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PRODUCT DIVERSIFICATION IN INTERNATIONAL JOINT VENTURES: PERFORMANCE IMPLICATIONS IN AN EMERGING MARKET

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This study extends product diversification research to a new organizational form (IJV) and a new environmental context (emerging market). It explores the extent to which product relatedness with both foreign and local parents affects IJV performance as perceived by venture managers. After controlling for relevant variables, analysis of the data containing 134 IJVs in China validates our major premise: the relatedness of an IJV's products with that of its foreign and local parents is positively associated with its performance. An IJV maintaining bilateral related diversification (i.e., with both parents) performs better than a venture maintaining a unilateral related linkage (i.e., with one parent), which in turn outperforms an IJV which is unrelated to either parent. When resource complementarity or goal congruity between parents is higher, there is a stronger positive relationship between product relatedness and IJV performance. When structural opportunities are fewer or institutional deterrence is higher, there is a weaker positive relationship between product relatedness and IJV performance. Copyright © 2002 John Wiley & Sons, Ltd.

Product relatedness is the extent to which a firm's different lines of business or industries are linked. It has important performance implications (Amit and Livnat, 1988; Prahalad and Bettis, 1986; Rumelt, 1974). When a firm expands internationally, such relatedness can have an even stronger yet more complex influence on performance (Geringer, Beamish, and daCosta, 1989; Hitt, Hoskisson, and Kim, 1997; Vachani, 1991). Global market diversity interacts with product diversity, an interaction which is important to gaining a competitive advantage and reducing cash flow variance (Kim, Hwang, and Burgers, 1993), albeit in a nonlinear fashion (Hitt *et al.*, 1997; Tallman and Li, 1996).

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In order to maximize the economic benefits of international market and product diversification, firms are increasingly relying on international joint ventures (IJVs) as strategic vehicles for making more efficient explorations of the advantages of diversification (Contractor and Lorange, 1988; Gomes-Casseres, 1989). Establishing IJVs by pooling and utilizing partner resources through international acquisitions, mergers, or green-field investments not only generates those economic benefits from product diversification (e.g., economy of scale or scope, market power) but also creates financial and operational synergies by sharing complementary resources between partners in a way that is not possible during internal development (Buckley and Casson, 1988). If this synergistic effect is ensured by various means such as mitigating opportunism and stimulating cooperation, then forming an IJV can multiply the pay-offs of product or market diversification.

While product diversification has been vigorously examined in a domestic or international

setting over the past decade or so, product diversification in the setting of IJVs is surprisingly under-researched. Although Harrigan (1988) addressed the importance of this issue for IJVs, follow-up efforts are lacking. Harrigan (1988) proposed the null hypothesis that horizontally related (i.e., those which link sponsor and venture in the same strategic activities) and closely related ventures are expected to perform better than ventures unrelated to their sponsors in terms of venture success, survival, and duration. Her analysis of secondary data covering the years 1974–85 generally supported this hypothesis.

In order to shed some new light on this issue, this study departs from Harrigan's pioneer work (1988) in several ways. First, her study focused on IJVs in the United States, while this one emphasizes IJVs in the context of an emerging market (P.R. China). Interestingly, the United States is the largest foreign direct investment (FDI) recipient in the developed world, while China is the largest one among developing countries, accounting for almost half of total FDI inflow in developing countries (*World Investment Report*, 1999). The issue of product diversification in this important setting, the largest emerging economy and fastest growing market in the world, has not yet been addressed. The environment of emerging markets can be best described by two prominent characteristics: structural opportunity and institutional deterrence. Transforming structure from one under central governmental control toward one driven by market force opens up tremendous market opportunities by which foreign ventures can earn economic rents from competitive advantages. During this transformation, however, all businesses including IJVs inevitably face institutional deterrence featured by interference from both the central and the local governments. This study holds that assessing the effect of product relatedness in an emerging market cannot be isolated from the dynamics of structural opportunity and institutional deterrence. We posit that opportunity facilitates the contribution of product relatedness whereas deterrence obstructs this contribution.

Second, this study extends the previous one by integrating resource relatedness (complementarity) and goal relatedness (congruity) with product relatedness. These three different kinds of relatedness may affect IJV performance independently as well as interactively. According to IJV theory, resource relatedness determines the synergistic effect derived from interpartner learning and collaboration (Hamel, 1991; Kogut, 1988), while goal relatedness predicts the potential for transaction hazards precipitated by a partner's opportunistic behavior and interfirm conflict (Hennart, 1988; Ring and Van de Ven, 1994). In short, the relationship between product relatedness and IJV performance may be facilitated by resource complementarity and deterred by goal incongruity.

Lastly, Harrigan (1988) defines IJV performance as venture duration, survival, and parental satisfaction. Gauging performance by duration or survival may be problematic, however, for IJVs which are attempting to acquire a partner firm's critical capabilities. Inkpen and Beamish (1997) suggest that short duration may imply quicker accomplishment in knowledge acquisition. This study therefore measures IJV performance by IJV managers' satisfaction with profitability, sales, competitive position, and overall performance.

In sum, the purpose of this study is to investigate performance implications of product relatedness in IJVs operating in an emerging market (China). Specifically, we look at how the relatedness of products between parent firms and their ventures affects IJV performance in a dynamic foreign market. This relatedness is more complex than that found in free-standing firms, as every IJV involves at least two parent firms from different countries. The monitoring and transaction costs associated with product diversification in IJVs are substantially higher than those in the domestic, single parent case. This complexity is magnified when bargaining power is asymmetrical, strategic motives lack congruency, and opportunistic behavior cannot be controlled. Despite such challenges, however, examining product diversification in IJVs is of interest to both theory and practice. Investigating this issue in the context of an emerging market will verify whether product portfolio wisdom applies to both IJVs and this kind of market. Appraising interactions between product and resource relatedness in relation to IJV performance may help refine our understanding of relatedness as a multidimensional concept. In order to have a more complete assessment of parent–venture relatedness and its repercussions on IJV performance, we need to consider a matrix of interrelationships across product attributes, distinctive resources, and strategic goals, as well as

interfaces between product relatedness, industrial dynamics, and institutional environment.

THEORETICAL DEVELOPMENT

Definition

From the product portfolio perspective, an IJV can be horizontally or vertically related or unrelated to one or both parental firms originating from two different countries. Building on FDI definitions, Harrigan (1988: 208–209) defines vertical relatedness as the buyer–seller relationships that are created between an owner and its venture, while horizontally related IJVs link owner and venture in the same strategic activities. This conceptualization is often discussed in the context of an MNE's dominant business and thus fails to consider the context of constrained relatedness (i.e., different businesses share numerous links and common attributes) or linked relatedness (i.e., different businesses share only a few links and common attributes). We therefore feel that it is necessary to define these concepts in the richer context of diversified MNEs.

This study defines vertically related diversification as foreign venturing activities in which an IJV is producing the inputs needed by its parents or sister subsidiaries (backward venturing) or producing and marketing outputs consisting of inputs supplied by its parents or sister subsidiaries (forward venturing). Horizontally related diversification exists when an IJV (1) operates in the same host industry (i.e., dominant business) as its parents and employs the same strategic activities; or (2) operates in a different host industry but shares a significant amount of inputs, competencies, and/or customers with its parents or sister subsidiaries (i.e., constrained relatedness); or (3) shares different yet considerable amounts of inputs or resources with its different parents or sister subsidiaries (i.e., linked relatedness). Bilateral (or full) relatedness occurs when an IJV is vertically or horizontally related to its both parents. Unilateral (or quasi-) vertical or horizontal relatedness occurs when an IJV maintains a vertical or horizontal linkage with one parent (e.g., foreign) but not with the other (e.g., local). Unrelated diversification concerns venturing activities in a foreign industry which are different from those of the home industry and do not substantially share strategic activities, inputs, competencies, or customers with parent firms or sister subsidiaries.

