

## Expatriate Managers in International Joint Ventures

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*This study examines multinational corporations' (MNCs) use of expatriate managers as a control mechanism in their international joint ventures (IJVs). Expatriate managers allow for local market flexibility and customer responsiveness while fulfilling MNCs' purpose of control. Drawing on the transaction cost economics theory (TCE), we developed a set of hypotheses regarding factors that influence IJVs' use of expatriate managers. Consistent with the TCE theory that argues firms should align their governance structures with characteristics of the transactions, our analysis reveals that it is IJVs' characteristics and not those of the parent firms that significantly affect the use of expatriate managers.*

**Keywords:** *Expatriate Managers, International Joint Ventures, Control, Cooperation*

### 1. INTRODUCTION

For the past three decades, MNCs' foreign subsidiaries have played a critical role in world economic development. By 2001, they hired approximately 54 million employees across the globe. Their sales of almost \$19 trillion were more than twice as high as world exports. MNCs accounted for more than one-tenth of the world's total GDP and one-third of the world's total exports (UNCTAD 2002).

Expatriate managers play an irreplaceable role in MNCs' control strategies over foreign subsidiaries (Kobrin 1988; Torbiörn 1994). Control is a central concept in both organization theory and transaction cost economics (TCE) (Williamson 1975), most notably in international joint ventures (IJVs) which involve highly idiosyncratic assets (Luo 2002). It is an essential component of managerial functions responsible for ensuring that parent firms' goals is met and deviations from standards are corrected for effective performance outcomes (Fenwick et al. 1999). IJV control is indispensable for a successful, cooperative IJV relationship. While cooperation is a necessary complement that overcomes the limit of IJV control and nourishes continuity and flexibility when changes and conflicts arise (Luo 2002), IJV control establishes institutional frameworks and organizational settings that guide, nurture, and strengthen the course of cooperation.

Since IJVs typically operate in diversified and complicated international business environments, formal control mechanisms in the form of standard rules, procedures, and regulations are not viable. Parent firms have to introduce informal control mechanisms that allow for local market flexibility and customer responsiveness. Many authors observed the important role of expatriate managers in fulfilling parent firms' purpose of control (Torbiörn 1994). By staffing IJVs' top management positions with a certain proportion of expatriate managers, parent firms can maintain effective control while meeting the simultaneous needs of flexibility and local responsiveness (Torbiörn 1994; Welch et al. 1994; Roth 1995).

The use of expatriate managers, however, is associated with a number of problems. Studies reveal that expatriate managers are very expensive (Joinson 2002). One estimate of the direct costs of expatriate managers is three times the domestic salary plus relocation

expense, which runs as high as \$150,000 per person (Birdseye and Hill 1995). They suffer from individual and family adjustment problems (Clarke and Hammer 1995), difficulties in maintaining productive and satisfying social relationship with local employees (Clarke and Hammer 1995), poor job performance (Harvey 1985), and a high rate of premature return (Shay and Tracy 1997). Reports show that 20% to 40% U.S. expatriates return prematurely if assigned to a developed country. The number can go as high as 70% when expatriates are assigned to a developing country (Shay and Tracy 1997). This is a rate much higher than that of the domestic turnover. An estimate of the direct cost for premature return is between \$250,000 and \$1 million per person (Shay and Tracy 1997). Furthermore, the business practices and culture in foreign host countries can be very different from those of the home countries (Kang 1990). For instance, in Japan, it is extremely difficult for foreigners to understand the intricate relationships that drive business and government decision process. The business relationships take time to cultivate and they must go through a complex maze of closed business communities, tradition-bound business customs, and interpersonal relations (Kang 1990). These problems potentially lead to damaged relations with clients, reduced productivity and efficiencies, lost sales, lost market share, weakened competitive position, unstable corporate image, and tarnished corporate reputation (Naumann 1992).

As both pros and cons are weighed for using expatriate managers to fill IJVs' top management positions, it is imperative to study factors that relate to IJVs' use of expatriate managers. Nevertheless, in contrast to the expansive literature dealing with the selection, training, compensation, and cross-cultural adjustment of expatriate managers, there are surprisingly few empirical studies investigating factors that influence IJVs' use of expatriate managers. Consequently, it is important to do an empirically study on IJVs' use of expatriate managers. In this study, we developed a set of hypotheses based on TCE. These hypotheses were tested on a sample drawn from U.S. firms' IJVs in Japan.

