

**Capability Exploitation and Upgrading in IJVs:
A Contingency Approach**

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ABSTRACT Dynamic capability perspective has recently emerged as a critical *perspective* toward strategic behaviours and performance consequences for firms in international competition. This study investigates (1) how capability exploitation and upgrading are associated with IJVs' financial and competitive outcomes in an emerging market, and (2) how the two organizational variables, inter-partner cooperation and autonomy, moderate the effect of capability exploitation and upgrading on IJV performance. Results suggest that IJVs in a foreign emerging market tend to perform better in both financial and competitive terms when they possess greater abilities to exploit current resources contributed by foreign and local partners as well as to continuously upgrade and develop new capabilities. Moreover, capability exploitation and upgrading interact in such a way that they "reinforce" each other, supporting the notion of "ambidexterity". Lastly, the contribution of capability exploitation and upgrading to IJVs' performance is stronger when cooperation is superior and IJVs enjoy the autonomy.

Key Words: IJV; Dynamic Capability; Emerging Market

INTRODUCTION

In recent years, the rate of IJV (international joint venture) formation has continued to increase steadily, particularly in the emerging markets located in Asia, Eastern Europe and Latin America. These emerging markets account for about seventy percent of all IJVs' entries by multinational corporations (*World Investment Report*, 2004). However, in spite of the popularity of IJV as a foreign market entry mode, many IJVs in these markets failed (in financial and competitive terms). As a result, several studies adopting different theoretical perspectives, such as transaction cost economics, agency theory, resource-based view, organizational learning logic, knowledge-based paradigm, and social exchange theory, have been conducted to explore the underlying reasons and determinants of the success and failure of these IJVs. In particular,

resource-based and knowledge-based views hold that an IJV's resource acquisition, or its capabilities, is critical to IJV success (Inkpen and Beamish, 1997; Lyles and Salk, 1996).

Evidently, these perspectives and related empirical efforts have offered rich insights regarding the importance of resource possession (including interpartner sharing) for IJVs. However, a gap still remains: most previous studies have investigated knowledge or resources transfer between partners (i.e., capability acquisition or possession) but have not yet systematically explored the importance of how acquired or shared resources and capabilities are further exploited in IJVs (capability exploitation) and how new resources and capabilities are upgraded and built (capability upgrading). From the dynamic capability perspective, capability exploitation is essential because it converts an IJV's capability possession into its financial and competitive outcomes. Compared to other entry modes, such as wholly-owned subsidiary, an IJV's capability exploitation is more complex because it involves integration of different partners' resources in the course of exploitation. More importantly, capability is not static but rather requires continuous upgrading and new capability building. Continuous reliance on an IJV's parents for resources may disrupt its learning and adaptation in a dynamic emerging market. IJVs are not just conduits for transfer of existing resources and capabilities from parents, but could be centres of excellence for generating new capabilities. They could learn and generate new resources and capabilities to continuously renew their competitive advantage in an emerging market. Mere static dependence on parents for resources and capabilities cannot ensure sustainable financial and competitive positions.

This study attempts to address the significance of dynamic capability in IJVs in a major emerging market - China. We theorize on the proposed significant relationship between dynamic capabilities and IJVs' performance in China by *delineating emphasizing* how the two dynamic capability dimensions are associated with the IJV's financial and competitive outcomes both independently and interactively. Since the key dynamics of any IJV centre on *interpartner cooperation* and the key feature defining IJVs in an emerging market is *autonomy*, this study also

seeks to understand how these two unique conditional factors that describe an IJV setting and an emerging market environment, respectively, play their roles in shaping the relationships between dynamic capability dimensions and financial and competitive consequences. Emerging markets create new opportunities for foreign investors due to their economic growth and liberalization, but market transition is accompanied by great structural uncertainty and regulatory change. This study uses China as a data-analytical setting to *verify* our propositions that may conceptually apply to IJVs in emerging markets in general.

THEORETICAL DEVELOPMENT AND HYPOTHESES

Dynamic Capability Perspective

Dynamic capability can be defined as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environment (Teece et al., 1997). It requires the capability to extract economic benefits from current resources and to develop new capabilities. According to this perspective, a firm's competitive advantage is seen as resting on distinctive processes (ways of coordinating and combining) shaped by the firm's specific asset positions (such as the firm's portfolio of difficult-to-trade knowledge assets and complementary assets), and the evolution path(s) it has adopted or inherited (Teece et al., 1997). It emphasizes the capability to coordinate, combine, and reconfigure the resources/assets as well as developing new resources/assets to generate competitive advantage, given the firm's path dependences and market positions. Furthermore, the managerial process and learning are highlighted (Teece, 1998). In this study, we define capability in *consistent* with previous studies (e.g., Tallman, 1992; Luo, 2000; Tallman and Fladomoe-Lindquis, 2002): Capabilities or resources (interchangeably used in this study) consist of not only strategic capabilities, which include technological attributes (e.g., patents, proprietary designs, and process innovation) and operational attributes (e.g., marketing capabilities, distribution networking, supply base, and government relations), but also organizational resources or capabilities, such as managerial skills, coordination ability,

organizational structure effectiveness, industrial and international experience, and organizational control.

Other researchers define dynamic capability in similar ways. For instance, Grant (1996) and Pisano (1994) view dynamic capability as the antecedent organizational and strategic routines by which managers alter their resources base – acquire, integrate, and recombine resources – to generate new value-creating strategies. As such, they are the drivers behind the creation, evolution, and recombination of other resources into new sources of competitive advantage (Henderson and Cockburn, 1994). Eisenhardt and Martin (2000) define dynamic capability as the firm's processes that use resources – especially the processes to integrate, reconfigure, gain and release resources – to match and even create market changes. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configuration as markets emerge, collide, split, evolve, and decline.

In Teece et al., (1997)'s seminal framework, dynamic capability consists of organizational and managerial processes with three roles: coordination/integration (a static concept); learning (a dynamic concept); and reconfiguration (a transformational concept). Coordination/integration refers to the process by which firms efficiently and effectively integrate internal and external resources and competences. Learning refers to the process by which repetition and experimentation enable tasks to be performed better and better. Reconfiguration refers to the ability to sense the need to reorganize the firm's asset structure, and accomplish the necessary internal and external transformation. Similarly, Eisenhardt and Martin (2000) conceptualize dynamic capabilities as capabilities which i) integrate resources, ii) focus on reconfiguration of resources within firms, and iii) include knowledge creation routines whereby managers and others build up new resources and knowledge. Focusing on the international setting, Luo (2002a) and Tallman and Fladmoe-Lindquist (2002) conceptualize dynamic capabilities as consisting of two dimensions: capability exploitation and capability upgrading. Capability exploitation concerns the extent to which a firm exploits rent-generating resources that are firm-specific,

difficult to imitate, and able to generate abnormal returns while capability upgrading involves the extent to which a firm commits to building new capabilities through learning from organizations, creating new skills, or revitalizing existing skills in new situations. According to Luo (2002a), capability exploitation is critical for gaining competitive advantages and determining strategies for exploiting such advantages while capability upgrading ensures the growth of sustainable competitive advantage and generates new bundles of resources. Collectively, dynamic capabilities determine a firm's ability to create and use organizationally embedded resources in pursuit of a sustainable competitive advantage in a global marketplace (Tallman, 1992).

The above conceptualizations proposed by different authors are rather consistent. The three dimensions proposed by Teece et al. (1997) and Eisenhardt and Martin (2000) could further be integrated into two dimensions: (1) coordination/integration and transformation/reconfiguration could be merged as capability exploitation because they are both concerned with effectively exploiting existing resources and capabilities, and (2) the learning dimension is equivalent to capability upgrading in that it is primarily concerned with the upgrading and generation of new resources and capabilities. Although the newly generated resources and capabilities need to be integrated with the existing resources and capabilities and jointly exploited to confer competitive advantage, it is conceptually necessary to make a distinction between the two dimensions (capability exploitation and capability upgrading).