In order to capture the implications of diversification with both foreign and local parents, Harrigan (1988: 208–209) defines each diversification strategy (horizontally related, vertically related, or unrelated) as an index calculated as a dummy variable indicating whether parent A uses that particular type of diversification strategy *multiplied* by a dummy variable indicating whether parent B uses the same one. According to this approach, the index is zero if two parental firms do not use the same diversification strategy. This means quasi-vertically or quasi-horizontally related linkages are tantamount to unrelated linkages with both parents. Since a quasi-related linkage has different performance implications compared to an unrelated linkage, this study *adds* rather than multiplies in computing the above index. Product relatedness is hence highest when an IJV maintains a related linkage with both parents (bilateral relatedness), medium when it has a quasi-related linkage with one parent (unilateral relatedness), and lowest when it is unrelated to both parents. This study intends to examine whether full relatedness is superior to quasi-relatedness which is then superior to unrelated diversification in terms of contribution to IJV performance. This is a 'broad' research design which may provide a foundation for a further analysis of mechanics (e.g., subcategories of vertical or horizontal relatedness) underlying the above relationships in a triad setting (foreign parent, local parent, and IJV).

Theoretical overview

For several decades, product diversification has been a highly popular strategy pursued by many large and growing firms in the United States, Europe, Asia, and other parts of the industrialized world. In more recent years, international expansion has become a pervasive strategic response to global economic dynamics for a large array of companies. The need to simultaneously balance multiple dynamic forces (geographic, product, market, technological) has resulted in firms extending their presence all over the globe for a multitude of purposes and through a multitude of forms. Forming IJVs with foreign firms which provide complementary resources is becoming the primary strategy during international diversification for achieving a sustained competitive advantage in the global marketplace (Dyer and Singh, 1998; Osborn and Hagedoorn, 1997). As the task

and institutional environments in an emerging market differ drastically from those in the industrialized world, product diversification through an IJV can help preempt market opportunities while attenuating various barriers, uncertainties, and disturbances.

All international investments have diversification consequences (Kim, Hwang, and Burgers, 1989). Firms pursue increased diversification in order to create value through economies of scope, gain financial economies, or achieve market power (Amit and Livnat, 1988; Montgomery, 1985). They may also do so in reaction to government policies, performance problems, or uncertainties about future cash flow or because of various managerial motivations (Lubatkin and Rogers, 1989; Prahalad and Bettis, 1986; Ramanujam and Varadarajan, 1989). The resource-based view of firms locates competitive advantage with the internal capabilities of a firm and suggests that diversification into products that use the existing rent-generating resources of the firm will generate economies of scope in the use of these resources and thus earn greater profit (Barney, 1991; Prahalad and Hamel, 1990; Wernerfelt, 1984). The pay-off created by diversification through IJVs may be magnified because international companies can capitalize on economic rents derived not only from product and market diversity but also from various advantages embodied in IJV activities such as knowledge acquisition, capability development, risk reduction, and complementarity synergies (Buckley and Casson, 1988; Beamish and Banks, 1987; Contractor and Lorange, 1988; Datta, 1991). When operating in an emerging market characterized by lower competition but greater potential than a developed country, IJVs are likely to extract even more rents from exploiting existing capabilities deployed within a larger market domain whereby local rivals are generally equipped with less competitive technological and organizational skills (Luo, 1998).

According to resource-based theory, exploiting established capabilities through product diversification increases risk-adjusted economic returns (Prahalad and Hamel, 1990; Tallman, 1991). Forming IJVs in an emerging market enables firms to leverage current resources or preempt new opportunities by deploying their resources in a dynamic context wherein industrial structural attributes, competitive forces, and life cycle stages are exogenous as well as heterogeneous to the home industry. Although the external influences facing IJVs in an emerging market are more volatile and complex than in a developed market economy, incremental expansion through related diversification can reduce external uncertainties and institutional hazards (Hitt, Hoskisson, and Ireland, 1994; Kim *et al*; 1993). In fact, related diversification is often preferred to unrelated by a host government because of the higher propensity for bringing in advanced technologies by the former (Brouthers and Bamossy, 1997). Moreover, leveraging internal resources and capabilities that are not available but are essential to local firms can solidify a firm's bargaining power with its partner during IJV formation, operation, and management (Inkpen and Beamish, 1997; Yan and Gray, 1994). A firm with greater bargaining power will be in a superior position to control the IJV and protect its proprietary knowledge from uncompensated leakage, thus ensuring the fulfillment of diversification advantages (Geringer and Hebert, 1989).

Product diversification through an IJV is also a strategic choice for acquiring knowledge from foreign firms (Farjoun, 1998). Chatterjee (1990) and Gomes-Casseres (1989) maintain that product diversification through IJVs provides learning opportunities through exposure to new markets, internalization of new concepts, ideas from new cultures, access to partner resources, and exposure to new competitors and terms of competition. This in turn reduces a firm's liability of foreignness and its vulnerability to contextual changes, thus strengthening the benefits generated from interactions between product and geographical diversification (Hitt *et al*; 1994; Kim *et al*; 1993; Tallman and Li, 1996). The dynamic capability perspective argues that building capability through external learning is essential for creating new bundles of resources (Tallman, 1991; Teece, Pisano, and Shuen, 1997). Capability exploitation through leveraging existing resources cannot alone yield abnormal returns over the long run and sustain a competitive position (Teece, 1998). Related product diversification creates an opportunity for a firm to improve its ability to integrate and synthesize internal resources and external learning and to apply both to the competitive environment (Kogut and Zander, 1992). Since an IJV provides an ideal learning tool for acquiring distinctive knowledge from a partner firm (Hamel, 1991) while sharing costs and risks between parties, as ensured contractually or organizationally (Killing, 1983), the joint

venture form is a more efficient organizational system for upgrading capability than for making full investments or acquisitions. This effect is stronger when resources pooled by foreign and local parents are complementary. Although most local firms in an emerging economy do not possess cutting-edge technologies, their operational competencies such as relationship-building skills, marketing expertise, and distribution arrangement are what many foreign companies look for (Luo, 1997). Since a local partner's country-specific knowledge is costly to imitate and difficult to develop (Inkpen and Beamish, 1997), complementarity between a foreign firm's technological and organizational skills and a local firm's country-specific knowledge will influence the learning efficiency associated with different product configurations. Madhok and Tallman (1998) suggest that a system of resource and product relationships between partner firms is a potentially value-bearing asset. It is such a relational specificity that makes transaction-specific investments particularly appealing in creating values and synergies. Value generation from product configurations is not independent of the resource fit between IJV partners (Farjoun, 1998).

Achieving the above benefits does not come without cost. Product diversification through an IJV increases governance costs and coordination expenses in the pursual of economies of scope (Lubatkin and Rogers, 1989). Because IJVs rely for success on each parent's contribution and commitment (Buckley and Casson, 1988), transaction costs involved in product diversification for both the venture and its parents are likely to be high, driven largely by agency costs from venture management and opportunism from investors. Strategic goals underlying IJV formation are seldom symmetrical between partners (Contractor and Lorange, 1988). Beamish (1993) demonstrates that, in an emerging market, MNEs often pursue market expansion whereas local firms generally seek MNEs' technological skills. This goal incongruity between partners is the major origin of opportunism (Buckley and Casson, 1988). Opportunism and conflict increase as parental goals behind IJV formation diverge. Interpartner conflict and monitoring costs associated with maintaining organizational control further promote transaction costs, diminishing the economic gains of product diversification. The effect of product relatedness on IJV performance is thus likely to be modified by goal incongruity. On the other hand, institutional deterrence, a common threat facing IJVs in emerging markets, critically heightens operational instability, information cost, and strategic planning difficulty (Osland and Cavusgil, 1996), thus propelling transaction costs (Oliver, 1997). Realizing the potential benefits of product diversification is contingent on the munificence of external resources, support of relating industries and infrastructure, and the stability of a regulatory environment (Montgomery, 1985; Porter, 1986), all of these contingencies relying on institutional deterrence in an emerging market (Nee, 1989). Because the choice of product diversification strategy affects the extent to which an IJV utilizes a local parent's knowledge (Harrigan, 1988), and using this knowledge is a much more effective way to minimize institutional hazards than simply trying to maintain distance from the government (Luo, 1997), IJVs with different product linkages may have different capabilities to mitigate such deterrence.

