region. The entry mode of a foreign subsidiary is a dummy variable that takes the value of 1 when it is a wholly owned subsidiary and 0 when it

is a joint venture. Additionally, the ownership of a foreign subsidiary owned by local partners was included to control for the effect of entry mode. Host country experience was measured as the aggregate age of all foreign subsidiaries in the host country. The values were log-transformed and included in the analyses. Additionally, the number of foreign subsidiaries in the host country was included to control for host country experience.

The control variables at the host country level are formal institutions, GDP, and GDP growth rate. The formal institutions of host countries were operationalized using the World Bank's governance indicators (Kaufmann, Kraay, & Mastruzzi, 2010). The Mahalanobis distance in formal institutions between the host country and the MNE's home country was calculated using six institutional dimensions of governance indicators. GDP was log-transformed for inclusion in the analysis. GDP growth is the yearly growth rate of the host country's GDP. Additionally, the number of foreign subsidiaries owned by an MNE in a region was counted and included as a control variable at the regional level. Finally, observation year dummy variables were included, with 2007 as the base year.

Results

The hypotheses were tested using a linear model with multiple levels of fixed effects (Correia, 2017). A fixed effects model for panel data can accommodate unobservable individual-specific effects (Wooldridge, 2010). For the panel dataset in this study, individual subsidiary-specific effects are accounted for. A linear model with multiple levels of fixed effects can address more than one level of fixed effects when estimating parameters. The model employed in this study accommodated the parent firm and its industry fixed effects, in addition to the subsidiary fixed

effects. The estimation was conducted using the *reghdfe* command written for STATA 17.0 (Correia, 2017). Descriptive statistics and correlation coefficients between the variables are shown in Table 1. Variance inflation factors (VIFs) were calculated using pooled estimation. All VIF values were much lower than 10.

Insert Table 1 around here

Table 2 presents the results of the linear models with multiple levels of fixed effects. Model 1 includes the predictor, moderators, and control variables. Model 1 shows that intraregional cultural diversity is positive and significant. Model 2 added the squared term of intraregional cultural diversity. The coefficient of the squared term was negative and significant. The 95% confidence interval (CI) was [-0.286 -0.994], which did not include zero. These results support Hypothesis 1, implying an inverted U-shaped relationship between regional cultural diversity and the ratio of HCNs assigned to foreign subsidiaries. Model 3 tested the interaction term of the squared intraregional cultural diversity with the competence levels of local managers in the host country. As shown in Model 3, the interaction term was positive and significant. The positive sign of the coefficient indicates that the inverted U-curve flattens as the competence level of the local managers in the host country increases. The 95% CI was [0.010 1.832], which did not include zero. These results support Hypothesis 2. Model 4 tested Hypothesis 3. As shown in Table 2, the interaction term of the squared intraregional cultural diversity with regional operational experience was positive and significant. This result implies that the inverted U-curve flattens as the regional

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operational experience increases. The 95% CI was [0.123 0.438], which did not include zero. These results support Hypothesis 3.

The inverted U-curve in Figure 1 depicts the relationship between intraregional cultural diversity and the ratio of HCNs. The turning point of the inverted U-curve was 0.456, which lies within the intraregional cultural diversity data range. To check for the possibility of a cubic relationship, the third power of intraregional cultural diversity was added to Model 2 in Table 2. The cubic term is positive but weakly significant. The relationship between intraregional cultural diversity and HCNs assigned to a foreign subsidiary is more likely to be quadratic.

Figure 2 depicts the moderating effect of the local managers' competence level in the host country. As Figure 2 shows, the slope of the inverted U-curve flattens as the competence level of the host country's local managers increases. In addition to the change in slope, the moderator shifted the position of the turning points. The turning point shifts to the right as the competence level of local managers in the host country increases. The turning point was 0.295 when the competence level of the local managers was low (mean – one standard deviation), 0.386 when it was average (mean), and 1.079 when it was high (mean + one standard deviation). This shift in turning points suggests that even under high intraregional cultural diversity, MNEs rely on HCNs when the competence level of local managers in the host country is high. Particularly, when local managers' competence levels are high, the curve is monotonically increasing within the intraregional cultural diversity data range.

