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Staff localization and environmental uncertainty on firm performance in China

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Abstract This paper examined the form of the localization–performance relationship as moderated by environmental uncertainty. We postulated that the positive impact of staff localization on firm performance only continues to a certain point. Beyond this point, the costs of a high degree of staff localization outweigh the benefits. The negative effect of an increase in localization beyond an optimal point is expected to be stronger under the condition of high environmental uncertainty. Both the curvilinear relationship and the moderating effect of environmental uncertainty are confirmed through the survey results of 111 MNC subsidiaries operating in China. The result suggests that MNCs should pay particular attention to balance their deployment of local staff and expatriates in their international expansion.

Keywords Localization · Environmental uncertainty · Firm performance · China

A key and unavoidable strategic decision for multinational corporations (MNCs) is determining when and how much to localize staff in their foreign operations. This decision is expected to influence performance because localization furthers the organization's ability to integrate host country advantages and helps control its operational costs. As competition among MNCs has intensified, both among MNCs and between MNCs and domestic organizations (Ohmae, 1990; Porter, 1986), researchers and practitioners recognize that human resource management (HRM) strategy is a determining factor of corporate success in the global economy (Bartlett & Ghoshal, 1994; Pfeffer, 1994; Pucik, 1992).

A number of performance benefits of staff localization have been proposed in the literature. Local staff is considered a valuable resource for gaining access to local

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knowledge and markets, and also for building strong local business networks (Hailey, 1996; Wall, 1990; Wernerfelt, 1984). MNCs can also reduce their operating costs (The Economist Intelligence Unit Limited, 1997) by replacing expensive expatriates with local staff. The promotion of local staff to key positions can boost company morale because native managers interact more effectively with front-line employees due to their common socio-cultural backgrounds (Hailey, 1996). Local government restrictions on labor practices (Doz, Bartlett, & Prahalad, 1981) also often promote staff localization. Many of these motivations can be categorized into the various "institutional" pressures (Boisot & Child, 1999; Rosenzweig & Singh, 1991; Scott, 1995) from the host country that push MNCs to localize their staff. However, these motivations for staff localization are mostly discussed in the context of decisions to reduce the stock of expatriate managers. It is unclear whether a positive staff localization–firm performance relationship still holds at higher levels of localization. Recent experiences of MNCs appear to cast doubts on the presumed monotonic relationship between staff localization and firm performance. Studies of foreign joint ventures reported that once expatriate managers left the venture, operational difficulties such as product control, customer service, etc. began to surface (Child, 1994). It was also suggested that many joint ventures failed because staff localization happened too fast and was too extensive (Luo, 2000).

Expatriate staff can be considered a valuable firm resource that has a critical impact on the performance of the local subsidiary. Expatriation is often needed for the transfer of corporate advantages (i.e., technological, financial, operational, and management resources and assets) to foreign ventures (Dowling, Schuler, & Welch, 1994; Franko, 1973). Expatriates that have more experience with the firm are more likely to provide effective country links than local staff (Downes & Thomas, 2000). The more important such strategic and operations links are to the foreign venture success, the more indispensable expatriate staff is to the foreign operation.

Expatriate staff are often retained to guard against an agency problem (Jensen & Meckling, 1976) of local management adopting strategies that fit their own self-interest or to engage in opportunistic behavior. Thus expatriate managers can be a key component of the MNCs' global control mechanism (Boyacigiller, 1990; Egelhoff, 1984; O'Donnell, 2000). For example, many foreign companies have insisted on controlling the appointment of chief financial officers for their China joint ventures because of concerns about embezzlement (Boisot & Child, 1999; Yan & Duan, 2003).

The above discussion has presented evidence both in favor of and opposing the wisdom of staff localization. Taken as a whole, it suggests that local staff and expatriates represent two complementary firm resources that are critical to the success of the local subsidiary. These groups serve different roles that contribute to the performance of the local subsidiary. Excessive reliance on one resource (e.g., local staff) at the expense of the other resource (e.g., expatriate staff), may have a negative impact on performance. But at what threshold level does staff localization become excessive? Will there be moderating factors underlying an optimal degree of staff localization for firms operating in foreign countries?

Emerging economies provide a timely context for examining the above questions. First, these economies are increasingly critical to the growth of MNCs. Second, the difference in the performance between expatriates and local staff is also more pronounced in these economies than it is in more developed economies. Yet the pressure to localize is just as strong, because MNCs in emerging economies face price competition from local firms that is at least as intense as the norm in developed economies (Batra, 1999; Child & Tse, 2001).

The purposes of this study were (1) to examine the relationship between degree of staff localization and firm performance, and (2) to test the moderating effect of environmental uncertainty on the relationship between staff localization and firm performance in an emerging economy, the Peoples Republic of China (PRC). This paper contributes to the literature in three ways. First, it integrates insights from extant theoretical frameworks and research toward enhancing our understanding of the under-researched, yet important, area of staff localization among MNCs. Second, it offers insights about the relationship between staff localization and firm performance at different levels of localization. Third, it empirically tested the influence of staff localization on firm performance under different degrees of environmental uncertainty.

