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J. Lu Jin, L. Wang

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Design and Governance of International Joint Venture Innovation Strategy: Evidence from China

Highlights

- Building on the exploitation-exploration framework and partner governance literature, this study develops a contingent view to investigate the performance implications of exploitative/explorative innovation strategy in international joint ventures (IJVs) and examine whether distinct governance mechanisms differently affect the effectiveness of innovation strategies.
- Explorative innovation strategy generates a greater positive effect on IJV new product performance than exploitative innovation strategy.
- Exploitative innovation strategy is more effective when contractual governance is high or relational governance is low.
- Explorative innovation strategy works better when contractual governance is low or relational governance is high.

Design and Governance of International Joint Venture Innovation Strategy: Evidence from China

Jason Lu Jin

Associate Professor

Business School, Sun Yat-Sen University
No.66, Gongchang Road, Shenzhen, China

Tel : (86) 755-23263786

Email: jnlu2014@gmail.com

Liwen Wang *

Assistant Professor

Shenzhen Audencia Financial Technology Institute
Shenzhen University

3688 Nanhai Road, Shenzhen 518060, China

Tel: (86) 755-26543581

Email: wanglw@szu.edu.cn

* Corresponding author

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Abstract

Using the exploitation-exploration framework to conceptualize international joint ventures (IJVs)' innovation strategy, this study develops a contingent governance view to posit that the effectiveness of exploitative and explorative innovation strategies depends critically on the governance mechanisms between IJV partners. Based on empirical analyses of 187 IJVs in China, our results reveal that explorative innovation strategy generates a greater positive effect on IJV new product performance than exploitative innovation strategy. Furthermore, exploitative innovation strategy has a positive impact on IJV new product performance at high levels of contractual governance but has a negative effect at high levels of relational governance. In contrast, explorative innovation strategy contributes more to IJV new product performance at high levels of relational governance but shows a negative effect at high levels of contractual governance. This study offers important implications for IJVs to better design and manage their innovation strategies.

Keywords: innovation strategy; international joint venture; exploitation; exploration; contractual governance; relational governance

INTRODUCTION

International joint ventures (IJVs) are legally independent entities established by two or more firms from different countries, commonly seen in emerging markets (Chang, Wang, & Bai, 2020; Li, 2023; Nippa & Reuer, 2019). Since innovation strategy directs the deployment and utilization of various resources from both parents, it is critical for the IJV, as an independent firm, to design an appropriate strategy that helps survive the ever intensifying competition of emerging markets (Jin & Zhou, 2021; Le Nguyen, Larimo, & Wang, 2019). In particular, IJVs may focus on exploiting existing resources and capabilities from their parents to develop locally refined products to maintain their current positions; or they may strive to explore emerging ideas and create new products for customers in the new product-market domains (Jin, Zhou, & Wang, 2016; Ju & Gao, 2022).

Despite the value of adopting an innovation strategy, prior literature has predominantly focused on how inter-partner related factors affect IJVs' competitive advantage (Ali, Khalid, Shahzad, & Larimo, 2021; Chang et al., 2020; Konara & Mohr, 2023; Kwok, Sharma, Gaur, & Ueno, 2019; Park, Vertinsky, & Becerra, 2015; Wang, Bai, & Li, 2023); yet placed much less attention on the role of IJVs' own innovation strategy.¹ Furthermore, while exploitative and explorative innovation, as critical innovation activities, have been widely investigated in domestic market settings (Jansen, Van Den Bosch, & Volberda, 2006; Morgan & Berthon, 2008), their performance consequence for emerging market IJVs has been understudied (Jin et al., 2016).² Since foreign and local parents come from different countries with divergent objectives

¹ Specifically, only three studies have focused on IJVs' innovation strategies: Jin & Zhou (2021) examine the influence of ambidextrous innovation strategy; Le Nguyen et al. (2019) explore the effects of incremental and radical innovation strategies; Jin et al. (2016) investigate exploitative and explorative innovation strategies.