Figure 3 graphically presents the moderating effect of regional operational experience. As shown in Figure 3, the inverted U-curve flattens as the regional operational experience increases. The shape and position of the three curves indicate that MNEs with greater regional experience increase the ratio of HCNs in foreign subsidiaries given a certain value of intraregional cultural

diversification. As shown in Figure 3, shape flipping occurs when the regional operational experience is high (mean + one standard deviation). However, the ratio of HCNs exceeds 1.0 on the right side of the curve. The ratio of HCNs cannot exceed 1.0; therefore, this shape flipping is likely an artifact. From the shape of the curve at the mean regional operational experience, it can be posited that the shape of the inverted U-curve approaches a monotonically increasing curve within the intraregional cultural diversity data range.

Insert Table 2 and Figures 1, 2, & 3 around here

Discussion

This study explored how regional factors influence foreign subsidiary staffing. The findings show that MNEs tend to staff foreign subsidiaries with more HCNs as the cultural diversity of the host countries in the region increases. However, once intraregional cultural diversity surpasses a certain threshold, MNEs begin to increase the ratio of PCNs. The findings also show that the relationship between intraregional cultural diversity and the ratio of HCNs in the foreign subsidiary is moderated by the competence level of local managers in the host country. The changes in shape and inflection point imply that when local managers' competence levels are high, MNEs rely more on HCNs, even under high intraregional cultural diversity. Additionally, the findings indicate that the inverted U-curve flattens as regional operational experience accumulates. The results suggest

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that MNEs with greater regional experience tend to use more HCNs, even under greater intraregional cultural diversity.

This study contributes to the research on foreign subsidiary staffing in the following ways. First, this study incorporated regional factors into research on foreign subsidiary staffing. Previous studies on foreign subsidiary staffing have primarily explored the factors at the host country, subsidiary, and parent firm levels (Ge et al., 2022; Belderbos and Heijltjes, 2005: Gaur et al., 2007; Peng and Beamish, 2014). Although previous studies have emphasized a subsidiary's activities within the host country, with the exception of a few studies (e.g., Lee, 2019), foreign subsidiaries are connected with regional sister subsidiaries. As reviewed in the intraregional geographic expansion section, MNEs are viewed as expanding the geographic scope of business activities within a region (Collinson and Rugman, 2008; Rugman and Verbeke, 2004). Intraregional geographic expansion produces a network of foreign subsidiaries within the region; foreign subsidiaries in the network cooperate to achieve regional strategic goals (Phene and Almeida, 2008). As members of an intraregional network, relationships with sister subsidiaries in the same region are fundamental for foreign subsidiaries. Accordingly, the strategic actions and organizational practices of an individual foreign subsidiary need to be designed to integrate it into the regional subsidiary network and cooperate with sister subsidiaries. Based on this notion, this study introduced regional factors into the research framework of determinants of foreign subsidiary staffing and investigated the influence of regional factors on subsidiary staffing. By focusing on an overlooked factor, this study extended the previous research framework that primarily focuses on host country, foreign subsidiary, and parent firm factors. This study proposes that more emphasis should be placed on regional factors when investigating the determinants of

foreign subsidiary staffing. The introduction of regional factors sheds light on the complexity of how MNEs staff foreign subsidiaries.