Although still inconclusive, corporate strategy literature suggests that related diversification outperforms unrelated choices in terms of accounting returns and market performance (see review by Datta, Rajagopalan, and Rasheed, 1991). Related diversification is intuitively appealing because it supports the notion that core resources can be leveraged across related businesses and generate competitive advantages through the effects of scope (Barney, 1991). The resource-based view also states that a related linkage between all parents and their IJV is more likely to create an environment in which all parties can share critical yet complementary competencies or utilize pooled resources to generate higher financial or operational synergies than would be possible through an unrelated diversification strategy. Because product diversification through an IJV always interacts with international market diversification (Hitt *et al.*, 1994) and resource deployment (Harrigan, 1988), its relationship with performance at the business (IJV) level is expected to be complex. Since product diversification through an IJV seeks benefits from collaboration and expansion (Dyer and Singh, 1998), resource complementarity and goal incongruity between partners may shape the consequences of this diversification. IJVs may benefit even more from related diversification if there are more industrial opportunities or fewer institutional hazards. This study suggests that IJV dynamics (resource complementarity and

goal incongruity) and emerging market dynamics (structural opportunity and institutional deterrence) are generic conditioners that moderate the relatedness–performance relationship. When resources are more complementary or goals are less incongruent between partners, there will be a stronger association between relatedness and performance. When an emerging market provides less opportunities or the institutional environment is more deterrent, there will be a weaker association between relatedness and performance. These proposed relationships are illustrated in Figure 1 and detailed later.

It should be stated that this study emphasizes the general association between relatedness and IJV performance as well as factors moderating this association. This 'wide-scope' design provides a basis to understand the importance and nature of product diversification in IJVs. It, however, does not diagnose subcategories under related diversification. These subcategories essentially serve as structural mechanisms linking triad product relatedness between an IJV's foreign parent, local parent, and the venture itself. Within related diversification, for instance, vertical and horizontal choices may benefit differently from operational synergies arising from interpartner collaboration and from market opportunities generating from structural transformation of emerging economies. Even within a horizontal approach, the effects of dominant relatedness, constrained relatedness, and linked relatedness on joint venture cooperation and performance may vary because of idiosyncratic configurations in resource sharing. Similarly, within vertical relatedness, backward venturing and forward venturing differently configure with local partner resources and host country markets, and are thus likely associated with performance in different strengths. The 'wide-scope' research design reminds us that future studies should extend from this study and conduct more micro-level analysis, examining how subcategories under vertical or horizontal relatedness are linked to joint or private pay-offs for investing parties.

Diversification and performance

International diversification through IJVs can enhance efficiency from location advantages (Dunning,1981), improve performance from market structural discrepancies (Porter, 1986), increase synergies from internalization advantages (Hennart, 1988), and promote growth from organizational learning (Kogut and Zander, 1992). The IJV form can also create some unique benefits such as knowledge acquisition (Hamel, 1991), risk sharing (Contractor and Lorange, 1988), market access (Killing, 1983), competition avoidance (Hamel, Doz, and Prahalad, 1989), market power escalation (Kogut, 1988), and relationship building with the business community (Luo, 1997). The achievement of these benefits varies depending upon product relatedness between parents and the venture. Related and unrelated diversifications do not achieve equal outcomes from internationalization or internalization opportunities (Bartlett and Ghoshal, 1989). Nor do they generate the same synergistic effects on IJV performance through interpartner diversity (Parkhe,

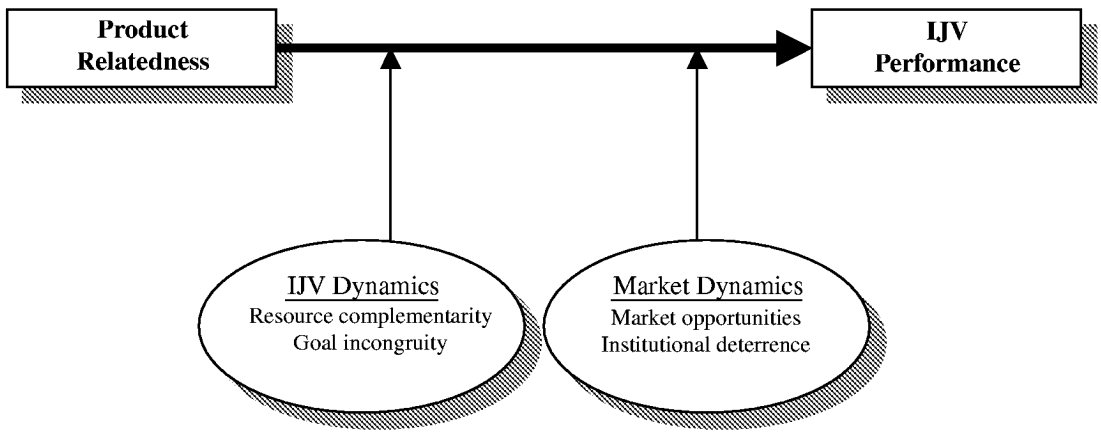

Figure 1. A conceptual model of the relatedness-performance relationship in emerging market IJVs

1993), resource indivisibility (Buckley and Casson, 1988), strategic symmetries (Harrigan, 1988), or organizational fit (Datta, 1991).

When product relatedness is high, an IJV can benefit from using the core competencies committed by both its foreign and local parents. Resource-based theory attributes superior performance to competitive advantages based on idiosyncratic factors internal to firms (Wernerfelt, 1984). Strategic resources are combined to generate superior outputs and can be applied across a variety of related product or market domains (Barney, 1991). Through related diversification, a foreign parent can contribute critical capabilities that can either be used as a core competency by the IJV or combined with a local parent's strategic resources. Bartlett and Ghoshal (1989) suggest that firms with strong core competencies, often developed in their home country operations, can apply them in foreign territories to create quasi-rents in related product domains for foreign subunits. Hennart (1988) argues that resource sharing with local parents can facilitate exploitation of common sets of core competencies or exploration of uncommon but complementary knowledge to generate synergy and a strong competitive position for equity joint ventures.

An IJV's high product relatedness also implies a strong linkage with its local parent. Relatedness with local parents in an emerging economy is critical to venture performance because it mitigates competitive threats and promotes structural opportunities facing IJVs. Through related diversification, an IJV can benefit from its local parent's relationships with buyers, suppliers, and governments (Luo, 1997) and its established distribution and marketing channels (Yan and Gray, 1994). Industrial experience, market power, customer loyalty, and organizational reputation, as accumulated by a local parent, can also improve IJV operations and enhance IJV performance (Luo, 1997). Unrelated diversification, however, deters contribution of these competencies or resources to the IJV since they are constrained from being leveraged or capitalized for the operations of an unrelated IJV. In addition, the synergistic effect is likely to be stronger in a related linkage than in an unrelated one. Buckley and Casson (1988) postulate that a related diversification strategy increases economic indivisibility and therefore the returns gained from resource complementarity contributed by parent firms. Despite lacking cutting-edge technology, local firms in an emerging market generally have a greater absorptive capacity under a related diversification scheme than in an unrelated one. This capacity is significant to IJV performance (Luo, 1997). The interfirm learning effect is also stronger when pursuing a related strategy than an unrelated one (Dyer and Singh, 1998; Hamel, 1991; Vachani, 1991).