## 2. CONCEPTUAL FRAMEWORK AND HYPOTHESES

### 2.1. IJV Control

An IJV is a jointly owned legal entity that brings together two or more legally distinct firms located in different countries in an effort to exploit participating firms' complementary assets. These assets often exist in the form of poorly defined tacit knowledge embedded in organization routines and human skills, which are largely firm and context-specific (Barney 1991). All these features point to knowledge-based proprietary assets or intangible assets. Knowledge-based proprietary assets and intangible assets invariably have a tacit nature that create and replicate assets that rely heavily on learning by doing (Polanyi 1962). They reside in people who operate them and are difficult to articulate. The exchange of these assets through the arm's length deal is problematic because of the consequent failure in the market for "know-how", which is elegantly captured in Arrow's "fundamental paradox" – that these assets' value to the buyer is not known until the buyer has the information, but then the buyer has in effect acquired them without cost (Arrow 1971).

The tacit nature of these assets renders unilateral contract exchanges to be problematic since several contractual hazards will emerge from transactions involving tacit knowledge, particularly those associated with asset specificity, resource interdependency, difficult performance measurement, and uncertainty (Williamson 1996). Because of contractual

hazards, employing contracts for IJVs is “incomplete contracting in its entirety” (Williamson 1996: 9), which may potentially lead to extensive ex post haggling or complete failure of the IJV relationship (Oxley 1997).

The power of courts to address contractual hazards is limited, given the associated difficulties in third-party verification (Oxley 1997). It is especially difficult in the international arena since countries differ in legal systems that protect intellectual property (Mansfield 2000), in addition to differences in their perception of intellectual property and contract (Kearney 1991), and their way of resolving conflict (Kang 1990). For instance, the patent system in Japan has the rapid and efficient dissemination and diffusion of technology as its primary objective, with protection of individual intellectual property rights placed in second (Foreign Affairs and International Trade Canada and Industry Canada 1994; Nakajima and Hamada 1997). In effect, it encourages imitation since Japanese claim interpretation theory permits minor modification (Takenaka 1995). The social context and Japanese perceptions of intellectual property and contract are also different from those of the Americans (Kearney 1991; Nakajima and Hamada 1997). Documents show that Japanese businesspersons rely less on detailed formal contract among themselves than Americans do (Friedman 1996). They depend largely on traditional organizational patterns, social hierarchy and authority to resolve conflicts and adjustment to contracts is relatively flexible (Foreign Affairs and International Trade Canada and Industry Canada 1994). The problem is exacerbated by the relative inefficacy of legal enforcement over IJVs. Transnational lawsuits generally, and U.S. - Japan legal actions specifically, reach an exquisite degree of disutility by the combination of ambiguous conflicts rules, unenforceable probation, difficulty in the choice of law clauses (Gauchi 1995), translation problems, and a paucity in truly adequate bilingual legal experts (Nishino 1995). We have to point out that these observations are not just for Japan but also valid for other countries (Barton 1992; Nakamura and Yeung 1994; Mansfield 2000).

Because of difficulties in the legal enforcement over IJVs, the blueprint of contract law is rarely applied and partner firms are subject to negotiations, compromises, and third-party arbitrations, should conflicts arise. In these situations, parent firms have to align their governance structures with transactions in order to mitigate contractual hazards (Williamson 1996: 3). With the high possibility of contractual hazards in IJVs, parent firms need a certain level of control in order to protect their intangible assets (Nakamura and Yeung 1994; Oxley 1997). By acquiring certain levels of control, U.S. firms can participate in IJVs’ decision-making and gain access to IJVs’ information flows (Oxley 1997). These activities facilitate superior monitoring of IJVs’ activities and can effectively mitigate contractual hazards (Chi 1994; Oxley 1997).

## **2.2. Cooperation and Control**

Cooperation is another central concept for IJVs (Madhok 1995; Chen and Boggs 1998). In an article published in *Academy of Management Review*, Parkhe (1993) criticized that the field of international management failed to address the key issue of cooperation that are “theoretically deemed central to the IJV relationship”. He argued that IJVs are voluntary inter-firm cooperative relationships that depend on coordinated efforts of mutual forbearance. Cooperation reduces transaction uncertainties and incidences of opportunistic behavior (Madhok 1995; Chen and Boggs 1998). It leads to the development of interlinking transactions and contributes to IJVs’ success (Morgan and Hunt 1994).