Second, this study incorporated intraregional cultural diversity as a regional-level determinant of foreign subsidiary staffing. Cultural distance between the host and home counties is one of the most extensively studied determinants of foreign subsidiary staffing (Gaur et al., 2007; Ge et al., 2022; Widmier et al., 2008). This study broadened the concept of cultural differences to the regional level. Individual foreign subsidiaries are integrated into the regional subsidiary network to achieve regional goals through inter-subsidiary cooperation (Phene and Almeida, 2008). Cultural differences among host countries can increase the costs of collaborating with sister subsidiaries (Arregle et al., 2013; Banalieva et al., 2012; Puck et al., 2009). Local-specific human capital embodied by HCNs may help them cope with cultural diversity within the region (Collings et al., 2010). Local-specific human capital may facilitate the comprehension of regional cultures, using certain commonalities and similarities among cultures as clues. However, as depicted in Figure 1, the ratio of HCNs in a foreign subsidiary decreases after a certain threshold of intraregional cultural diversity. The inflection of the inverted U-curve indicates that the benefit of building a network of PCNs across foreign subsidiaries begins to increase with increasing intraregional cultural diversity. MNEs appear to create an intraregional network of PCNs when the complexity derived from intraregional cultural diversity surpasses the extent to which the local-specific human capital of HCNs can address (Harzing, 2001). By increasing the assignment of PCNs to foreign subsidiaries, MNEs may attempt to reduce the communication and coordination costs of increasing intraregional cultural diversity. This study implies that regional-level factors should be highlighted to understand the effect of inter-subsidiary cooperation on foreign subsidiary staffing. It suggests that both the cultural distance between the host and home countries and

intraregional cultural differences need to be incorporated into research frameworks to form a comprehensive view of foreign subsidiary staffing.

Third, this study found that the competence level of the host country's local managers moderates the curvilinear relationship between intraregional cultural diversity and HCNs assigned to a foreign subsidiary. The results indicate that when the availability of competent local managers in the host country is high, MNEs rely more on HCNs, reflecting the high quality of local-specific human capital in that country. As Figure 2 shows, the slope of the inverted U-curve before the turning point becomes gradual as the availability of competent local managers increases. This implies that even in a culturally less diverse region, MNEs rely more on HCNs instead of sending PCNs from their home country when local managers' competence levels in the host country are high. A flattened slope after the turning point indicates that a one-unit increase in intraregional cultural diversity yields a smaller decrease in the ratio of HCNs. This implies that MNEs are less inclined to replace HCNs with PCNs when the competence level of local managers is high, even under greater intraregional cultural diversity. High-quality local-specific human capital appears to lower the necessity of creating a network of PCNs, irrespective of high regional cultural diversity. These arguments indicate that host country-level factors can affect the effectiveness of region-level activities, such as communication, joint decision making, joint action, and knowledge sharing with sister subsidiaries. MNEs appear to fine-tune the staffing composition of foreign subsidiaries by simultaneously accommodating regional- and host country-level factors. Accordingly, the interactions between regional- and host country-level factors need to be explored in future studies.

Fourth, this study found that regional operational experience moderates the curvilinear relationship between intraregional cultural diversity and the ratio of HCNs in foreign subsidiaries. Previous studies view operational experience in host countries as a main predictor or moderator of

foreign subsidiary staffing (Rickley and Karim, 2018; Belderbos and Heijltjes, 2005; Ge et al., 2022; Gong, 2003). This study demonstrated that regional-level operational experience also affects foreign subsidiary staffing. Regional operational experience develops a knowledge base in the region, which is shared by foreign subsidiaries in that region (Ando, 2024). By exploiting a regional knowledge base, PCNs can mitigate the disadvantages compared to HCNs in dealing with intraregional cultural diversity. As a result, PCNs and HCNs converge toward indifference as human resources for foreign subsidiaries. Consequently, MNEs with greater regional experience may not be inclined to switch between PCNs and HCNs depending on the level of intraregional cultural diversity. However, they may find HCNs a preferable option to cooperate with sister subsidiaries because access to the regional knowledge base enhances the local-specific human capital possessed by HCNs. Supporting this argument, the inverted U-curves in Figure 3 flattened as regional operational experience increased. The gentle slopes imply that an abrupt switch between PCNs and HCNs is less likely before and after the turning point. The three curves in Figure 3 indicate that MNEs with greater regional experience use more HCNs from low to high intraregional cultural diversity. These arguments based on the results of the interaction between intraregional cultural diversity and regional operational experience suggest that exploring the interactions among regional-level factors further reveals the complexity of foreign subsidiary staffing.