Theory and hypotheses

Staff localization of MNCs

Staff localization—the process of developing local employees to a level where they are equipped to take on the responsibilities and positions held by expatriates—is a central component of an MNC's strategy because of its potential impact on the operational efficiency and financial success of it's foreign operations. MNCs pursue localization with various motivations. Scott's (1995) developed a framework that decomposed institutional forces into three parts—regulative, normative, and cognitive. These distinctions can be employed to account for most of these motivations for staff localization. Regulative forces include rules and constraints, along with punishments associated with their violations, that are imposed by regulatory bodies. In some emerging economies, like China, the government may impose legal restrictions on hiring foreigners (Lasserre & Ching, 1997). Subsidiaries of MNCs will have little choice but to localize their staff in order to conform to these regulations. Normative forces refer to "normative rules that introduce a prescriptive, evaluative, and obligatory dimensions into social life" (Scott, 1995: 37). These rules include both values and norms that specify how things should be done or what the actors under the system are supposed to do. For example, local subsidiaries of MNCs may have to adapt their strategies to reflect the values, norms, and "locally accepted practices" of the host country in which they operate (Rosenzweig & Singh, 1991). Staff localization sends a strong signal about the firm's commitment to its local operations, and thus it comes to be expected by the host country. Finally, cognitive forces reflect the actors' conceptions of who they are and what forms of action make sense for them in a given situation. These cognitive forces could include actual beliefs held by the MNC executives that localization provides real benefits to their firms. For example, many companies see the huge costs of employing expatriates and rush to reduce the numbers of expatriates and replace them with locals (Rogers, 1999). Other MNCs believe local staff have fewer language and cultural barriers in communicating with lower level employees and customers, and this helps them penetrate the market and build relationships, including through *guanxi* (Chen & Tjosvold, 2007). Similarly, the MNC executives may also believe that staff localization weakens the link with the parent company and the control exerted by it. This might lead them to seek to minimize staff localization.

Staff localization and firm performance

How staff localization relates to firm performance can be explored within the framework of a resource-based view of the firm. The resource-based view posits that performance differences among firms can be explained by differences in resources and how they are utilized (Wernerfelt, 1984; Combs & Ketchen, 1999). Resources include both firms' assets and capabilities based in human capital and managers' effectiveness in leveraging that human capital (Barney, 1991; Peteraf, 1993). In the context of staff localization, both local staff and expatriate staff could be considered critical firm resources. However, they contribute differently to the management and operation of an organization.

Local staff are a valuable local resource because, compared with expatriate staff, they provides greater access to local market knowledge. They are often instrumental in building strong business networks for a foreign operation (Wall, 1990). Local staff can also help adapt global product ideas and transform them into more preferable product-attribute mixes to suit local tastes. In addition, local staff can relate better to front-line staff than expatriates because of their common socio-cultural backgrounds. This fosters employee cooperation and morale (Hailey, 1996).

On the cost side, local staff is a less expensive resource compared to expatriate staff. Expatriate compensation packages are typically much more costly. This is especially true in emerging economies where special hardship allowances are needed. According to the National Foreign Trade Council, companies invest an average of $1.3 million during a typical 3 year expatriate assignment (Britt, 2002). At the executive level, the average annual package usually reaches half a million dollars, and for a mid-level manager, the salary is at least five times more than that of a comparable local staff member (The Economist Intelligence Unit Limited, 1997). Furthermore, foreign assignments are believed to be costly because of high failure rates. Therefore, replacing expatriates with local staff is expected to contribute positively to the cost side of the business.

The aforementioned contributions of staff localization to firm performance are largely at the operational level of the business. Expatriate staff, on the other hand, are considered to be critical resources that contribute to firm performance at the strategic level. First, expatriate staff can serve as a bridge between HQs and foreign operations in the transfer of corporate advantages in technological, financial, human, and management knowledge. They are also invaluable for maintaining a consistency in goals, culture, and value between HQs and the local subsidiary because they have more extensive experience with the organization. For them, the corporate ethos is already ingrained. Without a strong link between HQs and the foreign operation, knowledge transfer may be disrupted and the corporate and foreign operations may become misaligned in terms of the goals and values that support global integration (Wong & Law, 1999).