² Zhan and Chen (2013) and Zhan and Luo (2008) use the exploitation-exploration framework to capture IJVs' dynamic capability and organizational learning. Jin et al. (2016) examine the performance

and expectations, parent coordination and resource integration are challenging, which affects the success of specific IJV innovation strategy (Li, Zhou, & Zajac, 2009; Shi, Sun, Pinkham, & Peng, 2014). Thus, how exploitative and explorative innovation strategies benefit a single firm may not directly apply to the context of IJVs, which warrants further investigation.

Given their distinctive nature, the benefits of exploitative and explorative innovation strategies likely vary with factors at the IJV level (He & Wong, 2004; March, 1991). To facilitate the success of exploitative and explorative innovation strategies in IJVs, partners need to achieve effective coordination and commit appropriate resources. Thus, managing the relationship between IJV partners becomes critical, as it shapes resource allocation for exploitative and explorative innovation strategies. However, prior literature on exploitation-exploration mainly examines boundary conditions at the firm and industry level (Cao, Gedajlovic, & Zhang, 2009; Voss & Voss, 2013; Yamakawa, Yang, & Lin, 2011), overlooking important attributes at the IJV level.

In IJV research that highlights the complex relationships between foreign and local partners, studies emphasize that governance mechanisms are necessary for IJVs to effectively coordinate partner actions and integrate their resources (e.g., Li, Poppo, & Zhou, 2010; Li, Zhou, & Zajac, 2009; Luo, 2007). By affecting partners' interactions and resource integration (Li et al., 2010), partner governance mechanisms, as important IJV level factors, may shape the efficacy of exploitative and explorative innovation strategies. In practice, an IJV likely decides simultaneously on their innovation strategies and partner relationship governance mechanisms (Homburg et al., 2020; Nippa & Reuer, 2019). Yet surprisingly, while previous studies examine the direct effect of governance mechanisms on relational development and performance (Li et al.,

implication of IJV exploitative/explorative innovation strategy in emerging markets but do not compare the influence of these two types of strategies.

2010; Wang et al., 2019; Zhou & Xu, 2012), extant research rarely matches specific partner governance mechanisms with IJV innovation strategies for better new product performance.

Building on the exploitation-exploration framework and partner governance literature, this study develops a contingent view to investigate the performance implications of exploitative/explorative innovation strategy in IJVs and examine whether distinct governance mechanisms differently affect their effectiveness. We argue that explorative innovation strategy is more helpful than exploitative innovation strategy for *IJV new product performance*, which captures the success of IJVs' new products and evaluates whether the new products have achieved expected objectives in the marketplace. We further argue that the efficacy of exploitative and explorative innovation strategies depends critically on governance mechanisms between IJV partners. Representing formal and informal governance mechanisms, *contractual governance* refers to the use of specific, customized, and detailed contracts to coordinate partner cooperation and *relational governance* relies on trust-based norms to facilitate exchanges (Sheng, Zhou, Li, & Guo, 2018). We propose that contractual governance strengthens the effectiveness of exploitative innovation strategy but inhibits the effect of explorative innovation strategy, while relational governance strengthens the effectiveness of explorative innovation strategy but mitigates the impact of exploitative innovation strategy on IJV new product performance. Namely, the alignment between innovation strategies and governance mechanisms leads to superior IJV new product performance. Empirical analyses of 187 IJVs in China provide support for the research framework (Figure 1).

***** Insert Figure 1 about here *****

Our study extends prior IJV innovation and governance literatures in two ways. First, this study examines the implications of exploitative and explorative innovation strategies for IJV new

product performance in emerging markets. By providing a more refined understanding of how exploitation/exploration benefits emerging market IJVs (Faroque, Morrish, Kuivalainen, Sundqvist, & Torkkeli, 2021; Ju & Gao, 2022), we complement previous research that was concentrated on the domestic market or within a single firm (Junni, Sarala, Taras, & Tarba, 2013). In particular, our findings show that given the complex internal environments of IJVs, explorative innovation strategy performs better than exploitative innovation strategy. Second, we develop a contingent governance view to investigate how distinct IJV partner governance mechanisms differentially affect the effectiveness of exploitative innovation strategy and explorative innovation strategy. In so doing, this study not only highlights additional moderators of the exploitation-exploration framework at the dyadic level (Junni et al., 2013; Mueller, Rosenbusch, & Bausch, 2013), but also enhances IJV governance research by extending the functions of governance mechanisms to including shaping the efficacy of different innovation strategies. Overall, our study helps IJV managers properly design specific innovation strategy and govern partner relationships with appropriate mechanism to foster superior new product performance in emerging markets.