Although many conglomerates with unrelated diversifications in emerging markets are successful, they are mostly domestic firms with a monopolistic power or institutional privileges given by the local government (Naughton, 1995) or obtained from diverse interpersonal or interorganizational networks with other firms and government officials (Nee, 1989). Compared to these domestic firms, IJVs rarely have such privileges or networks. Nevertheless, an IJV maintaining a related linkage with its local and foreign parents is likely to benefit more from the efficiency of transaction returns and transaction cost reduction than with an unrelated linkage. From the view of a host government in an emerging economy, related diversification in IJVs is preferred to unrelated linkages because the former enables ventures to export more to international markets through their foreign parents' distribution channels and global networks and helps local firms upgrade technological skills and managerial expertise (Luo, 1997). This institutional effect reduces transaction costs and operational uncertainties and is thus beneficial to IJV performance. From the above discussion, it is expected that an IJV maintaining related diversification with both foreign and local parents will have the highest performance, *ceteris paribus*. An IJV maintaining a related linkage with one parent will at least benefit from leveraging critical competencies from that parent. An IJV which is unrelated to both its foreign and local parents is unable to capitalize on any advantages accrued by the related strategy. Therefore:

> *Hypothesis 1: The degree of product relatedness between an IJV and its parents is positively associated with IJV performance.*

Resource complementarity and goal incongruity as moderators

The contribution of product relatedness to IJV performance largely relies on how IJV partners

depend upon and collaborate with each other. This contribution does not take place in a vacuum; product diversification interacts with resource, product, and market (Singh and Montgomery, 1987). Its contribution will be stronger if all of its parents' contributed resources, particularly those which are based on knowledge, are complementary. When resources are complementary across value-chain functions within the same production or operation process, a related diversification strategy will create a greater pay-off for the venture through improved economies of scale, productivity, innovation, or input efficiency. When this complementarity exists across value chain processes (e.g., between production and marketing), related diversification is likely to generate higher returns for an IJV because of elevated bargaining power over suppliers, buyers, and competitors, increased competitive strength and market power, or heightened customer responsiveness and organizational reputation. The greater the resource complementarity between foreign and local parents, the greater the operational synergies resulting from related diversification due to a superior integration of complementary resources pooled by different parents. Osland and Cavusgil (1996) attribute high performance of IJVs in an emerging market to the facilitating role of resource complementarity in product diversification (e.g., a foreign firm's technological skills and a Chinese firm's marketing expertise in related diversification). Similarly, Luo (1997) suggests that a Chinese partner's existing market power, industrial experience, and corporate image in an industry horizontally related to a foreign counterpart who contributes advanced technological or organizational skills can create a greater strategic and organizational fit between partners, thus leading to higher IJV performance.

The contribution of product diversification to IJV performance also depends on the level of information and coordination costs involved. To benefit from diversification, an IJV needs to monitor resource combinations, reintegrate value chain activities, and implement appropriate controls consistent with parental desire and power (Ring and Van de Ven, 1994; Yan and Gray, 1994). These processes inevitably increase information costs during IJV operations and management, which may in turn hinder the contribution of product diversification (Lubatkin and Rogers, 1989; Tallman and Li, 1996). Resource complementarity helps curtail information-processing costs and stimulate information exchange during diversification (Montgomery, 1985). Related diversification will have a stronger positive influence on performance if internal information processing is more efficient as a result of complementarity.[1] Thus, the synergistic effects of resource complementarity will be stronger at higher level of product relatedness than at lower level. Therefore:

Hypothesis 2: When resource complementarity is higher, there is a stronger positive relationship between product relatedness and IJV performance.

This study defines goal incongruity as the extent to which foreign and local parents have different strategic objectives about operations and evolutions of the IJV. IJV performance flourishes within an atmosphere of interpartner cooperation and forbearance but is hindered by opportunism and conflict (Buckley and Casson, 1988; Osborn and Hagedoorn, 1997). The incongruity of goals set for an IJV between its parents affects the extent to which they behave cooperatively or opportunistically (Parkhe, 1993). Having different goals for IJV development and evolution plants the seeds for subsequent opportunism and conflict (Geringer and Hebert, 1989). When strategic goals between parties diverge, firms are more likely to use distributive rather than cooperative strategies during IJV operations (Buckley and Casson, 1988). Goal incongruence increases a player's uncertainty about what another player will do, which can in turn deter making the best response to the partner's predicted strategies (Gibbons, 1992). Goal incongruity thus impedes organizational fit and strategic symmetry between foreign and local parents and furnishes an opportunistic environment in which product diversification can proceed. The higher the incongruity, the less collaborative or more opportunistic the atmosphere for undertaking product diversification. Without goal incongruence, related diversification offers a higher likelihood that every party will be more committed and cooperative in accomplishing common goals than does unrelated

[1] From the transaction cost perspective, governance costs arise largely from opportunism. Interpartner trust is thus also an important factor affecting governance costs. Although this study did not include trust in the model, previous studies suggest that trust is dependent on or autocorrelated with resource complementarity and goal congruity (Buckley and Casson, 1988; Gulati, 1995; Parkhe, 1993; Ring and Van de Ven, 1994).

diversification (Geringer *et al.*, 1989). With goal incongruence, however, this likelihood decreases. The relatedness–performance relationship is hence obstructed in the presence of incongruent goals.

Goal differences are often found amongst the parents of IJVs in emerging markets (Luo, 1997; Osland and Cavusgil, 1996; Yan and Gray, 1994). While foreign parents want IJVs to focus on preempting market opportunities and benefit from the release of pent-up demand long stifled by ideology-based governmental intervention, local parents see IJVs as channels to acquire foreign technologies and organizational skills (Luo, 1997). When such differences exist, the contribution of related diversification to IJV performance is limited. According to Williamson (1979: 239), goal incongruity diverges interests between parties, which gives way to antagonistic subgoal pursuits. When goals are incongruous, a related product linkage could be perceived by different parties as unrelated with respect to reciprocal dependency on resources (Beamish, 1993). This incongruity reduces the likelihood of gaining joint pay-offs from product diversification as well as private pay-offs from venturing operations because interpartner cooperation becomes a hurdle to be overcome. Brouthers and Bamossy (1997) suggest that IJVs in Eastern Europe often fail because goal incongruity deters the benefits of sharing resources and joint production. Similarly, Beamish (1993) demonstrates that interfirm conflict resulting from goal differences makes many IJVs in China unsuccessful even when they are horizontally or vertically related to both parents. Goal incongruity thus weakens the positive linkage between product relatedness and performance. Therefore:

Hypothesis 3: When goal incongruity is higher, there is a weaker positive relationship between product relatedness and IJV performance.

Structural opportunity and institutional deterrence as moderators

Despite daunting challenges, emerging markets provide foreign ventures with tremendous opportunities to preempt. These opportunities, however, vary across different industries within a same emerging market. Such opportunities largely arise from decentralizing industrial structures previously controlled by the government and dominated by a few state-owned monopolistic enterprises (Rawski, 1994). Due to deep-rooted structural imperfections, heterogeneous tax rates in different industries, and trial-and-error based industrial policies, both the degree of decentralization and the growth potential are idiosyncratic across industries within an emerging economy (Jefferson, Rawski, and Zheng, 1992). Consequently, structural opportunities are manifested typically in an industry's sales growth, profit growth, and output growth. The growth variance across industries reflects the differences in market demand as well as the outcome of different government policies regulating different industries.

We argue that the positive relationship between product relatedness and IJV performance is likely to be stronger when there are more structural opportunities in an industry in which an IJV participates. When an industry grows fast, it provides a bigger market domain in which a synergetic combination of product relatedness can expand. When an industry is stagnant, this expansion becomes constrained. Since the value of product relatedness in enhancing performance is often accomplished through a heightened level of competitive position, market power, product differentiation, and customer responsiveness (Amit and Livnat, 1988; Harrigan, 1988; Ramanujam and Varadarajan, 1989), a fast-growing industry furnishes an IJV enormous opportunities to capitalize on these advantages and enables it to charge higher prices for product differentiation (Chatterjee, 1990). Unlike those in developed markets, opportunities in emerging markets are sustained longer and thus have an enduring impact on firm performance (Luo, 1998). Market demand in most industries had long been stifled by political ideologies and a centralized planning system. When these industries were liberalized, a sustained surge of market demand emerged (Naughton, 1995).