Expatriate staff also play a critical role in corporate control. According to the international business literature, sub-optimization is the *modus operandi* among overseas units (see Caves, 1996). As an MNC delegates more responsibilities and decision-making authority to the management of a foreign subsidiary through increased localization, an agency problem may arise (Roth & O'Donnell, 1996). An agency problem exists if the subsidiary management makes decisions that are not congruent with those desired by headquarters either because of goal incongruence between headquarters and the subsidiary or self-interested behavior of the subsidiary management. The level of global integration and the degree of centralization of decision making also affect an assignment of parent country nationals as expatriates working in foreign affiliates (Ando, Rhee, & Park, 2008). A presence of expatriate staff is needed to allow HQs to exercise sufficient control over the overseas operation and guard against opportunistic behavior.

Moreover, many MNCs are trying to localize, but few are truly successful at it (Child, 1994; Luo, 2000; Roger, 1999). Expatriates are needed for their general management knowledge and experience, particularly in emerging economies like China where local staff with qualified management skills and experience is scarce (Rogers, 1999). They are expected to provide strong leadership in inducing changes, organization building, and strategic planning, all of which are strategic level decisions. This puts the concerns about expatriate manager "failures" in a different light. If indeed it is true that a high proportion of expatriate managers under-perform their companies' expectations of them, organizations that can more effectively utilize expatriate staff not only have a competency that is valuable, it is also rare and likely hard for competitors to imitate. Resource rareness and inimitability are sources of sustained competitive advantage within the RBV model (Barney, 1991).

For most MNCs, the localization process begins by replacing expatriate managers with local staff at the lower management levels. Given the above-mentioned contributions of local staff in the operational domain, it can be seen that an increase in localization at a low degree of staff localization will have a positive impact on firm performance. However, as the degree of localization increases, the replacement of expatriates with local staff will tend to take place at more senior management levels. In these senior management positions where strategic level decision-making skills are highly desired, we believe expatriate staff will have an edge over local staff because of their experience, and their knowledge of the parent company. This is particularly true in emerging economies like China where local staff with qualified management skills are still hard to find (Korbin, 1988; Rogers, 1999; Scullion, 1991; Budhwar & Debrah, 2009). For 20 years since China opened its door to the world in 1979, many MNCs entered China as Sino-joint ventures or wholly owned subsidiaries (see discussions in Tse, Pan & Au, 1997, and Vanhonacker, 1997). Of all the ventures, very few of them met their profit goals (Child & Tse, 2001). The inability of such foreign ventures to find good local staff has often been attributed as a key factor underlying their failures (Child, 1994; Luo, 2000; Peng, 2000).

The shortage of management talent in China has been attributed to several factors. In China, it was estimated that around 100,000 MBA graduates are needed annually, yet only 6,000 graduated from the country's 56 universities in the year 2000 (Child & Tse, 2001). The economy and business in China has just simply grown much faster than the growth of the stock of management skills. An education and social system that promotes conformity and discourages risk-taking, and the "lost generation" of 35 to 50 years old who were sent away to labor in the provinces during the Cultural Revolution may also be blamed for the problem (Keeley, 1999). As a result, if MNCs continue to push staff localization beyond the lower management positions, often sub-standard local executives will be given heavy leadership responsibility. This could have a negative effect on firm performance, especially in the long term.

Based on the above discussions, we propose the following hypothesis:

Hypothesis 1 At a low level of staff localization, an increase in staff localization will have a positive impact on firm performance. However, at a high level of staff localization, an increase in staff localization will have a negative impact on firm performance.

While the benefit of an initial reduction of expatriates to be replaced by local staff has been established in the literature, the impact of a high level of staff localization on firm performance is largely unexamined. If the staff localization–performance relationship does vary at different degrees of localization, extrapolating findings from related areas suggests that this relationship will be affected by environmental conditions. In the next section, we discuss the potential moderating effect of environmental uncertainty on the localization–performance relationship.

Environmental uncertainty as a moderating construct

A rich literature stream has consistently identified environmental uncertainty to be a strategically critical determinant of firm's performance and success (Child, 1972; Paswan, Dant, & Lumpkin, 1998). High levels of environmental uncertainty induced by constant changes in markets, competition, and regulation, is a way of life in most emerging economies like China (Boisot & Child, 1999; Nolan, 1999). Emerging markets therefore provide an ideal setting for examining the effect of environmental uncertainty. In addition, environmental uncertainty has been found to be an important moderating variable influencing the relationship between local experience of organizations and their performance in China (Luo & Peng, 1999). Thus the findings from this study will help extend our understanding of the moderating effect of environmental uncertainty in international settings.

The concept of environmental uncertainty has been widely discussed and applied in the literature (e.g., Milliken, 1987; Paswan et al., 1998; Waldman, Ramirez, House, & Puranam, 2001). However, most of the existing studies have examined its effect within a domestic setting. Luo and Peng's (1999) study is among the first to provide empirical insights about the moderating effect of environmental uncertainty in China. Even though uncertainty could be used as an objective characterization of an environment, most studies have argued for its use as a perceptual phenomenon. According to Milliken (1987), uncertainty can be defined in terms of an individual's perceived inability to understand and predict the direction in which an environment might be changing, the potential impact of those changes on that individual's organization, and whether or not particular responses to the environment might be successful.