Cooperation is a precondition for the formation of IJVs. The ultimate purpose of IJVs is to provide partner firms an opportunity to work together in pursuit of mutual benefits. No firm is willing to work with another firm who threatens to cheat and breaches an agreement when opportunities arise.

Cooperation is necessary to overcome the limit of control and nourishes continuity and flexibility when changes and conflicts arise (Luo 2002). IJVs have to adapt since they often encounter unexpected changes regarding future operations and market conditions (Chen and Boggs 1998). The unstable or unpredictable environment brings about conflict, affects partner firms' commitment to the IJVs, and may cause IJVs to fail. IJVs' continuity and evolution depends on partner firms' flexibility and willingness to accommodate the uncertainties and deviations (Das and Teng 1998). IJV control alone is insufficient to guide IJVs through evolution and growth. IJVs' evolution and growth call for continual mutual adaptations to unexpected changes in the external environment. The mutual adaptations require frequent joint decision-making between partner firms (Chi 1994). Studies reveal that, without partner firms cooperating, the bargaining costs associated with joint decision-making can be preventative (Chi 1994). Cooperation, hence, is an indispensable condition for IJVs' evolution and growth.

Cooperation is also indispensable for IJVs' success. IJVs' successes need sustained "best efforts" from partner firms – a standard that is necessarily vague (Gulati 1998). A firm often cannot determine whether its partner is exerting its "best efforts". Even if a firm is certain that its partner is not giving its best efforts, it may be unreasonably expensive or impossible to prove. Because of the difficulties in specifying "best efforts" and proving breaches, partner firms cannot depend on control and legal sanction and greater cooperation is needed (Dent 2002).

Many scholars observed that inter-firm exchanges are typically repeated exchanges embedded in the big social context (Poppo and Zenger 2002). Cooperation emerges from repeated exchanges and the underlying social norms, which regulate partner firms' behavior through coordinated, reciprocal forbearance (Buckley and Casson 1988). It reduces the precise contractual hazards that are targeted by IJV control (Dyer and Singh 1998; Adler 2001; Poppo and Zenger 2002). Indeed, some argue that cooperation operates as a more effective and less costly self-enforcing safeguard against contractual hazard (Adler 2001). This argument raises an important question on whether cooperation can substitute control, and whether control is needed at all in a cooperative IJV relationship.

We submit that control is indispensable even in a cooperative IJV relationship. First, IJV control is an important precondition for cooperation. In an IJV relationship, no one can rely exclusively on cooperation (Luo 2002). Even if a normally virtuous partner may defect when the prospective rewards are high, few firms will accept large losses just to be cooperative (Eggleston et al. 2000). With big investment at stake, "all parties in an IJV relationship have an inalienable de facto right to pursue their own interests at the expenses of others" (Buckley and Casson 1988). An appropriate arrangement of control safeguards are essential for preserving cooperative relationship (Luo 2002).

Second, IJV control establishes the institutional frameworks that guide the course of cooperation. It provides the verification and proof of trustworthiness that are needed in a cooperative relationship. By participating in IJVs' decision-making, IJV control gives partner firms' a sense of security that is needed for them to contribute enthusiastically to the IJVs (Dent 2002). IJV control nails down fundamentals of cooperation and has a norm-creating

value. Most people feel a moral duty to keep their promises even if they would not have felt obliged to behave the same way in the absence of control (Frankel and Gordon, 2001).

Finally, IJV control has the potential to nourish and to strengthen cooperation with the use of expatriate managers. IJV control is often accomplished by putting one's own personnel (expatriates) in IJVs' key management positions. Expatriate managers serve as a direct information linkage between partners firms. They foster smooth communications and provide partner firms a channel to face-to-face interactions. The smooth communication, the frequent, repeated, face-to-face interaction, and an open exchange of information, will enhance mutual understanding, help reduce uncertainty and unpredictability in IJV relationships, and promote cooperation among partner firms (Gulati 1998; Dent 2002).