THEORETICAL FRAMEWORK

Exploitative and Explorative Innovation Strategies within IJVs

Constantly bringing out new products is critical for IJVs to gain competitive advantage in emerging markets (Jin et al., 2016; Le Nguyen et al., 2019). To capture the innovation strategy within IJVs, we use March's (1991) influential exploitation-exploration framework, which is used to frame a series of organizational phenomena (Nielsen & Gudergan, 2012; Zhang, Lyles, & Wu, 2020), such as organizational learning (Atuahene-Gima & Murray, 2007; Ju & Gao, 2022), strategic entrepreneurship (Hitt, Ireland, Sirmon, & Trahms, 2011), product innovation (He &

Wong, 2004), capability development (Atuahene-Gima, 2005), and strategic alliance (Hoang & Rothaermel, 2010; Lavie & Rosenkopf, 2006). According to this framework, exploitation and exploration are two different strategic activities (e.g., Cao et al., 2009; Zhou & Wu, 2010).

Exploitative innovation strategy is defined as the extent to which IJVs adopt refinement-led actions to improve existing products and make incremental innovations in current product-market domains; *explorative innovation strategy* refers to the extent to which IJVs adopt discovery-led actions to develop new products to meet emerging customer demands (Jin et al., 2016; Zhang, Wu, & Cui, 2015).

Exploitative and explorative innovation strategies differ in their organizational processes, strategic focus, resource allocation, and returns. First, exploitative innovation strategy aims to manage IJVs' existing resources and knowledge to improve current products, strengthen their current customer relationships, and maintain a competitive advantage in the market (Jin et al., 2016). In contrast, by fostering novelty and increasing variance, explorative innovation strategy enables IJVs to experiment with new opportunities, recognize and develop radically novel products, which are necessary for the long-term survival (Jansen et al., 2006; Zhang et al., 2015). Second, exploitative innovation strategy results in continuous improvement of existing resources and enhances the efficiency and reliability of innovation activities to satisfy existing customers' needs (Atuahene-Gima & Murray, 2007). Conversely, explorative innovation strategy aims at developing new or radical products to offer entirely new value for customers and expand their customer base in the new product-market domain (Jin et al., 2016).

Third, exploitative innovation strategy mainly integrates partners' existing knowledge and resources while explorative innovation strategy needs more resource commitment and requires both partners to absorb and integrate each other's valuable resources to create new ones

(Hoang & Rothaermel, 2010; Zhang et al., 2015). Fourth, building on existing resources, the returns of exploitive innovation strategy tend to be predictable (Zhang et al., 2015). In contrast, explorative innovation strategy likely generates unpredictable but substantially high returns (Hoang, & Rothaermel, 2010).

Since both innovation strategies need effective resource commitment, factors affecting partner interactions and resource exchange would affect their effectiveness on IJV new product performance. Since IJV partners come from different countries with unique institutional and cultural backgrounds, their exchanges likely become challenging (Jin & Wang, 2021; Stahl & Tung, 2015). To manage the complex relationships between partners, IJV partners adopt relevant governance mechanisms, which affect the effective coordination and further influence the effect of exploitative/explorative innovation strategy on IJV new product performance.

IJV Partner Governance Mechanisms: Contractual and Relational Governance

IJVs are joint entities based on cooperative agreements between foreign and local partners, which involve resource sharing and co-development of products and technologies (Park et al., 2015; Wang et al., 2023). An IJV provides a platform for partners to integrate and synthesize their resources, share risks, and pursue outcomes that are difficult to achieve individually (Kwok et al., 2019). However, foreign and local partners face fundamental tensions (Stahl & Tung, 2015). Specifically, they collaborate for different reasons and have divergent thinking about IJVs' operations (Steensma, Barden, Dhanaraj, Lyles, & Tihanyi, 2008). Since IJV partners come from different countries, the differences in values, norms and managerial practices may lead to inconsistent understandings of the joint project and result in potential conflicts (Lane, Salk, & Lyles, 2001; Stahl & Tung, 2015).