When an industry's growth is higher, related linkages with both local and foreign parents may benefit even more from structural opportunities than unrelated linkages. To extract rents from industrial growth, an IJV must possess an established network in resource procuration, output distribution, product promotion, and customer base. Related diversification with a local parent makes the IJV better able to exploit and utilize competencies possessed by a local parent. Similarly, related diversification with the foreign parent makes the IJV benefit more from foreign parent capabilities, especially in technological and organizational skills, with the same or related product category,

which in turn helps the venture meet increasingly sophisticated consumer needs. Lacking the above supports from local and foreign parental firms, unrelated linkages with parental firms make an IJV unable to reap economic benefits from industrial growth as much as IJVs with related diversification. Therefore:

Hypothesis 4: When structural opportunity of an industry in which an IJV participates is higher, there is a stronger positive relationship between product relatedness and IJV performance.

Previous studies on product diversification generally assume zero deterrence from the institutional environment. This assumption does not hold in the context of an emerging market. Institutional deterrence involves various kinds of interference and intervention from either central or local governments and their administrative agencies.[2] Moreover, the levels of institutional deterrence often differ according to different industries within an emerging market. For example, IJVs face a different deterrence within China, depending on the category of the industry in which an IJV participates. Institutional deterrence increases along the sequence of encouraged technology-intensive industries, encouraged nontechnology-intensive industries, newly opened industries, and restricted industries. From an economic viewpoint, institutional deterrence obstructs market perfection and structural completeness (Nee, 1989). From an organizational viewpoint, institutional deterrence escalates the impediments of the environment and heightens the costs of obtaining, scanning, interpreting, and analyzing information for operations and management (Oliver, 1997). Since governmental interference differs according to location, industry, and ownership, various IJVs are subject to an idiosyncratic degree of institutional deterrence (Luo, 1997). Thus, IJVs which are more dependent on government-instituted production inputs (e.g., materials, work force, and local currency loans), operational resources (e.g., distribution systems and marketing vehicles), and infrastructure (e.g., transportation and utility) will be more prone to institutional hindrance and will have greater difficulty in controlling IJV operations (Pfeffer and Salancik, 1978). Without this control, the process of producing products that are related to parental firms is impeded and the realization of market-related advantages for product relatedness tempered (Geringer and Hebert, 1989; Harrigan, 1988).

We hence envisage that the positive relationship between product relatedness and IJV performance is obstructed by institutional deterrence. Because the contribution of product relatedness to performance depends on the availability of local resources that are mostly controlled by the government, institutional deterrence reduces the positive influence of product relatedness on firm performance. In the absence of these resources, however, possible operational synergies from product symmetry cannot be fully realized. As institutional deterrence is also revealed in governmentally-controlled financial treatments such as income tax, financing cost, foreign exchange balance, and value-added tax (Guthrie, 1997), IJVs facing a more hostile regulatory environment will operate in a more uncertain financial environment and receive less favorable treatments from the government. This increases difficulty in planning production, both operationally and financially, and hampers possible contribution of product relatedness to an IJV's market expansion and profitability. When unrelated diversification is not favored by a host government in the approval stage, IJV parents tend to rely more on their own resources in the course of operations and be more ready to circumvent governmental intervention than in the case of related diversification (Shenkar, 1990). Thus, institutional hazards may cause a greater obstruction to the linkage between related diversification and performance than to the linkage between unrelated strategy and performance. Therefore:

Hypothesis 5: When institutional deterrence is higher, there is a weaker positive relationship between product relatedness and IJV performance.

RESEARCH METHODS

Research setting

As the dawn of the new century, China is emerging as an economic giant. Economic reforms have

[2] In the entry stage, institutional deterrence may include project control, location designation, barriers of industrial entry, and entry mode requirement. In the operation stage, deterrence may be reflected in discriminatory financial treatment, constrained distribution arrangement, bureaucratic control of various resources, foreign exchange balance, and localization requirements.

advanced China's integration with the world economy, maintained a strong external payments position, privatized farming, liberalized markets for many goods and services, intensified industrial competition, and introduced modern macroeconomic management. Real growth in GDP has averaged 9 percent per year since 1981. For a country whose population exceeds that of sub-Saharan Africa and Latin America combined, this has been a remarkable development. Market-based transactions now dominate the Chinese economy, with over 90 percent of retail prices and 80 percent of production and agricultural prices determined by the market.

China is now the world's largest emerging economy and fastest-growing market. Its per capita income has more than quadrupled since 1978. It accounts for about 20 percent of total FDI absorption worldwide (*World Investment Report*, 1999). China's open market reform and rapid economic growth have enticed a tremendous surge in business activity and investment by multinational companies. Foreign investors have pumped more than $100 billion into China since economic reform efforts were redoubled in the early 1990s. About 70 percent of these investments are in the form of IJVs. Although not all ventures have resulted in success stories, many firms that entered the market in the early days have achieved a profit within a reasonable amount of time. The question for newcomers now is not 'Is it worth entering China?' but rather 'How can we make it worthwhile to be in China?' The product diversification strategy is one of the fundamental decisions MNEs must make before plunging into a market where both opportunities and challenges abound.

Data collection

A nationwide mail survey of general or deputy general managers of Sino-foreign equity joint ventures was undertaken during 1998–99. Our sample list was drawn from the *Directory of Foreign-Invested Industrial Enterprises*, compiled by MOFTEC, China in 1996, and the *Almanac of China's Foreign Economic Relations and Trade* (1993–96). We sent questionnaires to 500 randomly selected manufacturing IJVs, each of them having 3 years or longer in operation. Export-oriented IJVs, identified from the above *Directory* and *Almanac*, were not on the list because of the bias in reported IJV performance due to transfer pricing. After excluding export IJVs, horizontally and vertically related diversification strategies become more homogenous. They both interact with a host market and are both related to parental businesses through sharing resources. Questionnaires were sent and collected through an independent contractor (a distinguished international business professor in China). The geographical focus was the Yangtze River Delta (Shanghai, Jiangsu, and Zhejiang provinces) and the Pearl River Delta (Guandong and Fujian provinces). These regions are major hosts of foreign investment; they represent 61 percent of the total value of FDI nationwide.

In a pilot test, the preliminary Chinese version of the questionnaire was sent to fourteen senior managers representing Chinese parties in IJVs in Nanjing, China. They were asked to identify any ambiguities in the terms, concepts, or issues raised. Face-to-face interviews were later conducted. The questionnaire was adjusted based on their comments. After four rounds of reminders, there were 134 complete responses (a 26.8% response rate). Foreign sources of investment mainly originated from the United States, United Kingdom, Japan, Germany, Hong Kong, France, Italy, Australia, and Singapore. The IJVs participate in diverse industries such as electronics, garments, fiber products, food processing and beverages, leather, rubber and plastics, chemical products, medical equipment, pharmaceuticals, electrical equipment, machine manufacturing, and building materials, among others. The respondents were asked to frame their responses within the most recent 3 years. When an IJV involved multiple Chinese or multiple foreign parents, we asked them to refer to the dominant one in response to relevant questions.

To mitigate the possibility of 'politically correct' responses to our survey, we left the respondents unidentified. In order to provide triangulations with some of the mail survey results and between respondents within the same company, 20 senior Chinese managers in IJVs in Nanjing (two from each firm), identified from the code numbers stamped on each questionnaire, were semi-structurally interviewed. They were asked to identify product relatedness and other questionnaire items right after the questionnaires were collected. The reported results demonstrated a high consistency with their answers on the questionnaires and between the two interviewees from each firm.

The possibility of nonresponse bias was checked based on information obtained from the *Directory of Foreign-Invested Industrial Enterprises* and *22,000 Businesses in P.R.C* (published by China International Business Investigation Co. in 1996). From these resources, we were able to compare some firm attributes between 66 responding and 84 nonresponding firms (not all sample firms listed there), identified by the code number stamped on each questionnaire. The mean differences between respondents and nonrespondents with respect to the number of employees, length of operations, sales, and net profit were tested using an unpaired t-test. The results demonstrated that all t statistics were insignificant. In order to check the representativeness of the sample, the mean of the project size of the sample firms was compared with those of the population nationwide, using information obtained from the *China Statistical Yearbook* (1996). The t-test results were insignificant, suggesting no significant bias from the population in terms of investment size.