Dynamic Capability in IJVs

Within the setting of an IJV, capability exploitation focuses on combining, integrating and (re)configuring parent-pooled resources so that these resources are best blended and utilized to create value-adding products and/or services. Capability upgrading focuses on developing new resources and capabilities to renew an IJV's competitive advantage. Firms from different countries enter into these collaborative relationships because they are expected to yield superior value relative to alternate organizational forms in certain situations, offering potentially synergistic combinations of complementary resources and capabilities. However, such

relationships are frequently prone to failure because the partner firms tend not to recognize ex ante the complexity of blending and integrating transaction-specific investments undertaken by different parties (Madhok and Tallman, 1998). In Day's (1994) words, joint ventures need the competence that "glues", or brings resources together and allows them to be deployed advantageously. The resources from partners are developed within their respective parents through a unique path and embedded within their respective parents. To some extent, the resources are both location-bound and firm-specific (Rugman and Verbeke, 1992). When resources from foreign and local partners are pooled together, they are neither easily nor spontaneously integrated due to the stickiness (or tacitness) and embeddedness of knowledge itself (Kogut and Zander, 1995; Szulanski, 1996) and the compatibility and complementarity between different parent-contributed resources (Lado et al., 1997; Madhok, 1997). Thus, capability exploitation, if equipped, is a key element of broadly defined "joint venture competence" that combines complementary resources in a manner that contributes to venture success (Dyer and Singh, 1998; Lambe et al., 2001). Research on mergers and acquisitions (M&A) documents that post-merger and post-acquisition resource integration is vital to ongoing M&A success (Datta, 1991; Harrison et al., 2001).

The classical international business theories argue that firms are motivated to go overseas to exploit their ownership-specific advantage, but fail to elaborate on the importance of capability upgrading. The success of a global business depends not merely on possessing and deploying capabilities, but also on learning and acquiring new knowledge (Luo, 2000). Capability upgrading is a key building block and a major source of sustained competitive advantage. These advantages are only possible when firms continuously reinvest in building new resources (Teece et al., 1997). Levitt and March (1988) define organizational learning as the processes by which organizations encode experiential inferences into behaviour routines. March (1991) distinguishes between upgrading and exploitation in organizational learning: Explorative learning is characterized by seeking out variation, taking risks, experimenting, being flexible, discovering,

and innovating, whereas exploitation focuses more on making and refining choices, increasing production efficiency, and implementing and executing strategies. Cantwell (1995) confirmed that companies are active in developing new capabilities abroad so as to better exploit locationally differentiated potential of foreign resources and opportunities. The enhanced capability building that results from organizational learning and combinative innovations ensures on-going growth of the firm, while the firm's initial stock of knowledge may well become the intangible asset that makes it a potential partner in the first place (Chang, 1995). When IJVs operate in an emerging market, capability upgrading is essential. Building new resources and capabilities facilitates the responsiveness, flexibility and innovativeness for market-seeking IJVs. This is imperative because (1) an increasingly competitive environment in emerging markets makes building and sustaining a competitive advantage increasingly difficult. Competition comes from not only foreign competitors, but from increasingly competitive local rivals, and (2) a changing business environment, dynamic competitive forces and institutions, and unique and changing customer needs all imply that an IJV's ownership advantage may erode over time.

Dynamic Capability and IJV Performance

With the above concepts and theories being discussed, we expect that capability exploitation and capability upgrading will directly influence an IJV's financial (e.g., ROI and ROA) and competitive (e.g., market share and competitive position) outcomes, the two most important aspects of IJV success in an emerging market (Beamish and Jiang, 2002; Luo and Park, 2004). Henderson and Cockburn (1994) distinguished between 'component' and 'architectural' competence, showing that together, the two forms of competence appear to explain a significant fraction of the variance of research productivity across firms. In the context of IJVs, we view resource possession as 'component' competence and capability exploitation as 'architectural' competence. Component competence is difficult to exploit when differences in cultural contexts make synergies among business units more difficult to achieve. Similarly, Doz et al. (2003) argue that in new metanational firms, knowledge-melting is not simply juxtaposing pieces of

knowledge, but a process of transformation by which new knowledge is created through the interaction and integration of knowledge that was previously dispersed and diverse. One way to do this is to establish a knowledge architecture that defines what pieces of knowledge need to be used where and how they interrelate with one another. Drawing on the same logic, the ability to melt the resources from foreign and local partners will determine the optimal integration and reconfiguration. Thus, superior capability exploitation allows the IJV to make better use of current resources, thereby fully realizing the potential of current resources along the venture's value chain, and accordingly generate superior financial and competitive outcomes. In contrast, inability to integrate and reconfigure resources from foreign and local partners leads to value erosion and might not derive maximum gains in financial and competitive terms.

To some extent, whether an IJV could realize the desired synergy depends on the ability to deploy, leverage and utilize resource complementarity (Lado et al., 1997). The 'architectural' role played by capability exploitation is particularly important for IJVs to achieve financial and competitive gains in emerging markets. This is because the differences in strategic orientation, perceived importance of customer satisfaction, value chain integration, and managerial styles between foreign and emerging market partners are immense and prolonged (Yan and Gray, 2001). These differences could provoke friction in resource combination (Anand and Delios, 2002; Datta, 1991). Thus, with a distinctive capability of resource exploitation in place, the IJV will set itself apart from peer companies in maximizing returns from existing resources. This discussion leads us to propose:

H1. When operating in a foreign emerging market, an IJV's (a) financial outcome and (b) competitive outcome will improve as its capability exploitation improves, ceteris paribus.

It is logical to argue that an IJV's financial and competitive outcomes improve with its capability upgrading. Mere transfer and exploitation of resources and capabilities does not suffice to create and sustain competitive advantage in a dynamic environment. The ability to continuously 'morph' is a vivid expression, showing the importance of continuous innovation,

renewal and constructive destruction. This is particularly crucial for foreign entrants in emerging markets since foreign companies need to be more innovative and adaptive than local companies in order to offset their liability of being foreign and compensate for their disadvantages in the lack of governmental supports (Luo, 2002b).

Even when IJV partners succeed in resource integration and capability exploitation, it is essential to develop new capabilities and create new bundles of distinct resources suited to an increasingly disparate and rapidly changing emerging market (Lu, 2001). Most skills and competencies needed to fortify IJVs' competitive advantages in foreign emerging markets cannot be bought (Luo, 2002b). Rather, IJVs have to painstakingly learn, adapt, upgrade and develop new capabilities. Under the current competitive environment in BRICs (Brazil, Russia, India and China), for instance, it is particularly important for IJVs to build new competencies such as brand, innovation, distribution, human capital, and social capital, etc. (Perez et al., 1995). Building new competences by localizing R&D is one common approach to sustain IJVs' competitive hold. Such efforts improve proximity and responsiveness to local customers and increase speed to market. This in turn promotes an IJV's financial and competitive position. To nurture capability upgrading, IJVs need to create an encouraging climate to institutionalize innovation, learning and information transfer to support continuous improvement in the value-added chain as well as fundamentally renewing and revitalizing themselves over time. Firms with high levels of motivation and capacity to learn should be more likely to gain experiences from different situations; this makes them more likely to do business abroad than more defensive firms using a static resources exploitation strategy (Vermeulen and Barkema, 2001). According to the above, we hypothesize:

H2. When operating in a foreign emerging market, an IJV's (a) financial outcome and (b) competitive outcome will improve as its capability upgrading improves, ceteris paribus.

Interaction between Exploitation and Upgrading

Building on March's initial premise that organizational adaptation requires both exploitation and exploration to achieve persistent success, some studies have concluded that the answer lies in "ambidexterity" (Benner and Tushman, 2002). Ambidexterity refers to the synchronous pursuit of both exploration and exploitation via loosely coupled and differentiated subunits or individuals, each of which specializes in either exploration or exploitation. As March (1991) noted, the essence of exploitation is the refinement and extension of existing competences, technologies, and paradigms while the essence of exploration is experimentation with new alternatives. He and Wong (2004) empirically tested the positive interaction effect between explorative and exploitative innovation strategies on firm performance. They found that relative imbalance between explorative and exploitative innovation strategies is negatively related to firm performance. In sharp contrast, when firms are ambidextrous in terms of innovation strategies, firm performance is substantially enhanced as compared to the case when firms excel in either explorative innovation or exploitative innovation.

In the context of IJVs, we define ambidextrous IJVs as the IJVs which excel in both exploitation of the current resources and capabilities from parents AND exploration and upgrading of new resources and capabilities simultaneously. IJVs couldn't lack either dimension if they are to remain competitive. IJVs which excel in exploitation but not upgrading will see their competitive advantage erode over time while IJVs which excel in upgrading but not exploitation will see their new competences under-perform. Upgrading could constantly bring in new resources and capabilities while exploitation will ensure the maximization of the utilization. Hence, we hypothesize:

H3. There is a positive interaction effect between capability exploitation and capability upgrading on an IJV's (a) financial outcome and (b) competitive outcome.