### **2.3. Expatriates and Control**

According to Max Weber (1946), there are two types of organizational control. Firms can either exert formal, bureaucratic control, or exert informal control through culture and socialization. While formal, bureaucratic control relies heavily on hierarchies, explicit rules, standards, and regulations (Perrow 1972), informal control mainly functions through implicit, organization-wide worldview, customs, traditions, and oral communication (Boyacigiller 1990; Fenwick et al. 1999).

Given the diversity in task and institutional environments, IJVs often face situations that are quite different from those of their parent firms. Standard rules, procedures, and regulations may not be viable and parent firms have to rely more on socialization and organizational culture (Boyacigiller 1990; Torbiörn 1994; Fenwick et al. 1999). To the extent that IJVs' employees are "cultured" and socialized with an identical worldview, parent firms can expect IJVs to make similar decisions under similar circumstances (Boyacigiller 1990). This meets the simultaneous needs of flexibility and local responsiveness while maintaining effective control over IJVs.

However, socializing and transferring culture to IJVs can be very expensive and time-consuming (Boyacigiller 1990). It is almost impossible to "culture" and socialize all or most IJVs' employees. An effective alternative is to place expatriates in IJVs' top management positions (Boyacigiller 1990; Kobrin 1988; Torbiörn 1994). Expatriate managers are more familiar with parent firms' culture and control systems. They produce effective communication and coordination between IJVs and parent firms (Boyacigiller 1990; Torbiörn 1994). They participate in IJVs' daily operations, interact and communicate routinely with other IJV employees and managers, and have full access to both formal and informal flows of information within IJVs. Through communication, coordination, interaction, and monitoring, expatriates managers facilitate superior monitoring of IJVs' activities and can effectively enforce parent firms' influence and serve their purpose of control (Boyacigiller 1990; Torbiörn 1994).

In order to gain IJV control, one simple solution is to fill all IJVs' top management positions with expatriates. This solution, however, is not feasible since an important motivation behind firms' decision to form IJVs with local firms is that they need local firms' complementary assets (Hill and Hellriegel 1994; Nakamura and Yeung 1994). By contributing their complementary assets, local firms desire a certain level of control over the IJVs (Nakamura and Yeung 1994). Consequently, top management positions filled by expatriates are subject to negotiations and compromises between partner firms, which depend on the partner firms' respective bargaining power (Yan and Gray 1994). Partner firms'

bargaining power, in turn, is in proportion to their respective share of equity ownership (Blodgett 1991). Therefore, parent firms' ability to place expatriates in IJVs' top management positions should be positively affected by their share of equity ownership. From a legal perspective, parent firms' share of equity ownership conveys their rights to control. It is a strong determinant of parent firms' degree of management control (Child et al. 1997). A large share of equity ownership will grant parent firms the power to place more expatriates in IJVs' top management positions. Therefore:

Hypothesis 1: There is a positive relationship between parent firms' share of equity ownership and the use of expatriate managers in IJVs.

### 2.3.1. *R&D Intensity*

Previous studies of IJV control often use parent firms' R&D intensity as a significant independent variable to explain variations in parent firms' level of control (e.g. Anderson and Gatignon 1986; Gomes-Casseres 1989; Hennart 1991, to cite a few). The logic is that the higher the R&D intensity, the more proprietary assets will be at stake and the more control parent firms will need to acquire in order to protect their proprietary assets (Gatignon and Anderson 1988; Hennart 1991). Following this line of thinking, we expect that the use of expatriate managers will be positively related to parent firms R&D intensity. Hence:

Hypothesis 2: There is a positive relationship between parent firms' R&D intensity and the use of expatriate managers.

### 2.3.2. *IJV Age*

Age is an important variable in organizational studies. New IJVs are associated with the "liability of newness" due to a lack of shared values among new employees, the weak communication paths, the fragile trust between partner firms, and the uncertainties in the new environments. In dealing with the "liability of newness", parent firms tend to exert tight control and have heavy reliance on expatriate managers during the initial stages of IJVs' evolution (Hosler 1991). Expatriate managers play major roles in communicating with parent firms. They facilitate the development of cooperation between partner firms, serve as the agents to transfer parent firms' norms and values to IJVs, and help monitor fluctuations in the new environment. Over time, as systems and practices are imparted and IJVs start to follow the planned trajectory, expatriate managers' role will decline (Downes and Thomas 2000). Combined with expatriate managers' prohibitive cost and high failure rate, it will open up doors for hiring more local managers (Kobrin 1988; Shay and Tracy 1997; Joinson 2002). Therefore, IJV age should be negatively related to the use of expatriate managers in IJVs. Thus:

Hypothesis 3: There is a negative relationship between IJV age and the use of expatriate managers.