Partner interactions and resource exchange are complex social processes embedded in

complicated relationships between IJV partners. The existence of IJVs does not guarantee the effective coordination, due to goal incongruences and background differences between IJV partners (Ertug, Cuypers, Noorderhaven, & Bensaou, 2013; Wang et al., 2023). To achieve the success of IJV innovation strategy, partners need to share the responsibilities and resolve the problems in the process. Further, resource exchange and integration are more than simple juxtaposition of resources; instead, new resources are created through the combination and amalgamation of diverse, dispersed resources from both partners (Luo, 2007). Extensive governance mechanisms thus are necessary to address the issue of partner goal divergence and ensure effective interactions and resource exchange (Gulati, Wohlgezogen, & Zhelyazkov, 2012). By shaping mutual interactions and resource allocation, partner governance mechanisms play important roles in affecting the effects of exploitative and explorative innovation strategies within IJVs.

Contractual and relational governance are two primary modes to coordinate partner actions and facilitate interorganizational exchanges (Hoetker & Mellewigt, 2009; Wang, Zhang, & Jiang, 2019; Zhou & Xu, 2012). Transaction cost theory (TCE) emphasizes the potential of opportunism in inter-partner exchanges, as induced by exchange hazards (e.g., specific assets and uncertainty) (Williamson, 1985). With a relative long-term horizon initially, an IJV involves highly idiosyncratic assets under a cross-cultural condition (Luo, 2002), subjecting IJV partners to substantial *ex post* moral hazards and performance problems. Thus, contractual governance plays a role by erecting a legally bounding framework, which specifies the roles, responsibilities, and rights of each partner as well as details procedures to deal with anticipated contingencies (Sheng et al., 2018). As such, contractual governance reduces ambiguity, prohibits moral hazard, spurs effective information flows, and safeguards inter-partner exchanges (Luo,

2002; Zhou & Xu, 2012). Nevertheless, given bounded rationality and costs, contracts are never complete, becoming ineffective and causing rigidity especially in an uncertain and unpredictable context.

Contrastingly, relational exchange theory (RET) highlights the value of social relations and norms, which provides an alternative approach to support exchanges (Gulati, 1995; Khalid & Ali, 2017). IJVs involve repeated interactions between partners, which become socially embedded over time (Luo, 2002). By establishing relational governance, specifically trust, IJV partners would view each other as benevolent, honest, and reliable, thereby limiting self-interested behaviors and decreasing monitoring costs (Ertug et al., 2013; Fang, Palmatier, Scheer, & Li, 2008; Khalid & Ali, 2017). More importantly, trusting partners likely share high quality, difficult-to-imitate information through close, intense interactions (Ertug et al., 2013). By creating a sense of cohesion and flexibility, trust enables partners to use goodwill to reduce conflicts, make mutual adjustments, and achieve win–win solutions in complex situations (Hoetker & Mellewigt, 2009). However, building and maintaining trust is costly and time consuming; its informal and implicit nature also means that partners can abuse each other's trust (Carson, Madhok, & Wu, 2006).

Previous research has highlighted the distinctive functions of contractual and relational governance (Wang et al., 2019). For example, Poppo & Zenger (2002) reveal that contractual arrangements provide a formal framework to support collaboration, whereas relational mechanisms establish social norms that guide partners to behave in mutually beneficial, supportive fashions. Li et al. (2010) show that contracting has a stronger influence on explicit knowledge sharing, but relational governance promotes tacit knowledge sharing in IJVs. Legal contracts also create rigidity though, such that they might impede adaptability and strategic

flexibility in dynamic environments, and the building and maintenance of trust is a time and resource consuming process (Carson et al., 2006). Extending prior research, we examine how these two governance mechanisms differentially affect the efficacy of exploitative and explorative innovation strategies.