Moderating Effects of Organizational Environments

The dynamic capability perspective holds that a given amount of capability exploitation and capability upgrading can generate greater economic rents if these dynamic capability dimensions

are better aligned with external and internal environments (Luo, 2000; Teece et al., 1997). This important yet unverified notion is rooted in the logic of strategic choice in that successful archetypes adopt different strategies or place different resource commitment to cope with differing environmental and organizational dynamics (Child, 1972, 1997). In our conceptual framework (Figure 1), two dimensions of internal organizational environment are positioned to influence IJV performance both directly and indirectly. We suggest that autonomy of IJVs and interpartner cooperation existing in the internal organizational environment may impact an IJV's financial and competitive positions in two ways – independent effect and interactive (with dynamic capability) effect. Here, we emphasize the indirect or interactive effect, that is, the possible moderating effect of autonomy and cooperation on the link between dynamic capability and IJV performance. We acknowledge that there are other variables that define or describe external and internal environments. Nonetheless, autonomy and interpartner cooperation are considered as the central variable to describe an IJV's internal dynamics (Dyer and Singh, 1998; Gulati and Singh, 1998).

Insert Figure 1 about here

Internal organizational environment – autonomy

To reap benefits from emerging market opportunities, heightened responsiveness is needed. IJVs are formed by foreign and local partners. Local responsiveness in the context of IJVs concerns the extent to which parent managers understand, respond, and adapt to host country condition, so that their decisions and policies pertaining to IJVs are geared to the unique parameters of local environment (e.g., consumer demands, government regulations, competition dynamics and business cultures). Information asymmetry between parents and IJVs about the foreign market often leads to the introduction of parental strategies which are poorly aligned with the local environment. Naturally, local IJVs' managers may complain if the headquarter staff

formulate the relevant strategies without adequate knowledge of the external environment of the host country and the internal situation.

As a result, ‘control flexibility’ or autonomy, which concerns about the extent of control over IJVs by parents, is a critical issue when examining the exploitation and upgrading. Kogut (1985) suggests that the flexibility of parent control is a critical foundation on which operational flexibility is built, and this latter in turn creates many arbitrage opportunities and leverage opportunities. The importance of control flexibility, or autonomy of IJVs, is even heightened for IJVs in an emerging market. The granting of autonomy to IJVs permits IJVs better to exploit the current resources and capabilities to take advantage of the opportunities or future changes as well as minimizing the risks and uncertainties. Research on the strategy-structure fit holds that parent control should be used as a flexible instrument linking an organization’s strategy and structure, and that this flexibility is necessary to maintain the balance between integration and responsiveness.

Similarly, exploration or upgrading entails risk-taking or experiments. IJV managers do not need unnecessary control. The dynamism, complexity and uniqueness of emerging markets propel local managers’ demands for sufficient authority to make decisions to adapt to environmental change. Rigid parental control leaves fewer options open to local managers when they are exploring or upgrading their source of competitive advantage in response to environmental dynamics, and obstructs operational flexibility. Therefore, autonomy could encourage organizational learning and accumulation of experiences. The co-existence of both opportunities and challenges during transformation requires strong managerial motivation, high entrepreneurial behaviour and enormous adaptive capabilities. Therefore:

H4a. When operating in a more autonomous organizational environment, capability exploitation will become stronger in relation to an IJV’s (i) financial outcome and (ii) competitive outcome;

H4b. When operating in a more autonomous organizational environment, capability upgrading will become stronger in relation to an IJV’s (i) financial outcome and (ii) competitive outcome.

Internal organizational environment – interpartner cooperation

Interpartner cooperation serves as an evolving mechanism for ensuring reciprocal dependency and strategic flexibility under uncertain conditions (Dyer and Singh, 1998; Gulati and Singh, 1998). Since IJVs involve repeated inter-organizational exchanges that become socially embedded over time, cooperation is an important safeguard that can mitigate both external and internal hazards and a comprehensive and efficient form of governance for IJV growth and evolution. Cooperation becomes even more important in a dynamic environment because (1) all parties in an IJV have an inalienable *de facto* right to pursue their own interests at the expense of others (Buckley and Casson, 1988) and (2) these parties can be opportunistic when facing uncertainty in a dynamic environment (Williamson, 1985). Cooperation thus defines conditions under which an IJV exploits its parent-contributed resources and explores new capabilities in a fast-changing market. In particular, a stimulating, cooperative organizational environment propels the probability that a given amount of capability exploitation will generate higher financial and competitive gains. In addition, Poppo and Zenger (2003) document that cooperation complements other institutional and legal frameworks (such as contract) in governing the execution of an IJV's business plans and resource deployment and in reducing possible conflicts and frictions between parties. In this condition, capability exploitation is deemed to be more productive in creating joint returns.

Capability upgrading may also become more rent-generating in a more cooperative environment. Interpartner cooperation obviates opportunism hazards and managerial and agency problems in an emerging market (Luo and Park, 2004). When there exists cooperation between foreign partners and local partners, the given strength of capability upgrading is likely to create more payoffs for IJV performance, because the same levels of capability upgrading will add more value to operation under a more cooperative organizational environment. ***Contrarily***, lack of cooperation constrains the role of IJV performance contributors and hinders their positive impact on performance. Building new capabilities is full of uncertainties and risks. Thus, without

cooperation, not only does new capability development become more difficult but also a given level of current capability upgrading may add less value to IJV performance due to reduced confidence in reciprocal commitment. Therefore:

H5a. When operating in a more cooperative organizational environment, capability exploitation will become stronger in relation to an IJV's (i) financial outcome and (ii) competitive outcome;

H5b. When operating in a more cooperative organizational environment, capability upgrading will become stronger in relation to an IJV's (i) financial outcome and (ii) competitive outcome.

RESEARCH METHODS

Data Collection

China is chosen as the country setting for this research as it is the largest host for foreign direct investment. In addition, China is currently the largest emerging market and transition economy and remains the fastest growing economy in the world (*World Investment Report*, 2004). Economic reforms have enabled China to advance its integration with the world economy, maintain a strong external payment position, privatize farming, liberalize markets for many goods and services, intensify industrial competition and introduce modern macroeconomic management. For these reasons, China is recognized as a rich and relevant context in which to probe strategy, environment, and performance of IJVs.

This study utilizes a dataset from a survey conducted in China from 2004 to 2005. The preliminary questionnaire design was based on previous studies and our field interviews (in Chengdu, Chongqin and Xi'an). Two business school faculty members participated in assessing the content validity of the preliminary questionnaire, and we modified the questionnaire based on their feedback. We then conducted a pilot test for instrument validity with executives from eight IJVs located in Xi'an, followed by face-to-face interviews with them. The test generally worked well, but we further revised the questionnaire, based on their response, by defining more clearly

the key terms and adding practical examples of dynamic capability and environmental dynamism in the cover letter of the survey.

Our sample list was drawn from the *Directory of Foreign-Invested Industrial Enterprises*, compiled by China's Ministry of Commerce. About 500 questionnaires were randomly sent to senior executives of manufacturing IJVs in the four areas of China – the Yangtze River Delta (Shanghai, Jiangsu and Zhejiang), the Pearl River Delta (Guangdong), other coastal areas (Liaolin, Shandong and Fujian) and Inland China (Chengdu, Chongqin and Xi'an). These regions are the major hosts of IJVs. Since this study emphasizes local market-seeking IJVs, export-oriented IJVs were removed from the list. We also excluded those IJVs with more than two partners and non-equity (e.g., contractual) IJVs due to the scope of the study. We kept individual organizations and respondents anonymous to improve the response rate and to avoid any social desirability effect in our survey.

After some follow-up contacts, we received 113 questionnaires, a 25.6% response rate. Of the questionnaires received, some questionnaires were dropped because of too many missing data and explicit response pattern. This resulted in the final 102 questionnaires useful for data analysis. To address the issue of non-response bias, we compared early versus late responses based on the assumption that subjects who responded less readily were more similar to those who did not respond at all than those who did respond readily. Results indicated no significant differences in terms of age, size and foreign ownership of IJVs. The representativeness of the sample in terms of investment size and the number of employees was also verified by comparing the mean project size and the number of employees with those of the population nationwide, using information from the China Statistics Yearbook. The t-tests results were insignificant, suggesting no noticeable bias from the population.