### 2.3.3. *IJV Size*

According to TCE, the shared investment in IJVs operates an effective hostage for partner firms. IJVs' value depends on the continued operation of IJVs and partner firms' respective contribution is at best only partially redeemable should IJVs cease to operate (Oxley 1997). Compared to small IJVs, large IJVs imply that more resources will be at stake. They constitute a strong mutual hostage position for partner firms. The strong mutual hostage position promotes mutual trust, reduces potential conflicts, stabilizes the cooperative relationship, and limits opportunistic behavior (Williamson 1996: 120). Therefore, parent firms of large IJVs tend to have a low need of control and are expected to use fewer expatriates to fill IJVs' top management positions.

Hypothesis 4: There is a negative relationship between IJV size and the use of expatriate managers.

### 2.3.4. *Control Factor: Industry*

There is a well-developed industrial economics theory that seeks to explain variations in control patterns across different industries (Dunning 1993). According to this theory, industries are different in terms of product differentiation, technical capacity, skill intensity, capital requirements and scale economies (Dunning 1993; Rathayake 1993). For instance, Westney (1994) suggest that, relative to other industries, chemical firms in the U.S. have an overwhelming competitive advantage over their Japanese counterparts in terms of patents. Studies found that differences in industries significantly affect IJVs' control structures (Auster 1992; Dunning 1993). While investing firms in highly concentrated industries (oligopolies) tend to use more control (Graham 1985; Casson 1987), firms in highly competitive industries are more likely to use low control modes to expand internationally (Anderson and Gatignon 1986, Gomes-Casseres 1989). In this study, the influence of industry factors will be controlled by introducing four dummy industry variables.

## 3. RESEARCH METHOD

### 3.1. **Data**

Data for this study were collected from multiple sources. Information on IJVs was drawn from Foreign Affiliated Companies in Japan (Toyo Keizei 1991). Foreign Affiliated Companies in Japan is a data series published by Toyo Keizei Shimposha since 1970. It is compiled from surveys of senior Japanese managers in foreign affiliated companies and from publicized information (Toyo Keizei 1991). Foreign Affiliated Companies in Japan has enjoyed increasing acceptance among academic researchers (Makino and Delios 1996).

The data used in the present study came from a survey conducted by Toyo Keizei in December 1990. The questionnaire was sent to 3,635 foreign affiliated companies in Japan. 2,344 companies responded with a response rate of 64%. Information on non-responded companies was supplemented by other publicly available information. This increased the number of companies to 3,088 and covers 85 percent of foreign affiliated companies in Japan. This study concentrated on manufacturing IJVs formed between U.S. and Japanese

companies. To make things simpler, IJVs that have more than two partners were excluded from the sample. This resulted in a sample of 233 observations. A further step removed IJVs that were less than two years old and this reduced the sample size to 223 observations. The problem of reporting bias should be limited since foreign affiliated companies are required by law to provide information and published information is readily available in Japan.

Data on U.S. firms' R&D intensity were collected from COMPUSTAT. COMPUSTAT is a database compiled by Standard and Poor's Inc. It provides accounting and financial data for over 6,000 public corporations that have their shares traded on New York, American, NASDAQ, or over-the-counter stock exchanges. In their evaluation of various archival data sources, Davis and Duhaime (1992) concluded that COMPUSTAT is a very useful but underexploited source of archival financial data. COMPUSTAT offers data for every year from 1978.

### 3.2. Measurement

*The Use of Expatriate Managers:* The use of expatriate managers is measured by the proportion of expatriate managers, which is calculated by dividing the number of U.S. expatriate managers by the total number of managers in the IJV's top management team.

*Ownership:* Ownership is measured by the U.S. firm's share of equity ownership in the IJV.

*R&D Intensity:* R&D intensity is measured by the U.S. firm's R&D expenditure as a percentage of total sales.

*IJV Age:* IJV age is measured by the calendar years from the time the IJV starts operation to the time the data were collected.