This study has practical implications for MNE managers. MNEs need to consider various factors, such as relationships with the parent firm and host country environment, when deciding on foreign subsidiary staffing. In addition to these factors, MNEs also need to consider regional factors in optimally staff subsidiaries. The relative importance of regional factors may become more significant when implementing regional strategies. In particular, as this study demonstrated,

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HCNs are preferable up to a medium level of intraregional cultural diversity. They can better manage communication and cooperation with sister subsidiaries in the same region, and integrate the subsidiary into the regional subsidiary network. When exceeding a certain level of intraregional cultural diversity, MNEs may consider building a network of PCNs in the region to mitigate the negative effects of high intraregional cultural diversity on inter-subsidiary cooperation. When competent local managers are readily available in the host country, MNEs may strengthen their reliance on HCNs because they are likely to possess high-quality local-specific human capital. Similarly, MNEs with greater regional experience may rely more on HCNs because they have both local-specific human capital and access to the regional knowledge base, making HCNs relatively preferable to PCNs.

Nevertheless, this study has imitations. First, the dataset constructed consists solely of subsidiaries of Japanese MNEs, which limits the generalizability of the findings. Second, the grouping of countries into geographic regions adopted in this study was based on previous studies. However, the manner in which countries were divided into regions might have affected the results. Third, the competence level of the local managers used in this study was a host country-level variable. Owing to the unavailability of data, the competence levels of HCNs working in subsidiaries could not be captured. Fourth, third country nationals (TCNs) were not included in the research framework. TCNs can be preferable to facilitate inter-subsidiary cooperation. Finally, this study examined only two moderators. Future studies could extend this study by examining a set of potential moderators that might affect the relationship between intraregional cultural diversity and foreign subsidiary staffing.

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Table 1. Descriptive statistics and correlation coefficients.

	Mean	SD	1	2	3	4	5	6	7
HCN ratio	0.900	0.181	1.000						
Regional cultural diversity	0.316	0.165	0.139	1.000					
Competent local managers	0.302	0.164	-0.152	-0.196	1.000				
Regional experience	3.343	0.858	0.138	0.059	0.115	1.000			
R&D intensity	0.031	0.120	0.014	-0.017	0.035	-0.004	1.000		
Parent assets	11.964	1.510	0.055	0.180	0.064	0.538	-0.008	1.000	
Parent performance	2.829	3.926	0.012	0.022	0.011	0.005	-0.100	0.040	1.000
Subsidiary size	0.276	0.339	-0.007	-0.528	0.194	-0.366	0.017	-0.366	-0.040
Entry mode	0.498	0.500	-0.225	-0.084	0.125	-0.191	0.021	-0.180	-0.004
Local ownership	6.953	17.111	0.130	0.005	-0.203	0.035	-0.024	0.072	-0.002
Host country experience	3.290	0.938	0.124	0.017	0.105	0.716	-0.007	0.423	-0.004
subsidiaries in host country	2.834	3.385	0.046	0.041	-0.176	0.506	-0.001	0.386	-0.016
Formal institution	2.583	0.738	0.126	0.212	-0.751	-0.069	-0.039	-0.066	-0.069
GDP	28.206	1.569	-0.074	-0.284	0.136	0.156	0.019	-0.051	0.000
GDP growth	5.139	3.620	0.092	0.127	-0.719	-0.085	-0.024	-0.081	-0.088
Subsidiaries in region	10.618	12.187	0.111	0.200	-0.192	0.550	0.006	0.568	-0.009