We made several procedural and statistical efforts, as suggested by Podsakoff and Organ (1986), to check the threat of common method variables arising from same-source responses to major variables in the study. First, in the post-test stage, 40 top executives from 20 IJVs (two

respondents from each IJV) were interviewed to determine whether the two informants from the same IJV revealed high consistency in their views of the dynamic capability and IJV performance. The results indicated a high level of consistency between the two respondents from each IJV. Also, the answers in the interview and the responses in the survey are highly correlated, demonstrating the validity of the subjective measure. Next, we conducted a principal component factor analysis on the questionnaire measurement items. Neither a single factor emerged nor was there a general factor that could account for the majority of covariance in these variables. The latent structure remained stable and item loadings held together in proposed variables, indicating the absence of severe common method variance.

Variable Measurement

Variables used in the study were all computed as the average of multiple survey items on a seven-point Likert scale. An IJV's financial outcome was measured by the average of multi-items that indicate a senior IJV executive's assessment of the extent to which s/he is satisfied with the venture's (1) Return on Investment (ROI), (2) Return on Assets (ROA), and (3) Revenue Growth. We asked these top executives to double check with their financial officers before responding to these items. Likewise, an IJV's competitive outcome was measured by the average of multi-items that indicate a senior IJV executive's assessment of the extent to which s/he is satisfied with the venture's (1) market share, (2) competitive position vis-à-vis rivals, (3) customer satisfaction, (4) organizational reputation and product image, and (5) realization of long-term strategic goals. We asked the informants to double check with their marketing managers before reporting some of these items. These items covered diverse concerns of an IJV's local and foreign partners to evaluate IJV performance and were consistent with the way many previous studies measured IJV performance in emerging markets (e.g., Beamish and Banks, 1987; Luo and Park, 2004). Arino (1997) shows that this subjective approach correlates with objective measures with a high degree of reliability and that there is a strong convergent and discriminant validity for these subjective performance measures in IJVs. We also conducted an exploratory factor analysis to show the

discriminatory validity of all performance items. The factor loading structure confirmed the presence of two distinct dimensions (financial and competitive) of IJV performance, rather than one general factor structure.

Based on our early definition and with reference to previous studies, such as Teece et al. (1997) and Eisenhardt and Martin (2000), we defined capability exploitation as the average of these five items, indicating a senior executive's assessment of the IJV's ability to (1) integrate resources contributed by foreign and Chinese partners along the value chain system to create maximum possible values; (2) blend resources contributed by foreign and Chinese partners in a complementary way to the extent possible; (3) utilize resources contributed by foreign and Chinese partners optimally to the extent possible; (4) configure or reconfigure resources contributed by foreign and Chinese partners to meet specific or unique needs of the Chinese market; and (5) constantly analyse new environmental conditions and redeploy existing resources accordingly. Similarly, capability upgrading was measured by the average of three items indicating a senior executive's assessment of the IJV's ability to (1) learn from past experience or from other firms to upgrade current capabilities; (2) use alliances and acquisitions that bring in new resources or capabilities into our IJV; and (3) develop new resources or capabilities needed for local operations through R&D and innovation. Consistent with the definition used in this study, we defined and explained the concept of "resources" or capabilities" in the survey as consisting of (1) strategic resources or capabilities, including technological and operational attributes, and (2) organizational resources or capabilities.

During the phase of instrument testing, the items used to measure dynamic capability variables were sent to top managers of eight IJVs during a pilot study, followed by a qualitative testing of all relevant validities such as face validity, construct validity and so on. To further check the measurement validity of two dynamic capability variables, we performed a confirmatory factor analysis (CFA) with varimax rotation. As seen in Table 1, we identified two factors whose eigen-values were greater than 1.0. Factor 1 consists of five items measuring

capability exploitation and Factor 2 consists of three items measuring capability upgrading. The CFA result shows that capability exploitation and capability upgrading are two distinct constructs of dynamic capability.

Insert Table 1 about here

Two moderating variables were measured by multiple items, which were drawn from the current literature (e.g., Luo and Peng, 1999; Luo, 2003) with some modification. Autonomy was measured by the average of four items with some modification from the study by Luo (2003) concerning (1) the settling of different ideas, (2) local responsiveness, (3) ethnocentrism, (4) transnational version and orientation. Interpartner cooperation was measured based on three questions concerning the cooperation between foreign and local partners of IJVs in terms of (1) strategic goal setting, (2) concrete business plan formulation, and (3) execution and functional area operation.

Internal reliability tests showed strong Cronbach α 's for capability exploitation (0.92), capability upgrading (0.72), autonomy (0.76) and cooperation (0.81). Regarding the dependent variables, the internal reliability tests showed strong Cronbach α 's for competitive outcome (0.88) and financial outcome (0.89), respectively. Our global factor analysis also demonstrated strong factor loadings and clear factor structure for these constructs.

We controlled for several variables in testing our hypotheses, including national culture distance, organizational culture distance, IJV age, IJV size, and IJV equity stake. National culture distance was measured by one response to how the respondent agreed with the statement concerning the differences in national culture between China and the home country of foreign partner. Similarly, organizational culture distance was measured by one response to how the respondent agreed with the statement concerning the differences in organization culture between the Chinese partner and the foreign partner. IJV age, a proxy for its length of operations, was measured by the number of years an IJV has been present in China. IJV size was the number of

employees in the IJV. IJV equity stake was measured by a continuous variable representing the foreign ownership. Table 2 reports some descriptive statistics and correlation matrix for all these variables.

RESULTS

In order to assess the performance implications of capability exploitation and capability upgrading, a multiple regression analysis was conducted, as shown in Table 3. The multicollinearity was checked by testing the VIF values of all independent and control variables in one model. The results (1.80 - 3.11) suggested the absence of multicollinearity. The assumptions of normality and homoscedasticity were also checked and no violations of the assumptions were found.

Insert Table 2 & Table 3 about here

The regression results of Model 1 and Model 2 demonstrate that, after controlling for other related variables, an IJV's capability exploitation and capability upgrading are both significantly and positively associated with financial ($p < 0.05$ or lower) and competitive performance ($p < 0.05$ or lower). To validate that the result was not obtained by chance, we randomly divided the total sample in half and then re-ran the same test for each model in Table 3. The result remained the same: the two dynamic capability variables have a strong and positive effect in relation to both performance outcomes. This evidence supports H1 and H2. We also checked the quadratic effects of capability exploitation and capability upgrading on financial outcome and competitive outcome to see if such effects are linear or curvilinear as capability exploitation and capability upgrading continue to increase. As Table 3 shows, the quadratic terms are not statistically significant, suggesting that the positive impacts of these two capability variables on financial outcome and competitive outcome do not decline with the incremental development of dynamic capability. To test the positive interaction between exploitation and upgrading, we performed a

moderated multiple regression (Table 3). As shown in Model 4a and Model 4b in Table 3, capability exploitation and capability upgrading interact positively in influencing the IJV performance, supporting the notion of “ambidexterity”. Thus, H3 is supported.

To test the moderating effects of autonomy (H4) and cooperation (H5) on the contribution of dynamic capability to IJV performance, we performed a hierarchical moderated multiple regression (Table 4). In order to remove the multicollinearity between the predictor variables and the interaction terms containing the predictor variables, we centered the two major independent variables and the two major moderating variables around their respective means. As shown in Model 3a and Model 3b, the interactions of autonomy (Y1) with capability exploitation (X1) and capability upgrading (X2) are significantly positive, and the inclusion of these interactions significantly increase the explanatory power. These findings suggest that capability exploitation and capability upgrading become even stronger (more important) in relation to an IJV’s financial and competitive outcomes when IJVs operate in an autonomous organizational environment. This finding lends support to H4. Figure 2(I) plots the two-way interactions between dynamic capability variables and autonomy, and further confirms this moderating effect.

Insert Table 4 & Figure 2 about here

As shown in Model 4a and Model 4b, the interaction of cooperation (Y2) with capability exploitation (X1) is significant while the interaction of cooperation (Y2) with capability upgrading is not. The interaction term also significantly increases the explanatory power. This implies that interpartner cooperation, as an important organizational environment variable, will facilitate the contribution of capability exploitation to IJV performance. Since capability exploitation mainly deals with the utilization of the current resources, cooperation between foreign and local partners to a large extent determines the extraction of competitive advantage and full realization of potential from the current resources. The positive impact of capability

exploitation will be hindered by lack of strong cooperation. This result supports H5a. However, cooperation does not influence the contribution of capability upgrading to IJV performance, a finding inconsistent with our hypothesis (H5b). The plot of interaction terms between dynamic capability constructs and an IJV's financial and competitive outcomes, shown in Figure 2(II), further confirms H5a but not H5b. The reason behind the rejection of H5b may rest on the possibility that capability upgrading necessitates a significant amount of new costs, risks, and investments, while additional gains from dynamic capability in a more cooperative environment may be somewhat offset by extra costs, risks, and investments.