*IJV Size:* There are three widely accepted measures of firms' size: firms' sales, firms' number of employees, and firms' total capital (Hall et al. 1967; Aulakh et al. 1998; Contractor and Kundu 1998). We consider firms' sales an inappropriate measure of firms' size since firms' size is one important dimension of firms' organizational dimension and firms' sales is more of an indicator of firms' performance. In empirical studies, firms' number of employees and firms' total capital are both good indicators of firms' size since they are highly correlated with one another. This study chooses to use IJVs' number of employees to measuring the size of the IJV.

*Control Factor:* In this study, we introduced four dummy variables to control for the industry effects. The dummy variable for chemical and allied industry is coded if the IJV operates in chemical and allied industry, and zero otherwise. The dummy variable for computer and electronics industry is coded if the IJV operates in the computer and electronics industry, and zero otherwise. The dummy variable for machinery industry is coded if the IJV operates in the machinery industry, and zero otherwise. The dummy variable for other industries is coded if the IJV operates in paper, food, glass, ceramics, forestry industries, and so on, and zero otherwise.

Table 1 presents descriptive statistics and the Pearson correlation matrix between all related variables.

**Table 1.** Descriptive Statistics and Pearson Correlation Matrix (N=223)

Variables	Mean	S.D.	1	2	3	4	5	6	7	8
1. Proportion of expatriate managers	.28	.17								
2. U.S. firm share of ownership	.51	.13	.28**							
3. U.S. firm R&D intensity	.04	.04	-.02	.06						
4. IJV age	20.87	13.90	-.28**	-.13*	-.13					
5. IJV size	592.40	1880.94	-.31**	-.15*	-.01	.42**				
6. Dummy for chemical industry	.37	.49	-.20**	-.54**	-.10	.19**	.10			
7. Dummy for computer and electronics industry	.23	.42	.09	.03	.06	-.14*	-.01	-.43**		
8. Dummy for machinery industry	.18	.38	.02	-.02	-.01	-.06	-.06	-.36**	-.26**	
9. Dummy for other industries	.21	.41	.13	.69	.07	-.03	-.05	-.40**	-.29**	-.24**

\* p<0.05; \*\*p<0.01

#### 4. RESULTS

Based on our hypotheses, the statistics model can be specified as:

$$\text{Proportion of Expatriates} = f(\text{ownership, U.S. firms' R\&D intensity, IJV age, IJV size, U.S. firm's size, the dummy for chemical industry, the dummy for computer and electronics industry; the dummy for machinery industry})$$

The dummy variable for the other industry was not entered in this model since this permits us to treat the other industry as a base case and the effects of the remaining industries can be measured relative to it (Jobson 1991: 314).

We tested this model on 223 IJVs formed between U.S. companies and their Japanese partners. We performed standard regression analysis with SPSS and Table 2 presents results from the regression analysis. This model generated a reasonable R square of 0.182. The adjusted R square is 0.151. This model's F statistic is 5.935 with a p value below the .000 level, which implies that the model significantly predicts the uses of expatriate managers.

**Table 2.** Results of Regression Analysis (N=223)

	Standardized Coefficients	t-value	p-value
<i>Independent variables</i>			
U.S. firm share of ownership	.24	2.60	.01**
U.S. firm R&D intensity	-.06	-.91	.37
IJV age	-.16	-2.21	.03*
IJV size	-.21	-2.95	.00
<i>Control variables</i>			
Dummy for chemical industry	.08	1.07	.29
Dummy for com. And electronic industry	.03	.36	.72
	.04	-.37	.71
<b>Model Fit:</b>			
Model F statistic	6.461		
p-value	<.000		
R-square	0.174		
Adj. R-square	0.147		
<b>Multicollinearity Diagnostics:</b>			
Condition Index	1.00	2.02	2.03 2.09 3.60 5.87 16.48

\* p<0.05; \*\* p<0.01

According to Table 1, the correlation coefficients between some independent variables are very high (e.g. .42 between IJV Age and IJV Size), which suggests potential multicollinearity problems. It prompts us to examine the multicollinearity diagnostic in order to detect possible multicollinearity problems. The multicollinearity condition number is the most commonly used multicollinearity diagnostic. If the multicollinearity condition number is less than the critical value of 100, multicollinearity is not considered to be a problem, while if multicollinearity condition number exceeds 1000 the multicollinearity is considered to be severe (Jobson 1991: 281). Table 2 presented the multicollinearity condition numbers of the regression. They ranged between 1.00 to 16.48 and are far below the critical value of 100. Therefore, in this study, the threat of multicollinearity is not a problem.