In an attempt to check the threat of common method variance, we followed the *post hoc* procedural method suggested by Podsakoff and Organ (1986). In 1999, we sent the same questionnaires to 29 randomly selected senior managers who had responded to the early round. The correlation analysis of 22 responses exhibited strong consistency in surveyed items between the two different periods (all at $p < 0.0001$). Using archival information to measure some control variables such as industry and culture effects further dispels common method variance. After completing these *post hoc* procedural methods, a statistical remedy was employed. We conducted Harman's one-factor test where all variables revealed in the questionnaire were entered into a factor analysis. The results uncovered that neither a single factor emerged nor was there a general factor which could account for the majority of the covariance in these variables. This test further indicated the absence of severe common method variance. Lastly, from *Standard & Poor's Register of Corporations, Directors and Executives, Ward's Business Directory of U.S. Private and Public Companies*, and *Worldscope Industrial Company Profiles*, we were able to find 51 foreign companies in our sample in terms of product relatedness with their IJVs. Additionally, we used the *Directory of Foreign-Invested Industrial Enterprises* and *22,000 Businesses in P.R.C* to check whether there was response bias concerning product relatedness between Chinese parents and IJVs for 66 responding ventures. It was found that IJV managers' responses concerning product relatedness between foreign and Chinese parents and IJVs were highly consistent with what has been reported in archival sources (correlated at $p < 0.0001$ or lower). When responses were inconsistent (7 cases), the answer to the relatedness item was replaced by the archival information. In order to further ensure the reliability of responses to IJV performance, we compared the 66 respondents' assessments of IJV performance with those indicated in the above *Directory* and *22,000 Businesses* (assessed by sales/assets and net profit/assets). This verification suggested a high consistency in the level of these two measures between the survey and archival sources.

Variable measurement

As a dependent variable, IJV performance was measured as the level of satisfaction with venture performance in four areas, as perceived by IJV top managers, using a 7-point Likert scale. The four areas are profitability, sales level, competitive position, and overall performance. We chose these dimensions because they have been recognized as major strategic goals underlying IJV formation for most firms (Beamish and Banks, 1987; Contractor and Lorange, 1988; Kogut, 1988; Yan and Gray, 1994). The dimensionality and reliability of this multidimensional construct were validated respectively by the high level of loadings found in our exploratory factor analysis (≥ 0.77) and Cronbach's α coefficients (0.70). The factor loadings were used as weights in calculating the average score of this construct (Rosenthal and Rosnow, 1991).

As a combination of continuous and categorical constructs, product relatedness was defined as an index adding the related product linkages of both foreign and Chinese parents and the IJV. Each respondent was asked to assess whether an IJV's primary product or business is related (horizontally or vertically) or unrelated to its foreign and Chinese parents. The definition of each diversification type as described earlier was provided in the questionnaire. The index equals 2 when the product is related with both parents, 1 if related to only one parent, and 0 if unrelated to both. Among our sample firms, 40 were related to one parent, 55

related to both parents, and 39 unrelated to both parents.

As a proposed moderator pertaining to IJV dynamics, resource complementarity was measured by an average of a respondent's assessment, on a 7-point Likert scale, to the extent to which one parent's contributed resources are complementary to those contributed by the other parent with respect to the following categories: (1) strategic resources such as technological capability, market power, and marketing expertise; (2) organizational resources such as managerial skills, international experience, and organizational reputation; (3) financial skills such as ability to reduce cost, allocate capital, and manage assets; and (4) resource complementarity across the above categories. Cronbach's α coefficients (0.72) confirmed the internal consistency of this construct. Factor analysis also observed high loadings for each question item (≥ 0.74). These loadings were used as weights in computing the average scores of this construct. Similarly, goal incongruity (reverse coded) was defined as a multi-item construct asking each respondent to assess, on a 7-point Likert scale (from 1 not congruent at all to 7 extremely congruent), the extent to which foreign and Chinese parents are congruent with respect to the following strategic goals set for their IJV: (1) profitability; (2) market orientation (i.e., export vs. local market); (3) risk minimization; (4) market share in the Chinese market; and (5) stability and longevity. The reliability and dimensionality of this variable were validated respectively by high loadings found in our exploratory factor analysis (≥ 0.82) and Cronbach's α coefficients (0.75). The factor loadings were used as weights in calculating the average of this variable.

As two moderators relating to emerging market dynamics, structural opportunity and institutional deterrence were both measured using archival data. Industrial growth was defined as the average compound growth (%) of an industry's sales, profit, and outputs during 1995–97. The data were obtained from the 3-year editions of the *China Statistical Yearbook* compiled and published by the State Statistical Bureau. Institutional deterrence is a categorical construct, defined as 5 if an IJV's industry lies in Restricted Category B, 4 if in Restricted Category A, 3 if in the Newly Opened Category, 2 if in the Encouraged Non-Technological Category, and 1 if in the Encouraged Technological Category. The full list of projects and industries under each of these categories was obtained from *The Orientation Directory of Industries for FDI*, compiled by the State Council, China. This *Directory* explicitly states that governmental priorities and institutional support are given in the above sequence from 1 to 5. Detailed measures encouraging or restricting FDI, as stipulated in this *Directory*, further manifest governmental support in this sequence. Thus, the higher the number, the greater the institutional deterrence, and vice versa. This objective measurement of deterrence correlates highly ($p < 0.0001$) with overall institutional deterrence as perceived by senior IJV managers (per a 5-point Likert scale item in the questionnaire describing each informant's opinion on the degree of deterrence to IJV operations).

We controlled for several factors in the analysis of the relatedness–performance relationships. First, previous studies suggest that IJV size may have implications for the extent to which parent firms will commit to venture operations (Beamish and Banks, 1987), benefit from economies of scale (Contractor and Lorange, 1988), and maintain organizational control over venture activities (Geringer and Hebert, 1989). This size was defined as the number of employees in an IJV. Second, cultural distance may be associated with interfirm cooperation and conflict resolution (Ring and Van de Ven, 1994) and organizational learning and knowledge acquisition (Inkpen and Beamish, 1997), thus influencing IJV performance (Parkhe, 1993). This variable was computed following Kogut and Singh's composite index (1988) and based on Hofstede's (1984) and Huo and Randall's (1991) data. This index measures deviation along each of four cultural dimensions (i.e., uncertainty avoidance, individuality, power distance, and masculinity–femininity) from the score of a given focal country for each foreign country (j) such that: $\mathrm{CD}_{j/\mathrm{china}} = 1/4\Sigma[(I_{ij} - I_{i\mathrm{china}})^2/V_i]$ where I_{ij} = index value for cultural dimension i of country j; $I_{i\mathrm{china}}$ = index value for the cultural dimension of China (P.R.C.); V_i = variance of the index dimension i. Third, IJV location may be associated with IJV performance since IJVs in open areas enjoy greater preferential treatment by the Chinese government than those in other areas (Beamish, 1993). This variable was measured by a dummy variable (1 if open coastal cities or economic regions, 0 otherwise). Fourth, ownership type amongst Chinese parents was controlled for because ownership was linked with degree of

governmental control, institutional protection, and firm decision-making power (Luo, 1997), thereby influencing IJV performance. It was also defined as a dummy variable (1 if state-owned, 0 otherwise). Finally, equity distribution between partners as measured by the percentage owned by the foreign parent was included. Distribution may affect parental commitment, control, and cooperation, thus influencing venture performance (Beamish and Banks, 1987; Parkhe, 1993). Table 1 presents the descriptive statistics and Pearson correlation matrix.

ANALYSIS AND RESULTS

We conducted standardized multiple regressions to test Hypotheses 1–5. VIF (variance inflation factor) values in four different models in Table 2 (1.04–4.91) expunged the possibility of multicollinearity.[3] A modified Kolmogorov–Smirnov test was performed to validate the assumption of normality of each variable in these models (Hair *et al.*, 1992). Except for IJV size, the results for all other variables confirmed the validity of the normality of these variables. IJV size (0.13, $p < 0.01$) was positively skewed, so we transformed it by taking its logarithm. It demonstrated normality after transformation. The threat of unequal variances (heteroscedasticity) was also checked by the Levane test (Hair *et al.*, 1992). The results ($p > 0.10$ for all predictor variables) showed no pattern of increasing or decreasing residuals, thus suggesting the presence of homoscedasticity. The overall regression equation explains 46 percent of the total variance in the absence of interactions and 52–53 percent with interaction terms—results that are statistically significant at the 0.001 level.