DISCUSSION AND CONCLUSION

The above findings suggest that IJVs in emerging markets tend to perform better in financial and competitive terms when they possess the abilities to exploit the current resources contributed by foreign and local investors and to explore new resources and capabilities to continuously renew their competitive advantage. In addition, capability exploitation and upgrading reinforces each other, supporting the notion of “ambidexterity”. More importantly, capability exploitation and capability upgrading become even more important in relation to financial and competitive outcomes when IJVs operate in a more autonomous organizational environment. Moreover, capability exploitation has a stronger positive relationship with an IJV's financial and competitive performances when IJVs operate in a more cooperative organizational environment. This suggests that the contributory path of dynamic capability in relation to IJV performance is not completely isolated from the internal organizational environment facing the IJV.

Theoretically, the study contributes to research on IJVs' dynamic capabilities. Prior research explores IJV performance drivers from diverse perspectives, using such theories/approaches as transaction cost economics, agency theory, resource-based view, behavioral perspective, organizational learning, and knowledge-based perspective. This study extends the literature by introducing another emerging perspective, dynamic capability, to IJV studies. Although capability possession is important, as well articulated by resource-based and knowledge-based

views, we argue that capability exploitation and capability upgrading are also essential to IJV growth, especially in a highly dynamic market. In other words, how to effectively exploit parent-contributed resources and continuously upgrade or build new capabilities in a new foreign market may be equally, if not more, important to IJV evolution and success, than the resources themselves. Furthermore, IJVs with ambidexterity outperform others which excel in either dimension. Future research may continuously explore this line of inquiry. For instance, how resource complementarity impacts the relationship between dynamic capability and IJV performance is worthy of investigation. How foreign partners adapt resources transferred from their home country to unique characteristics of host country and how to overcome value erosion problems for tacit resources are other promising research issues.

Empirically, this study may be one of the first efforts to examine the importance of dynamic capabilities in a new organizational setting (IJV) and a new environmental setting (emerging economy - China). Although dynamic capability has been discussed theoretically and conceptually, there are very few empirical studies, particularly in the context of international business domain. In this study, we validated the two distinct constructs of dynamic capability (capability exploitation and capability upgrading) and delivered the results suggesting that an IJV's financial and competitive advantages stem not merely from distinctive resources *per se* contributed by parent firms but also from the manner in which they are blended, integrated, deployed, and utilized after these resources are put into place. In addition, our results showed that merely possessing and exploiting current resources may still not be sufficient in the long-term, given the increasingly competitive and constantly shifting business environment faced by IJVs in most emerging markets. For instance, as competition in emerging markets (e.g., China) shifts from scant competition to strong competition and from single-market competition to multi-market competition, foreign entrants have been prompted to build new competences that complement and exploit their existing capabilities before other players establish a strong lead. They must build new competences because the skills they need to fortify their competitive

advantages in China's new competitive environment cannot be bought (Williamson and Zeng, 2004). They must painstakingly learn, adapt and develop such new capabilities as brand, innovation, distribution, human capital and social capital, among others.

By tapping the role of capability exploitation and upgrading, we hope this study advances our understanding of dynamic capability in the realm of IJVs in a dynamic environment. It is worth noting the moderating effect of autonomy and interpartner cooperation in influencing the link between dynamic capability and IJV performance. This suggests that dynamic capability is not context-free to contribute its role to firm performance. In a more cooperative environment, for instance, capability exploitation becomes more rent-generating in financial and competitive terms.

Managerially, this study suggests that merely possessing valuable resources is a necessary but not completely sufficient condition for superior performance of IJVs. IJV managers should not assume that resources from both partners will spontaneously ensure venture success. IJVs need to build up another higher-order capability - dynamic capability - to generate competitive advantage out of the resources. Not only do IJVs need to effectively exploit the current resources, they also need to dynamically build up new resources and capabilities to sustain competitive advantages. Although foreign and local partners can each contribute and transfer their own firm-specific advantages, their resources statically cannot ensure IJV evolution unless they are productively blended and integrated into real production and operations. Furthermore, emerging market parameters are never fixed; constantly changing conditions necessitate IJVs to upgrade their existing capabilities and develop new ones to create a better position for the firm to seize new opportunities and overcome new challenges.

This study does have several limitations as well. First, the results were derived from a sample of IJVs in China. While China is the world's largest emerging market and the largest FDI recipient, whether the findings in this study can be generalized in other transition economies and emerging markets needs further replications. To the extent that some emerging markets are similar to China in terms of market conditions and regulatory framework, it may be possible to

generalize in these contexts from our major findings. In addition, we limit the study to market-seeking manufacturing IJVs with only one foreign partner and one local partner. This restriction may further limit the applicability of the study. Another limitation is that the findings of the study are based on perceptual data collected mainly from one informant of each IJV (senior executive). Objective data were not used to test the hypotheses although attempts were made to assess the quality of perceptual data. Common method bias is only partly addressed in the study. Ideally, we need to collect data from multiple informants representing multiple entities, namely, foreign parent, local parent and IJV top management. Such a multiple-informant and multiple-party approach could allow for inter-informant consistency check and cross-entity consistency check. However, it admittedly is extremely difficult to satisfy the criteria in emerging economies, like China's.

In terms of future research, the empirical setting of this study should be extended to other emerging markets or transition economies to validate the findings of the study. Comparative samples from other countries could be used to test and extend the generalizability of the findings. The empirical setting of the study can also be extended to the service sector to see whether the general hypotheses in this study will also hold true in the service sector. Given the increasing number of IJVs from the service sector in most emerging economies, this attempt is well-warranted. Furthermore, future research may employ objective performance measures to replicate the study. In so doing, the common method bias may be minimized and the perceptual bias in surveys can be removed. In addition, future research might validate the scale we develop in the study to capture the construct of dynamic capability. More items could be tested to see if they are better able to measure the construct or complement the current items used in the study.

Finally, one challenging task is to explore how new resources and capabilities are integrated with current resources and capabilities (how can IJVs effectively combine and integrate resources at time T_0 with resources at T_1 ?) Such a test needs more longitudinal studies, which is beyond the scope of this study. It would be intriguing to explore how IJVs constantly discard the resources,

build up new resources and integrate various resources over time. Such a dynamic test would offer more insights into the process through which a bundle of firm resources evolves over time. Likewise, this study only focuses on the consequences of dynamic capability. One critical question that has important implications for practitioners is where dynamic capability actually comes from. Therefore, it is theoretically and practically meaningful to explore internal and external antecedents of dynamic capability. Perhaps then, our understanding of dynamic capabilities in IJVs will be more complete.

REFERENCES

- Anand, J., & Delios, A. (2002) 'Absolute and relative resources as determinants of international acquisitions', *Strategic Management Journal* 23: 119-134.
- Arino, A. (1997) 'Partner selection and trust building in west European-Russian joint ventures: a western perspective', *International Studies of Management and Organization* 27: 19-37.
- Beamish, P.W., & Banks, J.C. (1987) 'Equity joint ventures and the theory of the multinational enterprise', *Journal of International Business Studies* 18: 1-16.
- Beamish, P.W., & Jiang, R. (2002) 'Investing profitably in China: is it getting harder?', *Long Range Planning* 35: 135-147.
- Buckley, P., & Casson, M. (1998) 'The theory of cooperation in international business', In Contractor, F. & P. Lorange (Eds.), *Cooperative Strategies in International Business*: 31-34. Lexington Books.
- Cantwell, J. (1995) 'The globalization of technology: what remains of the product life cycle model?', *Cambridge Journal of Economics* 19: 155-175.
- Chang, S.J. (1995) 'International expansion strategy of Japanese firms: capability building through sequential entry', *Academy of Management Journal* 38: 383-407.
- Child, J. (1972) 'Organizational structure, environment and performance: the role of strategic choice', *Sociology* 6: 1-22.
- Child, J. (1997) 'Strategic choice in the analysis of action, structure, organizations and environment: retrospect and prospect', *Organization Studies* 18: 43-76.