An organization with a low degree of localization could benefit more from an increase in local staff under conditions of high environmental uncertainty. In a highly uncertain or dynamic environment, the local staff's contribution may be more valuable, in terms of a better access to local cultures and networks, and a better understanding of consumer preference and taste, because this local experience increases the firm's ability to scan the external environment, analyze changes, and seize opportunities (Luo & Peng, 1999).

When environmental uncertainty is high, an organization that already has a high degree of localization may find that further increases in staff localization may have an even greater negative effect on performance. Environmental uncertainty aggravates problems of corporate control among MNCs. Effectiveness of monitoring of managers' behavior is more difficult and the cost of hierarchical governance increases with increasing environmental uncertainty (Dundas & Richardson, 1980; Hill & Hoskisson, 1987; Jones & Hill, 1988; Li & Simerly, 1998). MNCs' control of their foreign affiliates is prototypical of this agency problem. With high uncertainty in the local business environment, local staff may be more inclined or motivated to compartmentalize decision-making (Alexander, 1991), thereby reducing the sharing of information with HQ. In order to protect its interest and maintain firm performance, HQ needs to invest more in communication and control over foreign ventures through the use of expatriate staff, particularly at senior levels.

In highly uncertain environments where condition changes rapidly, executives who have more experienced and stronger leadership skill are needed for firms' success. Waldman et al. (2001) reported a strong relationship between management leadership and firm performance under conditions of high perceived environmental uncertainty. The authors interpreted this finding as showing how the confidence and vision of effective leaders provide psychological comfort for the followers and reduces their stress created by uncertainty. As we noted above, large scale increases in local staff may often result in placing local candidates with less leadership skills in top positions. The negative impact of this action on firm performance is likely to be stronger under the condition of high environmental uncertainty.

In summary, we have argued that in general, senior-level expatriate managers tend to be more effective agents in maintaining a linkage between HQs and the foreign units (Downes & Thomas, 2000). These senior expatriate staff will likely be more effective and their role will be even more critical to integration in an uncertain environment. As the environment becomes more uncertain, a strong exchange relationship between HQs and foreign operations is needed to provide the trust and security that both need to confront environmental turbulence (Paswan et al., 1998).

Hypothesis 2 Environmental uncertainty moderates the effect of staff localization on firm performance.

Hypothesis 2a At a low degree of staff localization, the positive impact of an increase in staff localization on firm performance will be stronger under the condition of high environmental uncertainty.

Hypothesis 2b At a high degree of staff localization, the negative impact of an increase in staff localization on firm performance will be stronger under the condition of high environmental uncertainty.

Other determinants of firm performance in China

Past studies have examined a number of factors that affect firm performance in emerging economies like China. As the focus of our study is on the issue of staff localization, our discussion on these factors will be brief. In subsequent analysis, these factors are used as control variables, rather than as key constructs.

Organization tenure This variable refers to how long an operation was set up in China. China is a tough market to navigate. Since the opening of the China market, many MNCs failed and left. Many others are performing worse than they initially expected. Nonetheless, a key success factor for survival is an organization's commitment to understand and respond to China's changing environment (Luo, 2000). Other things being equal, the longer an organization stays in China, the more committed it is to learning and adapting to the country's business environment, and this enhances performance in the long term (Luo & Peng, 1999). Pan, Li and Tse (1999) observed a pioneering effect in China; those MNCs that entered China earlier than their global competitors often enjoyed higher market share. Moreover, a long-established presence in a transition economy such as China is appreciated by local customers, suppliers, competitors, and governments, and this goodwill translates into competitive advantage (Child, 1994; He, Tian & Chen, 2007). Hence, we hypothesize that an organization's tenure in China would relate positively to its performance.

Hierarchical level This variable refers to the number of levels between the senior management and the operational staff within an organization. In a highly complex and constantly changing market like China's, the capability to develop and maintain a responsive organization structure is critical to performance. An organization must have the appropriate culture and system to enable them to quickly absorb, process, and utilize information from the environment. One of the crucial factors for fostering this kind of culture and system will be the number of levels between the senior management and the operational staff. Other things being equal, the flow of information within the organization is impeded as the number of hierarchical levels increases an organization. An organization with many hierarchical levels is limited in its capability to respond quickly in the marketplace. Thus, we propose that an organization's hierarchical complexity (the number of levels between senior management and operation staff) will be negatively associated with its performance.

Previous China experience of the expatriates This variable refers to previous experience of the expatriates in the host country (in this case, China) before their current posting. Given that previous experience in the host country represents learning of local market knowledge that helps firms overcome the liability of foreignness (Luo & Peng, 1999), we expect firms with more expatriates who have previous experience in China to have better firm performance.