As Table 2 shows, product relatedness is positively associated with IJV performance across all models ($p < 0.01$ in Model 1 and $p < 0.05$ in other models). As product relatedness was a quasi-continuous construct from unrelated (0) to unilateral related (1) and bilateral related (2), this result suggests that having a related diversification strategy between an IJV and its two parents outperforms quasi-related diversification with one parent, which is in turn superior to an unrelated linkage with both parents. To further test for internal validity of this result, the sample was split randomly into halves and the regressions recomputed. Both standardized β_s and the estimates of explained variance remained stable in these models, suggesting that the results reported here are not due to chance. This supports Hypothesis 1.

While product diversification is an important determinant of IJV performance, it is by no means sufficient to ensure IJV success. Model 2 in Table 2 suggests that other variables such as resource complementarity, goal congruity, structural opportunity, institutional environment, and equity arrangement are also significantly important. When these variables as well as control variables are added, the adjusted R^2 increases from 0.04 to 0.46. Although the two variables describing IJV dynamics (resource complementarity and goal congruity) and the other two variables describing emerging market dynamics (structural opportunity and institutional

[3] A common cut-off threshold is a tolerance value of 0.10, which corresponds to VIF values above 10 (Hair *et al.*, 1992:48).

Table 1. Descriptive statistics and Pearson correlation matrix ($N = 134$)

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1. IJV performance	4.74	1.05										
2. Product relatedness	1.12	0.69	0.24*									
3. Resource complementarity	4.55	1.02	0.64***	0.21*								
4. Goal incongruity	4.20	0.76	−0.27**	−0.03	−0.18*							
5. Structural opportunity	12.7	6.84	0.25**	−0.09	−0.23*	0.03						
6. Institutional deterrence	2.96	1.15	−0.22*	−0.07	−0.15	0.08	−0.05					
7. IJV size	538.00	32.30	0.06	0.06	0.08	0.15	−0.10	0.14				
8. Cultural distance	6.98	3.77	−0.12	−0.11	0.09	−0.12	−0.07	−0.20*	0.10			
9. IJV location	0.90	0.30	−0.04	0.10	0.16	−0.07	−0.05	0.11	0.06	0.12		
10. Local parent ownership	0.57	0.49	−0.18*	−0.15	−0.10	−0.22*	−0.02	0.26**	0.07	0.09	−0.01	
11. Equity distribution	0.46	0.28	0.20*	0.14	0.08	0.16	0.12	−0.29***	0.14	−0.01	0.20*	0.15

*$p < 0.05$; **$p < 0.01$; ***$p < 0.0001$.

Table 2. Product relatedness and IJV performance ($N = 134$)[a]

Variables	IJV Performance			
	Model 1	Model 2	Model 3	Model 4
Independent variables				
Product relatedness (PR)	0.24**	0.19*	0.18*	0.25*
	(0.12)	(0.14)	(0.15)	(0.16)
Resource complementarity (RC)		0.29***	0.39***	0.32***
		(0.08)	(0.15)	(0.08)
Goal incongruity (GI)		−0.21**	−0.17*	−0.23**
		(0.09)	(0.13)	(0.09)
Structural opportunity (SO)		0.16*	0.15*	0.19†
		(0.07)	(0.06)	(0.12)
Institutional deterrence (ID)		−0.25**	−0.26**	−0.30*
		(0.10)	(0.10)	(0.17)
Control variables				
IJV size		−0.03	−0.15	−0.06
		(0.03)	(0.05)	(0.04)
Cultural distance		0.06	−0.12	0.03
		(0.04)	(0.03)	(0.04)
IJV location		0.09	−0.13	−0.02
		(0.23)	(0.24)	(0.24)
Local parent ownership		−0.10	−0.15	−0.10
		(0.15)	(0.15)	(0.16)
Equity distribution		0.27**	0.23*	0.22*
		(0.12)	(0.13)	(0.13)
Interaction terms				
Relatedness × Resource (PR × RC)			0.26* (0.16)	
Relatedness × Goal (PR × GI)			−0.21† (0.15)	
Relatedness × Opportunity (PR × SO)				0.23† (0.16)
Relatedness × Deterrence (PR × ID)				−0.25** (0.11)
Model F	5.36	16.45	18.80	12.07
$p <$	0.01	0.001	0.001	0.001
Adjusted R^2	0.04	0.46	0.56	0.55
Δ Adjusted R^2		0.42	0.10	0.09
Hierarchical F-test[b]		9.90**	13.75***	12.10***

[a] The entries in the table are the standardized β_s (standard errors are in parentheses) and their significance levels, where $^{\dagger}p < 0.10$; $^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$.
[b] $F = (\Delta R^2/\Delta k)(N - k_2 - 1)/(1 - R_2^2)$ where k is the number of predictors and N the total sample size (see Jaccard, Turrisi, and Wan, 1990: 18–19).

deterrence) are predicted as moderators influencing the relationship between diversification and performance, they also independently affect IJV performance ($p < 0.05$ or lower).

Models 3 and 4 report the interaction effects after centering the predictor variables around the mean.[4] Model 3 shows that the interactions between resource complementarity and product relatedness ($p < 0.05$) and between goal congruity and product relatedness ($p < 0.10$) are both significantly and positively associated with IJV performance. They increase the predictive power of the model ($\Delta R^2 = 0.10$). The hierarchical F-test (see Jaccard, Turrisi, and Wan, 1990: 15–27) shows that the difference between the two R^2 values (Model 2 vs. Model 3) is statistically

[4] This centering technique is necessary to remove the multicollinearity between the independent variables and the interaction terms that include these independent variables. For the detailed centering technique, please refer to Aiken and West (1991, Ch. 2).

significant ($F = 13.75$, $p < 0.001$), suggesting the presence of significant interaction effects. These results indicate that there is a stronger positive relationship between product relatedness and IJV performance when resource complementarity or goal congruity between parents is higher. When goal congruity is inverted into goal incongruity, this finding suggests a weaker positive link between product relatedness and performance in the presence of higher goal incongruity. According to the terminology of Sharma, Durand, and Gur-Arie (1981), resource complementarity and goal congruity are quasi-moderators since they each independently influence and jointly affect IJV performance through an interaction with product relatedness. This lends support to Hypotheses 2 and 3.

Model 4 shows that the interaction between structural opportunity and product relatedness is significantly and positively related to IJV performance ($p < 0.10$). The interaction between the other contextual variable (institutional deterrence) and product relatedness is, however, strongly and negatively associated with performance at $p < 0.01$ level. These two interaction effects account for 9 percent of the variance of IJV performance. Our hierarchical F-test confirms the significant effect of the two interaction terms ($F = 12.10$, $p < 0.001$). These findings validate that industrial and institutional effects are significant during economic reform and structural transformation (Naughton, 1995). Related diversification in a fast-growing industry and less deterrent environment can achieve even greater economic benefits. Product relatedness contributes more to IJV performance when structural opportunities are greater; it contributes less, however, if institutional deterrence is stronger. Hypotheses 4 and 5 are therefore supported. Since these two contextual variables also independently influence performance, they are also quasi-moderators affecting the form of the relationship between product relatedness and IJV success in a host country.