- Datta, D.K. (1991) 'Organizational fit and acquisition performance: effects of post-acquisition integration', *Strategic Management Journal* 12: 281-297.
- Day, G.S. (1994) 'Continuous learning about markets', *California Management Review* 36: 9-31.
- Dess, G., & Beard, D. (1984) 'Dimensions of organizational task environments', *Administrative Science Quarterly*, 29: 52-73.
- Doz, Y., Santos, J., & Williamson. (2003) *From global to metanational*, Boston, MA: Harvard Business School Press.
- Dyer, J.H., & Singh, H. (1998) 'The relational view: cooperative strategy and sources of interorganizational competitive advantages', *Academy of Management Review* 23: 660-679.
- Eisenhardt, K.M., & Martin, J. A. (2000) 'Dynamic capabilities: what are they?', *Strategic Management Journal* 21: 1105-1121.
- Grant, R.M. (1996) 'Prospering in dynamically-competitive environments: organizational capability as knowledge integration', *Organization Science* 7: 375-387.
- Gulati, R., & Singh, H. (1998) 'The architecture of cooperation: managing coordination costs and appropriation concerns in joint ventures', *Administrative Science Quarterly* 43: 781-814.
- Harrison, J.S., Hitt, M.A., Hoskisson, R.E., & Ireland, R.D. (2001) 'Resource complementarity in business combinations: extending the logic to organizational alliances', *Journal of Management* 27: 679-690.
- Henderson, R., & Cockburn, I. (1994) 'Measuring competence? exploring firm effects in pharmaceutical research', *Strategic Management Journal* 15: 63-64.
- Hoskisson, R.E., Eden, L., Lau, C-M., & Wright, M. (2000) 'Strategy in emerging economies', *Academy of Management Journal* 43: 249-267.
- Inkpen, A., & Beamish, P.W. (1997) 'Knowledge, bargaining power, and the instability of international joint ventures', *Academy of Management Review* 22: 177-202.
- Kogut, B., & Zander, U. (1995) 'Knowledge and the speed of the transfer and imitation of organizational capabilities: an empirical test', *Organization Science* 6: 76-93.
- Lado, A.A., Boyd, N.G., & Hanlon, S.C. (1997) 'Competition, cooperation and the search for economic rents: a syncretic model', *Academy of Management Review* 22: 110-141.
- Lambe, C.J., Spekman, R.E., & Hunt, S.D. (2002) 'Alliance competence, resources, and alliance success: conceptualization, measurement, and initial test', *Journal of the Academy of Marketing Science* 30: 141-158.

Levitt, N.S., & March, J.G. (1988) 'Organizational learning', In W.R.Scott & J.F.Short (Eds.), *Annual Review of Sociology* 14: 319-340.

Lu, Jane. W. 2001. 'Network development for competitive advantage: a study of subsidiary networks and alliance networks' Unpublished Ph.D dissertation, The University of Western Ontario.

Luo, Y., & Peng, M.W. (1999) 'Learning to compete in a transition economy: experiences, environment, and performance', *Journal of International Business Studies* 30: 268-296.

Luo, Y. (2000) 'Dynamic capabilities in international expansion', *Journal of World Business* 35: 355-378.

Luo, Y. (2002a) 'Capability exploitation and building in a foreign market: implications for multinational enterprises', *Organization Science* 13: 48-63.

Luo, Y. (2002b) *Multinational enterprises in emerging markets*, Copenhagen, Denmark: Copenhagen Business School Press.

Luo, Y., & Park, S.H. (2004) 'Multiparty cooperation and performance in international equity joint ventures', *Journal of International Business Studies* 35: 142-160.

Lyles, M.A., & Salk, J.E. (1996) 'Knowledge acquisition from foreign partners in international joint ventures: an empirical examination in the Hungarian context', *Journal of International Business Studies* 27: 877-903.

Madhok, A. (1997) 'Cost, value and foreign market entry mode: the transaction and the firm', *Strategic Management Journal* 18: 39-61.

Madhok, A.; & Tallman, S.B. (1998) 'Resources, transactions and rents: managing value through interfirm collaborative relationships', *Organization Science* 9: 326-340.

March, J.G. (1991) 'Upgrading and exploitation in organizational learning', *Organization Science* 2: 71-87.

Perez, J., Meier, J., & Woetzel, J. (1995) 'MNCs in China', *The McKinsey Quarterly* 2: 21-33.

Pisano, G. P. (1994) 'Knowledge, integration, and the locus of learning: an empirical analysis of process development', *Strategic Management Journal* 12: 85-100.

Podsakoff, P.M., & Organ, D.W. (1986) 'Self-reports in organizational research: problems and prospects', *Journal of Management* 12: 531-544.

Poppo, L., & Zenger, T. (2003) 'Do formal contracts and relational governance function as substitutes or complements?', *Strategic Management Journal* 23: 707-725.

Rugman, A., & Verbeke, A. (1992) 'A note on the transactional solution and the transaction cost theory of multinational strategic management', *Journal of International Business Studies* 23: 761-771.

Szulanski, G. (1996) 'Exploring internal stickiness: impediments to the transfer of best practice within the firm', *Strategic Management Journal* 17: 27-43.

Tallman, S.B. (1992) 'A strategic management perspective on host country structure of multinational enterprises', *Journal of Management* 18: 455-471.

Tallman, S.B., & Fladmoe-Lindquist, K. (2002) 'Internationalization, globalization and capability - based strategy', *California Management Review* 45: 116-132.

Teece, D.J., Pisano, G., & Shuen, A. (1997) 'Dynamic capabilities and strategic management', *Strategic Management Journal* 18: 509-533.

Teece, D.J. (1998) 'Capturing value from knowledge assets: the new economy, markets for know-how and intangible assets', *California Management Review* 40: 55-79.

Vermeulen, F., & Barkema, H. (2001) 'Learning through acquisitions', *Academy of Management Journal* 44: 457-476.

World Investment Report. (2004) United Nations conference on trade and development (UNCTD), New York and Geneva: United Nations.

Williamson, O.E. (1985) *The economic institutions of capitalism*, New York: Free Press.

Williamson, P.; & Zeng, M. (2004) 'Strategies for competing in a changed China', *Sloan Management Review* 45: 85-91.

Yan, A., & Gray, B. (2001) 'Antecedents and effects of parent control in international joint ventures', *Journal of Management Studies* 38: 393-416.