Strategic managers among expatriates Expatriates are often retained because of the general management role, i.e., providing leadership in strategic planning and organization building, that they are expected to play (Roger, 1999). They are believed to have an edge over local staff in senior or strategic management positions because of their management experience and their knowledge of the parent company. Therefore, we propose that the amount of senior or strategic managers among a firm's expatriate population will have a positive impact on its performance.

Ability to recruit local staff As mentioned, one of the obstacles of localization in China is the difficulty in recruiting qualified local staff. If an increase in localization, especially at a low level of staff localization, is beneficial to a firm's performance as we have hypothesized, an enhanced ability of the firm to attract and recruit local talent should also have a positive impact on its performance.

In this study, we also include as control variables organization size, ownership type (whether it is a joint venture or wholly owned subsidiary), industry type (service versus manufacturing), and market focus (whether it focuses on local or international markets) as control variables in our analysis because these are conventional controls in strategic management research.

Methods

Data collection

The data used in this study are a part of the data collected in a large-scale survey on human resource management practices that was administered in China. The survey was co-sponsored by an international bank and a large HRM consulting firm. An independent and experienced marketing research firm in China was commissioned by the two firms to collect the data. Questionnaires were distributed to 450 MNC subsidiaries throughout the country. The list of firms was identified from several sources, primarily from the Directory of Foreign Invested Enterprises compiled by the Ministry of Foreign Trade and Economic Cooperation (MOFTEC) and the databases possessed by the marketing research firm. The respondent firms were randomly selected among all foreign ventures that had at least 2 years of operations in China. After two rounds of reminders, there were 111 completed responses representing a response rate of 24.6%. The final sample includes 68 wholly owned subsidiaries and 43 joint ventures. There were no significant differences between the firms included in our analysis and those firms that did not respond in terms of firm size, organization tenure, ownership, and industry. All respondents were either general managers (66 cases) or deputy general managers (45 cases) of the organizations.

Measures

Performance The dependent variable, firm performance, was a multi-item self-report measure obtained from the managers. Five questions were used to capture the key dimensions of the organization's performance relative to competitors (Khandwalla, 1976). These questions asked managers to report their performance (based on after-tax return on total assets, after-tax return on total sales, total sales growth, overall performance and success, and competitive positions) relative to their close competitors with similar operations in China. The response format was a ten-point scale (1=bottom 10% and 10=top 10%). Exploratory factor analysis of the five items produced one single factor with eigenvalues greater than one. All items loaded heavily on the single factor. The coefficient alpha reliability was 0.94. This self-reporting approach for assessing firm performance was appropriate because accounting data were not available to the public and managers were also reluctant to provide specific accounting data on a survey. To ensure the validity of the response, the overseas head offices of 35 firms (i.e., 31.5%) were contacted to crosscheck the self-reported performance measure. There is a high degree of consistency between the questionnaire responses and data from their oversea head offices supporting the validity of the response.

Degree of localization An objective measure was used to capture the degree of staff localization. Managers were asked to state the number of total employees on or above the functional head level and the total number of employees on overseas expatriate terms in their organization. The degree of localization is measured as the percentage of local staff out of all employees on or above the functional head level in the organization

Environmental uncertainty The environmental uncertainty measure consists of eight items assessing the predictability of the general business environment (i.e., market condition, potential for growth, dynamism of the industry, product sales, customers' product preference, firm profitability, suppliers, and competitors) from a manager's perspective. These items were mainly adopted from Paswan et al. (1998) and they cover most of the items used by Luo and Peng (1999) to measure the predictability of the market environment. Each item was scored on a seven-point Likert scale ranging from highly predictable (1) to highly unpredictable (7). A factor analysis of the eight items produced one factor with eigenvalues greater than one. All items loaded heavily on the single factor. The reliability of the measure is high with a coefficient alpha of 0.92.

Previous China experience of the expatriates This was measured as the percentage of expatriates who have previous work experience in China before the current posting. *Strategic managers of the expatriates* was measured as the percentage of strategic managers (executive directors, presidents, general managers, and assistant general managers) out of all the expatriates in the organization. *Ability to recruit local managers* was measured by a single item of how difficult the organization to recruit local managers.

Organization tenure This was measured by the number of years since the firm started operating in China. *Firm size* was measured by the total number of employees of the firms. *Number of hierarchical levels* was measured by the total number of levels from the chief executive (or general manager) office to the lowest level of employees in the firms. *Ownership type* measured whether the firm is a joint venture or wholly owned subsidiary (0=wholly owned subsidiaries, 1=joint venture). Similarly, *Industry type* measured whether the firm is in the manufacturing or service sector (0=manufacturing, 1=service).