HYPOTHESES

Main Effects of Exploitative and Explorative Innovation Strategies

In general, both exploitative innovation strategy and explorative innovation strategy can enhance new product performance. Exploitative innovation strategy results in incremental modifications and enhances the reliability of product offerings (Zhang et al., 2015). Since exploitative innovation strategy facilitates IJVs to use their existing resources to generate new insights in existing product-market domains, IJVs can achieve predictable returns from new products (Atuahene-Gima & Murray, 2007; Griffith, Dean, & Yalcinkaya, 2021; Ju & Gao, 2022). Likewise, emphasizing experimental learning and divergent thinking, explorative innovation strategy facilitates IJVs to search for new opportunities and identify unmet customer needs, which can be transformed into novel solutions (Ju & Gao, 2022; Mueller et al., 2013). Since explorative innovation strategy takes advantage of IJV partners' diverse resources and develops radically new products, it thus creates a unique positioning in the market and shapes market competition (Atuahene-Gima & Murray, 2007; Griffith et al., 2021), resulting in superior new product performance.

However, given the complicated environment within IJVs, we argue that explorative innovation strategy is likely to be more valuable than exploitative innovation strategy for IJVs. To facilitate the value achievement of different innovation strategies, IJVs need to coordinate partner actions and combine different resources from the partners (Jin & Zhou, 2021). As IJV

partners tend to differ in backgrounds, cultures, strategic objectives, and organizational practices, their effective coordination and collaboration are a demanding task in terms of time, costs, and efforts (Ertug et al., 2013; Konara & Mohr, 2023; Kwok et al., 2019; Wang et al., 2023). When IJV engage more intensively in innovation activities, IJVs partner may suffer from increased costs in their interactions and resource exchange. Since exploitative innovation strategy provides incremental benefits for existing customers by making relatively small modifications and little deviation (Jin et al., 2016; Zhang et al., 2015), the increased costs in resource allocation may undermines the value on IJV new product performance.

In contrast, potentially large returns make explorative innovation strategy less sensitive to the issues of costs in resource exchange and integration (Jin et al., 2016). By integrating new ideas into novel products, explorative innovation strategy can create new products that differ from competitors' offerings in the marketplace and enables IJVs to offer consumers substantially new benefits (Atuahene-Gima & Murray, 2007; Griffith et al., 2021). Although risky, the potential returns of explorative innovation strategy are thus much higher (Jin et al., 2016), which can stimulate both partners to engage in effective collaboration and achieve their strategic objectives. Explorative innovation strategy can leverage the strategic advantages of IJVs, namely to integrate partners' complementary and valuable resources (Chang et al., 2020; Zhou & Li, 2008). As such, explorative innovation strategy facilitates IJVs to capture emerging opportunities by developing new products for the market, resulting in superior new product performance. Thus, we propose,

Hypothesis 1: Explorative innovation strategy has a greater positive effect on IJV new product performance than exploitative innovation strategy.

Moderating Effects of Partner Governance Mechanisms

We propose that contractual governance serves as a suitable coordination mechanism

between IJV partners and enhances the value of exploitative innovation strategy. First, by specifying each partner's roles and responsibilities explicitly, contractual governance establishes clear guidelines for their interactions (Poppo & Zenger, 2002), which facilitates the success of exploitative innovation strategy. In the IJV context, coming from distinct environments, the partners tend to have divergent views of the surrounding situation, which complicates their coordination (Stahl & Tung, 2015). Contractual governance delineates clear processes and routines, thus decreasing the ambiguity of resource sharing and enhancing the efficiency of resource utilization (Zhou, Zhang, Sheng, Xie, & Bao, 2014). With enhanced efficiency in existing resources, the effect of exploitative innovation strategy can be strengthened. Second, formal contracting can safeguard each partner's interests and constrain opportunistic behaviors (Reuer & Ariño, 2007). With formalized rule and procedures, contractual governance ensures that IJV partners' behaviors do not deviate from the existing trajectory (Wuyts & Geyskens, 2005). Written provisions narrow the exchange scope and direct partners' attention toward continuous improvements related to the exploitation of existing knowledge. Thus,

Hypothesis 2a: The relationship between exploitative innovation strategy and IJV new product performance becomes stronger when contractual governance is high than low.