FIGURE 1
Dynamic Capabilities and IJV performance: A Conceptual Framework

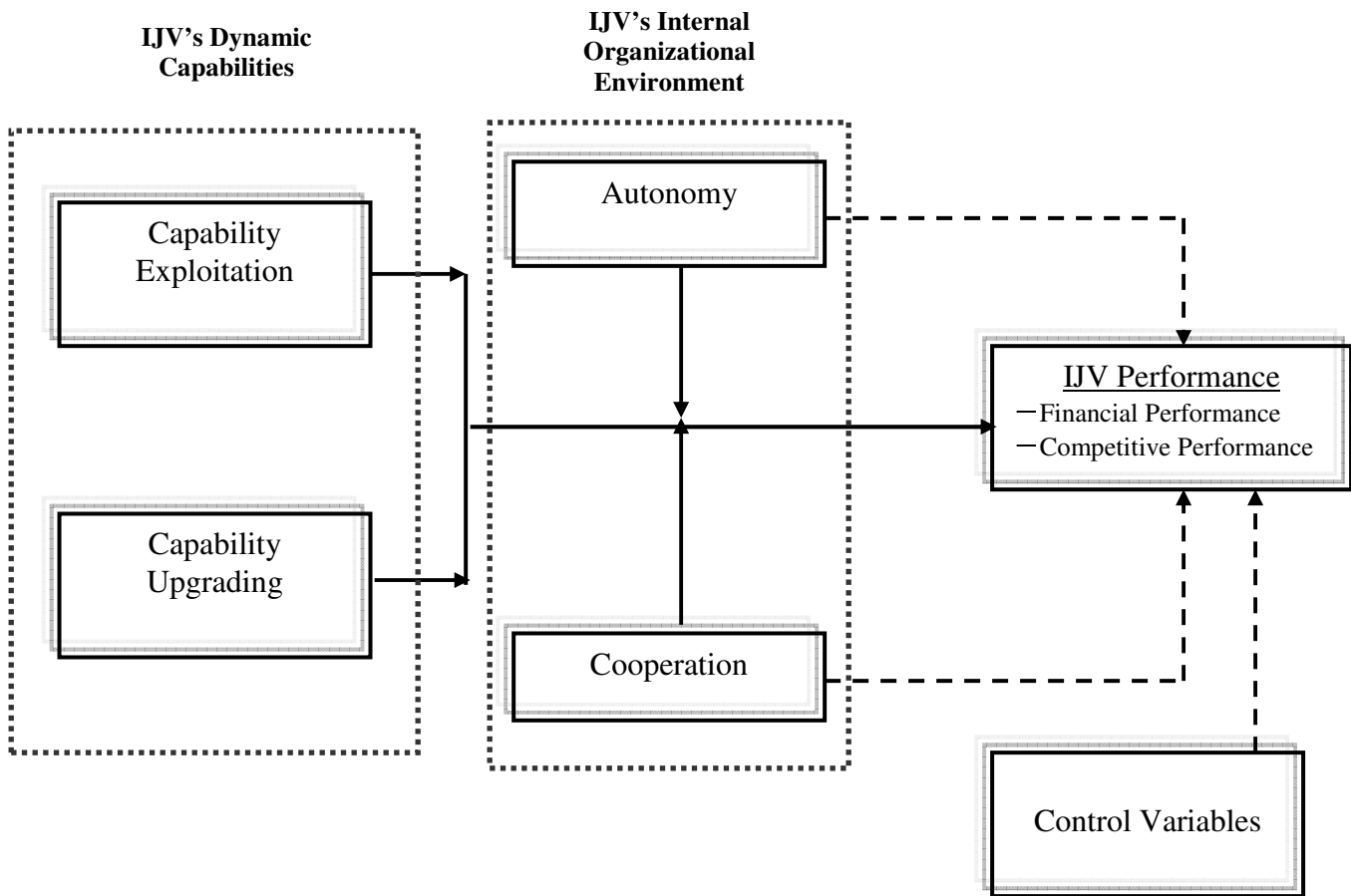


FIGURE 2 (I)
Plotting the Interactions
Autonomy Moderates the Link Between Capability Exploitation/Capability Upgrading and Performance

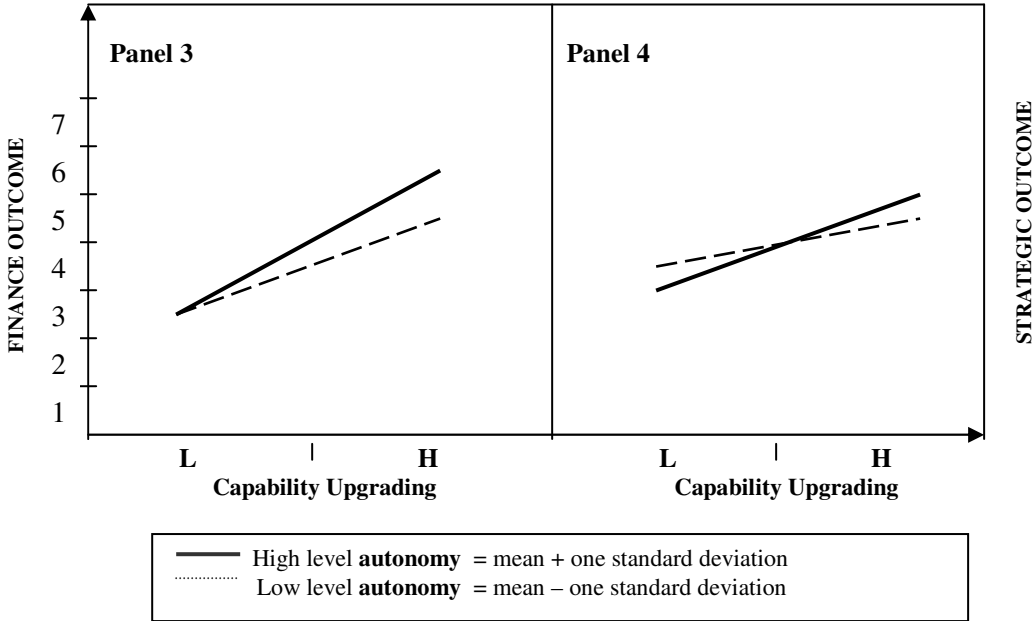
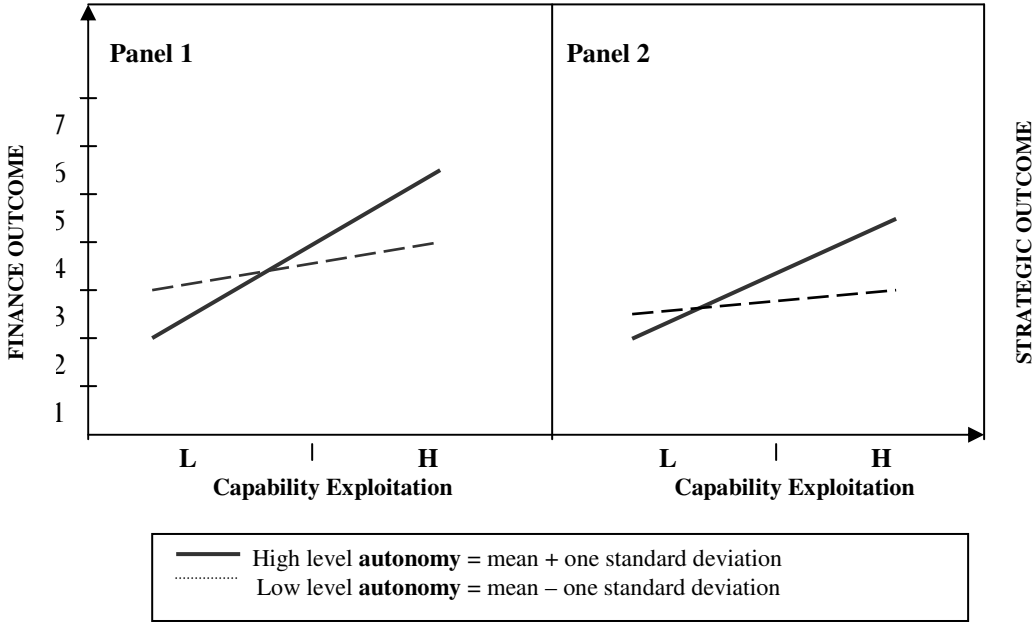


FIGURE 2 (II)
Plotting the Interactions
Organization Cooperation Moderates the Link Between Capability Exploitation/Capability
Upgrading and Performance