	8	9	10	11	12	13	14	15	16
HCN ratio									
Regional cultural diversity									
Competent local managers									
Regional experience									
R&D intensity									
Parent assets									
Parent performance									
Subsidiary size	1.000								
Entry mode	0.143	1.000							
Local ownership	-0.028	-0.403	1.000						
Host country experience	-0.215	-0.159	0.054	1.000					
subsidiaries in host country	-0.248	-0.177	0.062	0.636	1.000				
Formal institution	-0.220	-0.089	0.163	-0.102	0.109	1.000			
GDP	0.223	0.024	-0.070	0.283	0.314	-0.263	1.000		
GDP growth	-0.157	-0.064	0.154	-0.026	0.225	0.649	0.029	1.000	
Subsidiaries in region	-0.414	-0.180	0.093	0.417	0.587	0.200	-0.159	0.160	1.000

Note: Correlations equal or greater thman |0.014| are significant at $p<0.05$.

Table 2. Results of feasible generalized least squares model.

	Model 1 Coefficient		Model 2 Coefficient		Model 3 Coefficient		Model 4 Coefficient	
Intraregional cultural diversity	0.048**	(0.015)	0.132**	(0.045)	0.251*	(0.107)	0.644***	(0.153)
Intraregional cultural diversity squared			-0.145*	(0.072)	-0.476*	(0.198)	-0.977***	(0.274)
Intraregional cultural diversity× Competence of local managers					-0.325	(0.253)		
Intraregional cultural diversity squared× Competence of local managers					0.921*	(0.465)		
Intraregional cultural diversity× Regional experience							-0.171***	(0.044)
Intraregional cultural diversity squared× Regional experience							0.280***	(0.080)
Competence of local managers	-0.051**	(0.020)	-0.052**	(0.020)	-0.066	(0.040)	-0.047*	(0.019)
Regional experience	0.005	(0.004)	0.006	(0.004)	0.007	(0.004)	0.023**	(0.008)
R&D intensity	-0.003**	(0.001)	-0.003**	(0.001)	-0.003**	(0.001)	-0.004*	(0.002)
Parent assets	0.015*	(0.006)	0.015*	(0.006)	0.015*	(0.006)	0.016*	(0.006)
Parent performance	2.91E-05	(1.95E-04)	2.99E-05	(1.95E-04)	4.78E-05	(1.95E-04)	1.84E-05	(1.95E-04)
Subsidiary size	0.079***	(0.012)	0.082***	(0.012)	0.084***	(0.012)	0.087***	(0.012)
Entry mode	-0.001	(0.005)	-0.001	(0.005)	-0.001	(0.005)	-0.001	(0.005)
Local ownership	8.77E-05	(1.48E-04)	8.92E-05	(1.48E-04)	8.89E-05	(1.48E-04)	8.91E-05	(1.47E-04)
Host country experience	0.041***	(0.006)	0.041***	(0.006)	0.041***	(0.006)	0.037***	(0.006)
subsidiaries in host country	-0.005***	(0.001)	-0.004***	(0.001)	-0.004***	(0.001)	-0.004***	(0.001)
Formal institution	-0.002	(0.002)	-0.002	(0.002)	-0.002	(0.002)	-0.002	(0.002)
GDP	0.005	(0.011)	0.004	(0.011)	0.001	(0.011)	0.011	(0.011)
GDP growth	1.50E-04	(3.96E-04)	1.30E-04	(3.95E-04)	8.86E-05	(3.94E-04)	1.28E-04	(3.95E-04)
Subsidiaries in region	1.08E-04	(2.23E-04)	1.85E-05	(2.23E-04)	-8.08E-05	(2.24E-04)	3.31E-04	(2.25E-04)
Year dummies	*Included*		*Included*		*Included*		*Included*	
Constant	0.403	(0.303)	0.436	(0.304)	0.531	(0.306)	0.183	(0.306)
F	11.710***		11.204***		10.319***		10.297***	
N	22406		22406		22406		22406	