Data analysis

Hierarchical multiple regression analyses were conducted to test the three hypotheses. Because our main focus is to test (1) the different effects of an increase in staff localization at different degrees of localization, and (2) the moderating effect of environmental uncertainty on the localization–performance relationship, we examine the significance of the quadratic term of localization and its interaction term with perceived environmental uncertainty on performance (cf. Aiken & West, 1991; Cohen & Cohen, 1983). Standardized independent variables were used to test the quadratic and interaction effects. Specifically, we employed the following regression equation to test each of the hypotheses (cf. Aiken & West, 1991):

$$Y = b_1X + b_2X^2 + b_3Z + b_4XZ + b_5X^2Z + c_0,$$

Where X is the independent variable representing the degree of localization and Z represents the environmental uncertainty perceptions. The predictors were entered into the regression equation in six successive steps. The strategy of our analysis was to first remove the influences due to other determinants of firm performance, so that we can assess the effect of staff localization on firm performance with more precision.

In the first step, organization tenure, firm size, ownership type, industry type, number of hierarchical levels, previous China experience, strategic managers percentage, and ability to recruit local managers were entered. In the second and third steps the linear (X) and quadratic (X^2) terms of degree of localization were entered to detect its linear and quadratic main effects, respectively. In the fourth and fifth steps, environmental uncertainty perception was entered as an independent variable (Z) and a moderator of the linear degree of localization (XZ), respectively. In the final step, the interaction term between the quadratic degree of localization and the linear environmental uncertainty (X^2Z) was added to test the hypothesis that the curvilinear relationships between the degree of localization and firm performance varies as a function of the perceptions of environmental uncertainty.

Results

Table 1 presents means, standard deviations, construct reliabilities, and zero-order Pearson correlations among all variables. As hypothesized, the degree of localization is not linearly related to the performance (r=0.07, n.s.). The perceived environmental uncertainty is correlated only modestly (and negatively) with firm performance (r=−0.22, p<0.01). Organizational tenure is also correlated significantly with firm performance (r=0.22, p<0.01). Previous China experience is positively correlated with firm performance (r=0.25, p<0.01) and strategic managers percentage is also positively correlated with firm performance (r=0.20, p<0.05). Regarding the degree of localization, it is positively correlated with organizational tenure (r=0.43, p<0.01), firm size (r=0.22, p<0.05), and hierarchical level (r=0.34, p<0.01). Wholly owned subsidiaries were found to have a higher degree of localization when compared with joint venture firms (r=−0.23, p<0.01).

Table 1 Means, standard deviations, reliabilities, and correlations among variables.

	Variables	Means	SD	1	2	3	4	5	6	7	8	9	10	11
1	Organization tenure	4.31	2.19	–										
2	Organization size	107.00	184.21	0.34*	–									
3	Hierarchical level	4.02	2.01	0.21*	0.61**	–								
4	Ownership type[a]	0.39	0.49	0.10	0.11	0.02	–							
5	Industry type[b]	0.38	0.49	−0.42**	−0.21*	−0.38**	−0.03	–						
6	Previous experience	9.75	2.13	0.26*	0.21*	0.31**	−0.09	−0.33**	–					
7	Strategic managers percentage	23.54	10.65	0.21*	0.22*	0.21*	0.11	0.27**	−0.06	–				
8	Ability to recruit local manager	3.25	1.36	0.27*	0.37**	0.21*	−0.11	−0.30**	0.07	0.37**	–			
9	Degree of localization	71.35	19.15	0.43**	0.22*	0.34**	−0.23**	−0.29**	−0.26**	0.51**	0.32**	–		
10	Environmental uncertainty	4.71	1.48	−0.23*	−0.14	−0.06	−0.14	0.22**	0.29**	0.28**	−0.21*	−0.10	(0.92)	
11	Performance	6.79	1.77	0.22*	0.11	0.09	0.12	−0.10	0.25**	0.20*	0.15	0.07	−0.22*	(0.94)

Sample size=111. Cronbach's alphas appear on the diagonal for multiple-item measures.
[a] 0=wholly owned subsidiaries, 1=joint ventures.
[b] 0=manufacturing, 1=service.
*$p<0.05$; **$p<0.01$.

Manufacturing firms also appeared to have a higher degree of localization (r=−0.29, p<0.01). Previous China experience is negatively correlated with degree of localization (r=−0.26, p<0.01). Strategic managers percentage is positively correlated with the degree of localization (r=0.51, p<0.01) and ability to recruit local manager is also found to correlated with the degree of localization (r=0.32, p<0.01).

Hierarchical multiple regression analyses were conducted to test our two main hypotheses (see Table 2). All regressions met the major model assumptions and no serious violations were found in the plots of standardized residuals versus the predicted values, in the normal probability plots of standardized residuals, and in examining the independence of error terms (the Durbin-Watson statistic was 1.81 for firm performance).

The block of control variables entered at Step 1 yielded an overall significant effect on firm performance (ΔR^2=0.23, p<0.01). As expected, organization tenure was found to be positively related to performance (b= 0.27, p<0.01), and the number of hierarchical levels was negatively associated with performance (b=−0.27, p<0.01). Previous China experience was positively related to performance (b=0.21, p<0.05).