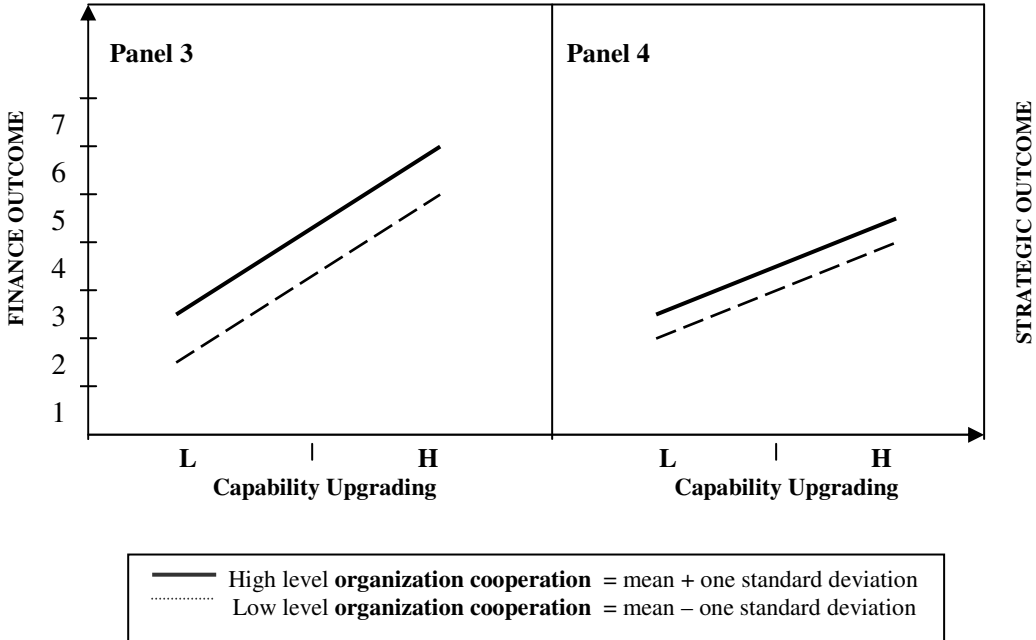
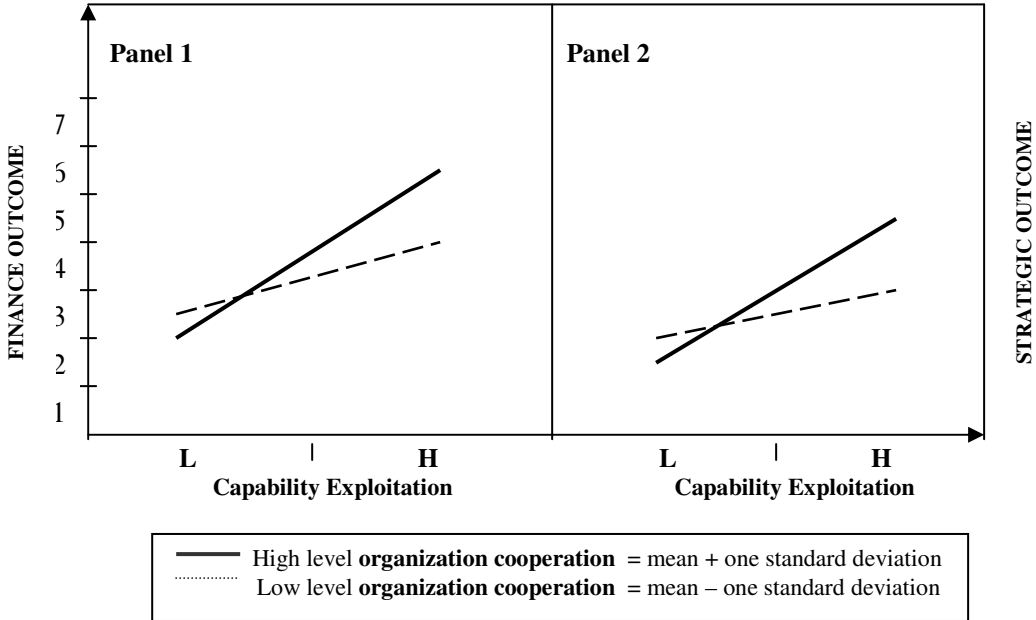


TABLE 1
Results for Confirmatory Factor Analysis for Dynamic Capability

Items	Factor 1 Capability Exploitation	Factor 2 Capability Upgrading
DC-1 Our IJV has the ability to integrate resources contributed by foreign and Chinese partners along the value chain system to create maximum possible values.	<u>0.81</u>	0.22
DC-2 Our IJV is capable of blending resources contributed by foreign and Chinese partners in a complementary way to the extent possible.	<u>0.84</u>	0.16
DC-3 Our IJV has the ability to utilize resources contributed by foreign and Chinese partners optimally to the extent possible.	<u>0.87</u>	0.27
DC-4 Our IJV has the ability to configure or reconfigure resources contributed by foreign and Chinese partners to meet specific or unique needs of the Chinese market.	<u>0.85</u>	0.18
DC-5 Our IJV has the ability to constantly analyse new environmental conditions and redeploy existing resources accordingly.	<u>0.83</u>	0.12
DC-6 Our IJV has the ability to learn from past experiences or from other firms to upgrade current capabilities.	0.27	<u>0.74</u>
DC-7 Our IJV has the ability to use alliances and acquisition that bring in new resources and capabilities into our IJV.	0.11	<u>0.80</u>
DC-8 Our IJV has the ability to develop new resources or capabilities needed for local operations through R&D and innovation.	1.29	<u>0.76</u>
Eigenvalues	4.52	1.33
Percentage of variance explained	56.44%	16.58%

TABLE 2
Descriptive Statistics and Pearson Correlation Matrix (N=102)

Variables	Mean	S.d.	1	2	3	4	5	6	7	8	9	10
1. Financial Performance	4.40	1.02										
2. Competitive Performance	4.75	0.99	0.63**									
3. Capability Exploitation	4.52	1.09	0.68**	0.77**								
4. Capability Upgrading	4.56	1.07	0.35**	0.49**	0.27**							
5. Autonomy	4.41	0.60	0.25	0.32	0.32*	0.19*						
6. Cooperation	4.49	0.96	0.53**	0.68**	0.42*	0.32*	0.33*					
7. National culture distance	3.83	1.64	0.13	0.23	0.26	0.15	0.22*	0.16				
8. Organizational culture distance	3.86	1.28	0.06	0.03	0.03	0.09	0.09	-0.03	0.42*			
9. IJV age	9.16	5.12	0.03	-0.01	-0.09	-0.25*	0.19	-0.03	-0.04	-0.07		
10. IJV size	818.90	1240.61	-0.12	-0.11	-0.21*	-0.04	-0.15	-0.21*	-0.12	-0.08	0.26*	
11. Foreign ownership (%)	43.31	16.34	0.34*	0.36**	0.33*	0.29	0.26*	0.24**	0.05	0.02	-0.18	-0.38

* $p < .05$

** $p < .01$

*** $p < .001$

TABLE 3
Performance Implications of Dynamic Capability: Regression Analysis
(N=102)

Variables	Financial (1a)	Competitive (1b)	Financial (2a)	Competitive (2b)	Financial (3a)	Competitive (3b)	Competitive (4a)	Financial (4b)
Capability exploitation (X1)	0.32**	0.37**	0.28**	0.32**	0.27*	0.24*	0.22*	0.21*
Capability upgrading (X2)	0.21**	0.17*	0.14*	0.12*	0.19*	0.12*	0.13*	0.15*
X1*X1			-0.11	-0.20				
X2* X2					0.03	0.04		
X1*X2							0.16*	0.14 ⁺
National culture distance	0.09	0.07	0.14	0.13	0.17	0.13	0.08	0.09
Organizational culture distance	- 0.03	- 0.06	- 0.02	- 0.05	-0.03	-0.04	-0.02	-0.04
IJV age	0.15*	0.13*	0.17*	0.18*	0.16*	0.18*	0.12 ⁺	0.11 ⁺
IJV size	0.04	0.05	0.05	0.06	0.08	0.10	0.07	0.08
Foreign ownership	0.08	0.04	0.13	0.09	0.09	0.07	0.04	0.08
Model F	12.52	22.12	13.46	19.87	14.04	24.05	15.83	22.03
Adjusted R ²	0.44	0.48	0.47	0.46	0.45	0.47	0.38	0.42

+ $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

TABLE 4
Performance Implications of Dynamic Capability: Moderated Regression Analysis
(N=102)

Variables	Financial (1a)	Competitive (1b)	Financial (2a)	Competitive (2b)	Financial (3a)	Competitive (3b)	Financial (4a)	Competitive (4b)
Capability exploitation (X1)	0.32**	0.37**	0.31**	0.30**	0.27*	0.24*	0.24*	0.18*
Capability upgrading (X2)	0.21**	0.17*	0.15*	0.13*	0.19*	0.12*	0.16*	0.10*
Autonomy (Y1)			0.20*	0.14*	0.15*	0.17*	0.13 ⁺	0.11 ⁺
Cooperation (Y2)			0.12	0.11*	0.11*	0.13*	0.12 ⁺	0.11 ⁺
Y1*X1					0.18**	0.21**		
Y1*X2					0.23**	0.17*		
Y2*X1							0.22*	0.20 ⁺
Y2*X2							0.11	0.08
National culture distance	0.09	0.07	0.11	0.12	0.14	0.13	0.13	0.11
Organizational culture distance	- 0.03	- 0.06	- 0.02	- 0.04	-0.03	-0.04	-0.05	-0.06
IJV age	0.15*	0.13*	0.14*	0.16*	0.14*	0.12*	0.11 ⁺	0.09
IJV size	0.04	0.05	0.05	0.07	0.08	0.06	0.07	0.05
Foreign ownership	0.08	0.04	0.12	0.07	0.09	0.06	0.05	0.04
Model F	12.52	22.12	14.67	19.87	17.04	23.45	18.32	25.65
Adjusted R ²	0.44	0.48	0.47	0.52	0.51	0.57	0.51	0.56
Δ R ²			0.03	0.04	0.04	0.05	0.04	0.04
Hierarchical F test			4.42**	3.65**	5.45**	5.37**	4.86*	3.51*

+ $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$