As illustrated in Table 2, U.S. firms' share of equity ownership is significantly and positively associated with the proportion of expatriate managers. This indicates that a large share of equity ownership acquired by U.S. firms will enable them to fill IJVs' top management positions with more expatriates. IJV age is found to be negatively related to the proportion of expatriate managers, which implies that expatriate managers' role declines as IJV matures and they will gradually be replaced by local managers. IJV size is negatively and significantly related to the proportion of expatriate managers. This is consistent with our hypothesis that big IJV size constitutes a stronger mutual hostage position for partner firms, which leads to the use of fewer expatriates in IJVs' top management teams.

U.S. firms' R&D intensity, however, does not significantly link up with the proportion of expatriate managers, which suggests that there is no significant direct relationship between U.S. firms' specific characteristics and the use of expatriate managers. Table 2 also shows that the use of expatriate managers does not vary much across different industries.

In sum, this study provides strong support for Hypotheses 1, 3 and 4, but not Hypotheses 2.

## 5. DISCUSSION AND CONCLUSION

The purpose of this study is to investigate factors that influence parent firms' use of expatriates in IJVs' top management teams. Using a sample drawn from U.S. firms' IJVs in Japan, we found that IJVs' characteristics are significantly related to the use of expatriates. A large share of equity ownership enables U.S. firms to place more expatriates in IJVs' top management positions. IJV age has a negative effect on U.S. firms' use of expatriate managers that expatriate managers' role declines as IJV matures. IJV size is negatively related to the use of expatriate managers in that large IJVs constitute a strong mutual hostage position for partner firms and parent firms of large IJVs tend to use fewer expatriates in IJVs' top management teams. However, we failed to find a statistically significant regression coefficient for U.S. parent firms' R&D intensity.

These results reveal an important finding of the current study: that it is IJVs' characteristics and not those of the parent firm that determine the use of expatriate managers. This is consistent with TCE's argument that the transaction should be the basic unit of analysis (Williamson 1996: 6). While U.S. firms' R&D intensity measures parent firms' investment in R&D, and hence a good proxy of parent firms' level of intangible assets (Hennart 1991; Morck and Yeung 1991), it might not be directly related to the quality and the amount of intangible assets that are transferred from parent firms to IJVs (Mansfield 2000). Parent firms with high R&D intensity may transfer a small amount of intangible assets to IJVs and parent firms with low R&D intensity may transfer more intangible assets to their IJVs. Hence, parent firms' R&D intensity is a measure of parent firms' characteristics, but not necessarily a good measure of the characteristics of the transaction. Therefore, results of this study confirms that it is attributes of the transaction (i.e. the IJV) and not those of the participating firm as a whole that determine the mode of governance in IJVs.

This might as well explain the insignificant industry effect we observed in this study. Here, we see no significant variation in the use of expatriate managers across different industries. Parallel to TCE's argument that the transaction should be the basic unit of analysis, U.S. firms should align control mechanism with attributes of the transaction and not industry level characteristics. No matter what industry the IJVs may operate in, U.S. firms face similar challenges from contractual hazards and uncertain environments. Correspondingly, the mechanisms of control adopted by U.S. firms would be similar across different industries. Consequently, U.S. firms' use of expatriate managers should be affected by characteristics of the transaction (i.e. the IJV) and not by IJVs' industry.

The major limitation of this study is the lack of data on intangible assets transferred from U.S. firms to their IJVs. Such data are of central importance to the TCE explanation of different modes of governance and will shed light on the use of expatriate managers. However, such data require detailed information on the type of intangible assets, the value and level of advancement relative to the state of the art, as well intangible assets' level of tacitness. It goes well beyond the scope of this study and is clearly a useful undertaking for

future research. In addition, this study did not address the influence of country factors. Country factors such as political risk, cultural distance, government policy, legal system, and intensity of competition, are exogenous factors that firms have to consider when penetrating foreign markets. Although the restriction of our study to U.S. - Japanese IJVs helps control variations among different countries, these country factors may have significant impact on firms' expatriate policies. This is another area worthy of future investigation.

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