In step 2, the main effect of degree of localization (DL) was entered. It has no effect on firm performance (b=0.05, n.s.), so the common belief of a positive and linear relationship between the degree of localization and firm performance was not supported. The quadratic term of degree of localization (DL^2) was entered in step 3. This variable was found to be predictive of firm performance (b=−0.24, p<0.05; ΔR^2=0.04, p<0.05). The relationship between the degree of localization and firm performance follow an inverted U-shaped function. That is, at a low level of localization, an increase in localization had a *positive* impact on firm performance.

Table 2 Results of hierarchical regression analyses.

		Standardized regression coefficient					
Performance		Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Step 1	Organization tenure	0.27*	0.24*	0.25*	0.23*	0.24*	0.24*
	Organization size	0.07	0.09	0.06	0.09	0.09	0.10
	Hierarchical level	−0.27*	−0.26*	−0.24*	−0.24*	−0.24*	−0.22*
	Ownership	0.07	0.07	0.03	0.05	0.04	0.05
	Industry	−0.05	−0.04	−0.06	−0.07	−0.06	−0.07
	Previous experience	0.21*	0.25*	0.22*	0.22*	0.22*	0.22*
	Strategic managers percentage	0.14	0.13	0.12	0.13	0.13	0.13
	Ability to recruit local manager	0.10	0.11	0.10	0.09	0.09	0.09
Step 2	Degree of localization (DL)		0.05	0.04	0.06	0.05	0.09
Step 3	DL^2			−0.24*	−0.28*	−0.31**	−0.32**
Step 4	Environment uncertainty (EU)				0.05	0.06	0.15
Step 5	DL×EU					0.07	0.10
Step 6	DL^2×EU						−0.32**
R^2 at each step		0.23	0.24	0.28	0.28	0.29	0.40
R^2 change		0.23	0.01	0.04	0.00	0.01	0.11

Total R^2 =0.40, adjusted R^2 =0.33, F=4.61 (p<0.05), df=10, 101.
*p<0.05; **p<0.01.

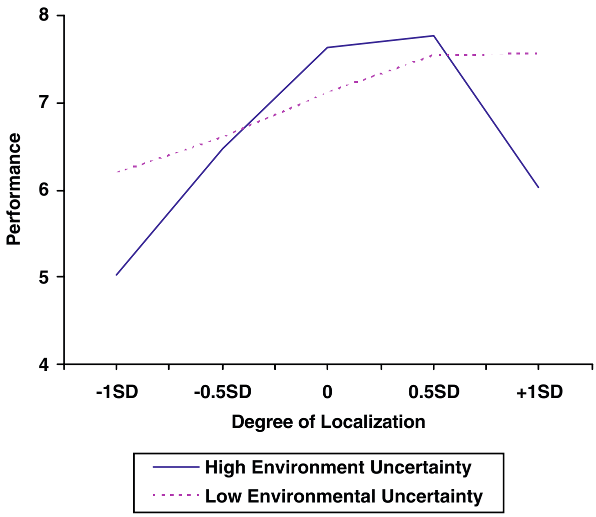
However, at a high level of localization, an increase in localization has a *negative* impact on firm performance. These results provide support for Hypothesis 1. In steps 4 and 5, environmental uncertainty and its interaction with the degree of localization (DL × EU) were entered. These blocks of variables were not significant predictors of firm performance.

Finally, in step 6, the quadratic by linear interaction of degree of localization and environmental uncertainty ($DL^2 \times EU$) was entered. This interaction term had a significant and negative effect on firm performance ($b=-0.32$, $p<0.01$; $\Delta R^2=0.11$, $p<0.01$). This result supports our hypothesis that perceived environmental uncertainty moderates the curvilinear effect of localization on firm performance (Hypothesis 2). To further analyze the possible interaction effects between localization and control variables on performance, the linear interaction effects between localization and organization tenure, industry type and ownership on performance were calculated. The interaction effects between localization and organization tenure ($F=0.093$, n.s.), industry type ($F=0.082$, n.s.) and ownership ($F=0.064$, n.s.) on performance were not significant.

To analyze the localization–performance relationship under different levels of environmental uncertainty, we plotted the relationship between degree of localization and firm performance. As shown in Figure 1, the *X*-axis displayed the degree of localization on a standardized scale from minus one to plus one standard deviations (±1 SD) away from the mean. The two curves represented the localization–performance relationship for two groups of firms whose management perceived that its business was operating in high versus low environmental uncertainty (from a median split).