*** $p<.001$, **$p<.01$, *$p<.05$. Robust standard errors are in parentheses.

Figure 1. The curvilinear relationship between intraregional cultural diversity and the ratio of HCNs.
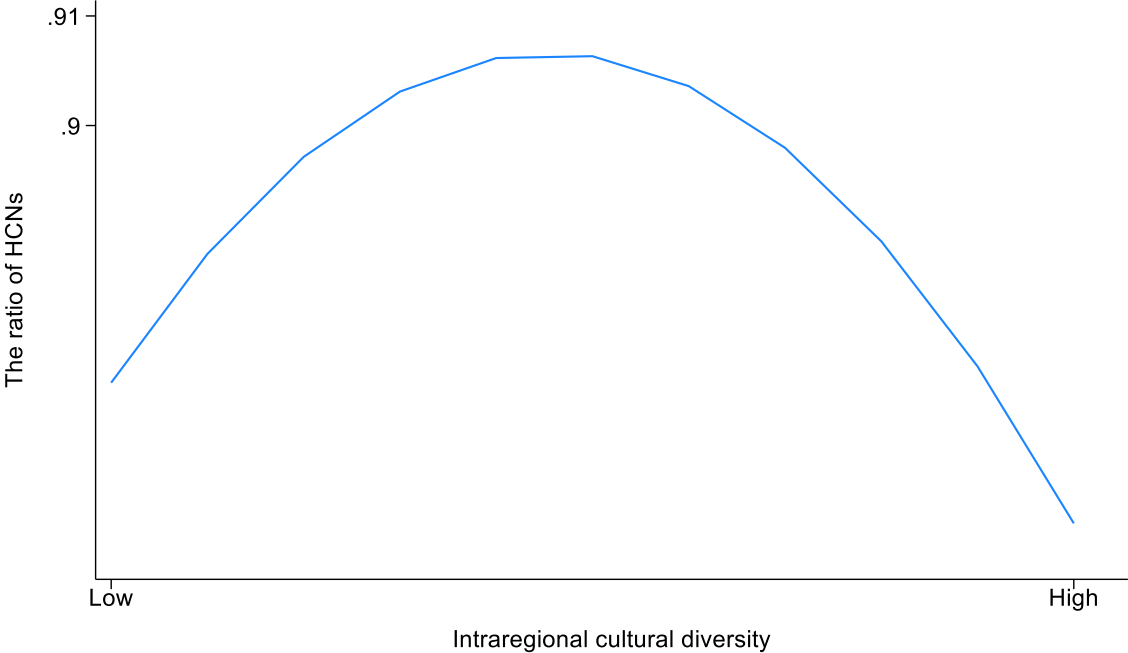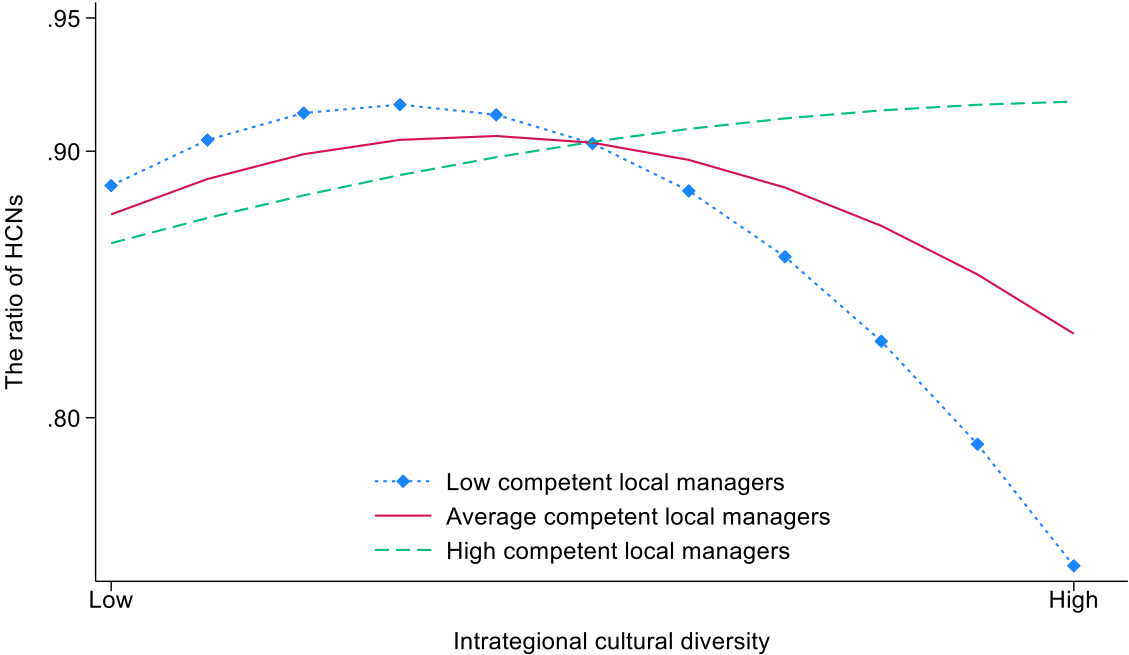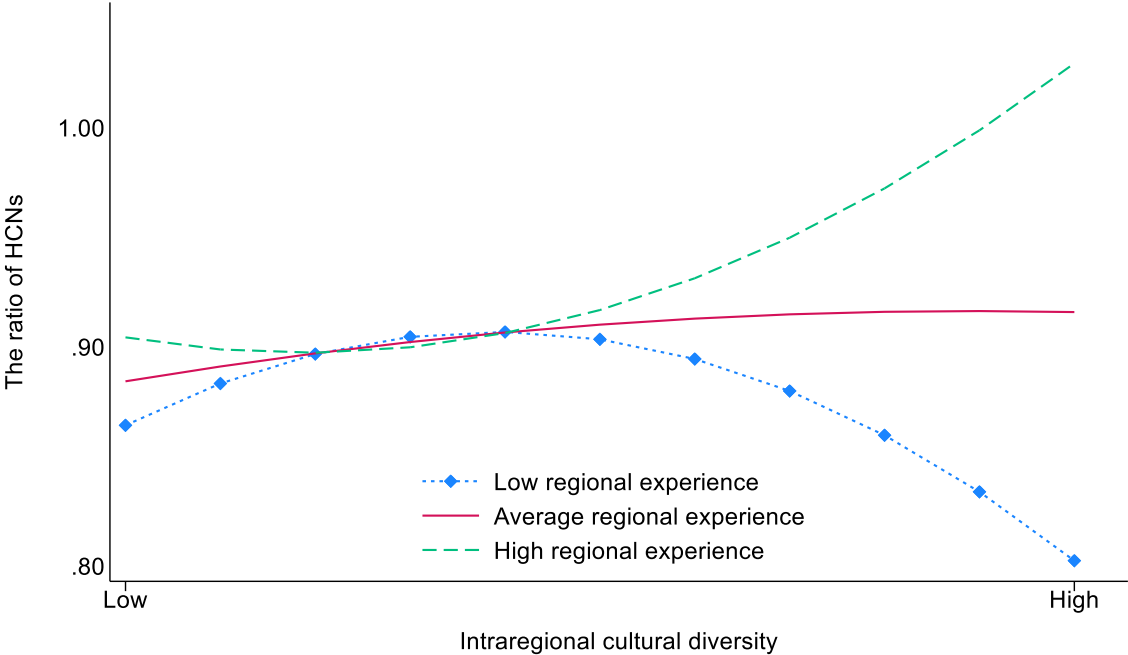
Figure 2. The moderating effect of a pool of competent local managers.

Note: High, Average, and Low competent local managers represent the mean plus one standard deviation, the mean, and the mean minus one standard deviation, respectively.

Figure 3. The moderating effect of regional operational experience.

Note: High, Average, and Low regional experience represent the mean plus one

standard deviation, the mean, and the mean minus one standard deviation, respectively.

本ワーキングペーパーの掲載内容については、著編者が責任を負うものとします。

法政大学イノベーション・マネジメント研究センター
The Research Institute for Innovation Management, HOSEI UNIVERSITY

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