Of the control variables, equity distribution as measured by the equity percentage owned by the foreign parent is found to have a significantly positive influence on IJV performance. It suggests a higher venture performance when the foreign party maintains greater equity control in an IJV. This corroborates the findings of several previous studies such as Beamish and Banks (1987) and Osland and Cavusgil (1996). Other control variables, however, do not demonstrate a profound impact on IJV performance, as was previously suggested by studies set in the early years of the Chinese context (e.g., Beamish, 1993, Luo, 1997; Yan and Gray, 1994). Recent economic reforms, particularly further decentralization of state-owned enterprises and greater consistency of treatment of FDI in different provinces may explain this difference with regard to local ownership and venture location. After more than a decade of operations in China, most Western MNEs may no longer suffer from cultural disadvantages or a higher liability of foreignness compared to mainland China's neighbors such as Taiwan, Singapore, Hong Kong, and Korea. Cultural distance has thus become insignificant to IJV performance. As the Chinese consumer market is substantially segmented by economic, geographical, and sociocultural diversity, firm size also fails to have a high impact on business when a tremendous range of market niches exist during structural transformation.

DISCUSSION AND CONCLUSION

This study extends mainstream product diversification studies to include a new organizational form (IJV) and a new context (emerging market). It addresses this broad issue by examining the general association between product relatedness and IJV performance and identifying factors moderating this association. Analysis of data from 134 IJVs in China validates our major premise that product relatedness between an IJV and its foreign and local parents is important to IJV performance. The higher the product relatedness, the better the IJV performance. An IJV which is related by product with both parents (i.e., bilateral or full relatedness) performs better than a venture related only with one parent (i.e., unilateral or quasi-relatedness), which in turn outperforms an IJV which has unrelated connections with both parents. Dual relatedness of an IJV with two parents benefits more from interpartner learning, resource sharing, innovation improvement, and market power integration. The relationship between product relatedness and IJV performance is further moderated by prominent characteristics of IJVs (resource complementarity and goal congruity) and environmental dynamics of emerging

markets (structural opportunity and institutional deterrence).

Extending product portfolio research to the context of IJVs in an emerging market is complex as well as important. Its complexity arises from the presence of dual diversification relations with two cross-border parents and the existence of structural opportunities and institutional hazards facing IJVs. Product relatedness affects IJV performance independently as well as interactively with resource relatedness (complementarity), goal relatedness (congruence), and environmental conditions. Product relatedness contributes more to performance when it is properly configured with these interactive factors. It is critical because of the strong linkage between diversification mix and interpartner complementarity, the latter being a paramount factor determining financial and operational synergies created by an IJV. Product diversification itself has a significant main effect on IJV performance.

The complex relationship between diversification and IJV performance in an emerging market is particularly manifested in two sets of moderating effects, one from the dynamics of IJV organizational form and the other from the dynamics of emerging market environment, on the association between diversification and performance. Resource complementarity heightens the contribution of related diversification to IJV performance whereas goal incongruity between partners deters such a contribution. These interactive effects imply that product relatedness has an even greater favorable impact in igniting and sustaining superior performance for IJVs when the resources pooled by both parties are complementary and the strategic goals set for IJVs by two parents are congruent. A product diversification decision involving an IJV is always linked to resource commitment considerations because every parent hopes to benefit from interfirm collaboration while avoiding risks, particularly those associated with leakage of proprietary knowledge (Parkhe, 1993). The interactive results suggest investors, whether foreign or local, can fulfill this goal if the resources they contribute to joint ventures are complementary with those of their partners. This is further ensured if the strategic motives of each parent concerning IJV establishment are congruous.

As an increasingly critical force shaping the world economy, emerging markets are characterized by market potential largely derived from structural opportunities as well as environmental uncertainty mainly arising from institutional interference. This study has documented that structural opportunity stimulates IJV performance whereas institutional interference impedes performance. The importance of these two contextual variables is further increased as they moderate the relationship between product relatedness and venture performance. Product relatedness exerts a stronger favorable influence on performance when industrial growth is higher. In contrast, when the institutional deterrence in the IJV industry is stronger, there will be a weaker positive relationship between product relatedness and performance.

Although important, product relatedness is certainly not the only factor driving IJV performance. Other factors such as resource complementarity, goal congruity, structural opportunity, institutional hazards, and ownership distribution are also significantly related to IJV success. Making IJVs stable and profitable in emerging markets is especially challenging given the dynamics of economic transition and institutional instability. Today, such markets are becoming increasingly competitive as a consequence of unabated structural decentralization, formation of a large array of new firms, and entrance of competent foreign companies. Choosing a related diversification strategy is superior to choosing an unrelated one under these conditions because it enables firms to reduce resource dependency on the external environment, thus attenuating their vulnerability and exposure to contextual threats and minimizing systematic risks and operational uncertainty. Meanwhile, related diversification helps businesses maximize the benefits gained from using core competencies and critical capabilities. These benefits include not only higher financial returns but also greater market power and superior competitive positions vis-à-vis close rivals. For example, the termination or bankruptcy of numerous conglomerate Asian firms during the recent financial crisis had to do with overexpansion into many unrelated businesses in which they were unable to sustain a competitive advantage.

Partner selection is important to IJV success everywhere. Our findings imply that partner selection should include consideration not only of partner attributes, as suggested by others (e.g., Geringer and Hebert, 1989; Hennart, 1988; Luo, 1997), but also of interpartner linkages that may affect achieving joint and private pay-offs from

a venture. This study suggests that linkages such as product diversification mix, resource complementarity, and goal congruence have strong performance implications. *Ceteris paribus*, an ideal partner should have a core business related to the dominant business of the other parent firm as well as to the future IJV, have resources which are economically indivisible and synergistic with those contributed by the partner firm, and share common or compatible goals set for the IJV with the foreign partner. When such linkages are all satisfied, IJV performance will be significantly elevated because of their interaction effects.

Several limitations of this study should be redressed in the future. First, our 'wide-scope' research design was unable to diagnose subcategories under vertical or horizontal related diversification and to differentiate between horizontal relatedness and vertical relatedness. This limitation may obscure some important characteristics of the underlying relationship between product relatedness and IJV performance. Diagnosing these subcategories is important to both theory and practice because they are mechanisms in the structural reconfiguration of product relatedness in IJVs. We documented that related diversification is superior to unrelated in enhancing IJV performance. It is likely that, *within* related diversification, vertical relatedness differs from horizontal relatedness in association with performance because they have different resource realignments between partners. Within vertical relatedness, backward and forward venturing may impact cooperation outcomes differently since they interact differently with foreign country resources and market dynamics. Within horizontal relatedness, different subcategories such as constrained relatedness, linked relatedness, and dominant business may not necessarily be isomorphic in influencing IJV performance as they vary in resource sharing with local partners and with parent firms and sister subsidiaries. Building on the definitions provided by this study, more micro-level analyses at the level of each of these subcategories should be performed. Future research may also step further to explore how these subcategories should be dyadically structured to create the maximum joint payoff (e.g., horizontally linked to one parent but vertically related to the other parent, or backward venturing with one parent but forward venturing with the other). It seems logical to assume that such dyad structures have different implications on IJV performance because they alter the power structure as well as resource configurations within the IJVs.

Second, this study examined the effect of product diversification from the perspective of IJV managers. Since the private goals of each parent often differ from those of the other parent as well as of IJV managers, joint pay-offs contributed from product relatedness may not necessarily be reflected in private pay-offs for each parent. Using parental objective data or using parental managers as the informants, future research can address not only performance implications of diversification strategies for IJV parents, but also capture some dyadic and complex characteristics of IJV parents that this study did not probe. For instance, it would be interesting to see how the asymmetry of bargaining power and the difference in required global integration between parent firms affect the diversification strategies and their outcomes.

Finally, this study only uses China as its empirical setting and therefore may not be representative of other emerging markets or transition economies. Although the national environment seems to have a less significant influence on product diversification than the industrial environment, it is necessary to verify whether the major findings based in China are generalizable to other emerging economies which are becoming important hosts of FDI. Moreover, the inclusion of structural opportunity and institutional deterrence in our analysis is still insufficient or incomplete in capturing the extremely dynamic, complex, and heterogeneous environment within an emerging market. Future efforts may incorporate and decipher more refined variables that offer more concrete and specific information about the institutional environment and the industry structure of an emerging market. This will provide new insights into the applicability of extant diversification research in this new context and help us better understand the influence of complex institutional environments on strategic management decisions.

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