At a lower degree of staff localization (from minus one standard deviation from the mean), the *positive* slope of the localization–performance curve is *larger* under the condition of high environmental uncertainty than under the condition of low environmental uncertainty. In other words, at a *lower* degree of staff localization, the *positive* impact of an increase in staff localization on firm performance is *stronger*

Figure 1 Regression of performance on degree of localization and environmental uncertainty



under the condition of high environmental uncertainty. Thus, Hypothesis 2a was supported.

At a higher degree of staff localization (from one standard deviations from the mean), the slope of the localization–performance curve is negative and flat under the conditions of high and low perceived environmental uncertainty, respectively. That is, at a higher degree of localization, a negative effect of an increase in staff localization on performance is only observed under the condition of high perceived environmental uncertainty. These results support Hypothesis 2b.

In sum, the relationship between the degree of localization and firm performance follows an inverted U-shaped function. This suggests that excessive reliance on the local staff at the expense of the expatriates, as in a high degree of localization, could have a negative impact on performance. Furthermore, the localization–performance relationship was found to be moderated by the degree of perceived environmental uncertainty. Overseas units operating in unpredictable environments would appear to benefit more from having relatively small numbers of local staff compared to few or no local staff, however, performance may also suffer more when the degree of staff localization becomes excessively high.

Discussion and conclusion

To succeed in an over-supply economy characterized by increasing competition, MNCs need to strategically and prudently deploy all their valuable resources (Li & Peng, 2008). The decision of how much to localize their staff in foreign operations will become a factor that impacts MNCs' future. At an initial stage of staff localization, there are benefits to be gained from replacing expatriates with local staff. These benefits are ostensibly derived from a better relationship with the government, customers, and local employees of the host country, and a significant human resource cost savings. However, our findings indicate that increasing localization beyond moderate levels may be detrimental to organizational performance.

This study filled a void in the international management literature by examining the staff localization–performance relationship at different levels of localization. We found a curvilinear relationship between the degree of localization and organization performance. This curvilinear relationship was also found to be moderated by the degree of perceived environmental uncertainty. Specifically, in an environment with *high* uncertainty, an increase in staff localization among organizations having *lower* degrees of localization was associated with *better* organization performance. However, these organizations operating in an uncertain environment also need to pay closer attention to its degree of localization. A high degree of staff localization for these organizations can dampen their performance, and this does not just reflect diminishing returns to localization. These findings prove to be reasonably robust because we have controlled for the effects of ownership type, organization size, industry type, organization tenure, and hierarchical complexity.

The results have three major implications for organization strategy. First and foremost, MNC executives need to carefully assess their HR policies on staff localization for operations in uncertain business environments. A higher degree of staff localization may save salary costs and possibly enhance goodwill in the host country, but it is not necessarily beneficial to performance and it may even detract from performance. Expatriate staff are often needed to ensure the effective transfer of corporate advantages and control over foreign ventures. Second, even in stable business environments, MNCs need to carefully balance cost savings and subsequent problems resulted from reducing the number of expatriates. In many cases, organization slack and quality deterioration occur once expatriate staff left. In other cases, details concerning quality are compromised and concealed. Third, the study results provide insights for MNCs in emerging economies that recognize the need to develop their local staff. While it is crucial for the organizations to nurture local staff's ability to integrate location advantages with corporate advantages, they also need to incorporate into such development programs skills that enable local managers to effectively channel HQ assets.

This study suggests that an optimal level of staff localization exists because expatriates are key agents for advantage transfers and global control between HQs and their foreign operations. Future research needs to more fully examine the details of this linkage. In particular, characteristics of the processes that are involved in integrating corporate and foreign managers in foreign ventures deserve careful scrutiny. For example, do the methods of reporting local data to HQ influence the quality of integration? Which means of reporting are more effective for aligning local staff interests with HQ control objectives? How should local staff be trained in order to reinforce their advantages over expatriates while also developing a sufficiently corporate orientation? Can local managers maintain their credibility with lower level employees without falling prey to aspects of the local culture that are out of sync with corporate goals and strategy? The task of obtaining the proper data for these types of studies will be challenging, but such studies may ultimately show that very high levels of staff localization can be implemented effectively when suitable management practices are pursued.

There are a number of limitations of this study. First, cross-sectional survey data have a number of obvious limitations that are almost hackneyed in research critiques. Whereas claims regarding direct causality cannot be based directly on these data, the rather complex nature of the interactions makes certain validity threats associated with cross-sectional survey reports, such as priming, consistency, and social desirability artifacts, somewhat difficult to reconcile. Second, our study focuses on the PRC. While the PRC is the world's most populous emerging economy and its entry to WTO draws unavoidable attention, our findings need to be replicated in other emerging economies. Different results may even be expected in the same economy in the near future as organizations learn more about how to localize management team more effectively. Indeed, unguarded acceptance of the arguments and findings of this study might unwisely justify a more "imperial" approach to the management of overseas operations. At most, this study provides a cautionary note about proliferation of localization programs among companies that do not fully comprehend the implications for their corporate control practices.

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