In contrast, contractual governance may not be helpful in enhancing the effectiveness of explorative innovation strategy. First, explorative innovation strategy involves uncertainties and unpredictable problems arised in the innovation process (Jin et al., 2016). However, contractual governance cannot specify all contingencies in advance (Poppo & Zenger, 2002). It is impossible to envision all potential contingencies related to explorative innovation strategy, so IJV partners cannot specify truly comprehensive contractual agreements *ex ante* (Li et al., 2010). Detailed contracts thus constrain IJVs' attention to structured behaviors and hinder variation-seeking

efforts; they even undermine partners' motivation to engage in joint efforts and collaboration beyond the contractual provisions (Zhou & Xu, 2012). Therefore, without sufficient information sharing, variation seeking, and in-depth interactions, explorative innovation strategy is unlikely to be fruitful.

Second, explicit knowledge can be transferred through written documents, whereas novel know-how and skills related to explorative initiatives cannot be addressed effectively through specific contracts (Reuer & Ariño, 2007). Explorative innovation strategy instead requires vast resources and extensive knowledge integration, which is difficult, or even impossible, through detailed contracting (Reuer & Ariño, 2007). For example, IJVs that rely on contracting may suffer from the myopia of focusing only on codified information, which would impede the divergent thinking needed to foster novelty and exploration (Levinthal & March, 1993).

Therefore, we propose that:

Hypothesis 2b: The relationship between explorative innovation strategy and IJV new product performance becomes weaker when contractual governance is high than low.

We posit that relational governance mismatches with IJV exploitative innovation strategy. First, the effectiveness of exploitative innovation strategy requires *explicitly* specified routines and processes (March, 1991). Both partners' rights and responsibilities in the exploitative activities need to be delineated. Trust relies on informal norms to coordinate behaviors, foster mutual interactions, and encourage voluntary information sharing (Hoetker & Mellewigt, 2009). Because informal coordination does not stipulate exact roles and processes in advance, its nature is incompatible with the requirements of exploitative innovation strategy (Dhanaraj, Lyles, Steensma, & Tihanyi, 2004). Second, successful exploitative innovation strategy uses existing knowledge in the organization (He & Wong, 2004), which is usually acquired through formal

channels, such as written documents and manuals (Li et al., 2010). The key to the success of exploitative innovation strategy is efficient sharing and utilization of existing resources. Further, exploitative initiatives are less likely to encounter complex problems, so the demand for complex knowledge integration is limited (Lechner, Frankenberger, & Floyd, 2010). However, trust maintenance is costly because both partners must devote considerable resources to maintaining repeated, personal interactions (Das & Teng, 1998), which may constrain the effect of exploitative innovation strategy. Therefore, we propose that:

Hypothesis 3a: The relationship between exploitative innovation strategy and IJV new product performance becomes weaker when relational governance is high than low.

We believe that relational governance may facilitate the role of explorative innovation strategy. First, explorative innovation strategy often encounters unexpected challenges, so trust is crucial for IJV partners to be able to collaborate and adapt (Ertug et al., 2013). When trust between IJV partners is high, they may share mutual understanding that they both value the relationship and deal with issues collaboratively (Lane et al., 2001); so they interact frequently, exchange information promptly, and work together to deal with unforeseeable challenges (Liu, Luo, & Liu, 2009), which fosters the success of explorative innovation strategy. Second, trust helps IJVs resolve disputes. The outcomes of explorative innovation strategy are uncertain, so disagreements and conflicts often arise about newly generated know-how (He & Wong, 2004). With mutual trust, partners can use goodwill to resolve conflicts about these ambiguities in the process of explorative innovation strategy (Hoetker & Mellewigt, 2009).

Third, trust encourages both partners to share high-quality information, enriching the diversity of mindsets and ideas (Li et al., 2010). Explorative innovation strategy requires substantial resources and proprietary knowledge from both partners, which is difficult to transfer

because of stickiness and complexity (Lechner et al., 2010). Greater trust promotes the establishment of intimate relationship, facilitates intense communication, and encourages sharing of fine-grained know-how (Li et al., 2010). When exposed to diverse, high-quality knowledge, IJVs pursuing explorative innovation strategy gain more opportunities to experiment with alternatives and develop creative solutions. Therefore, relational governance facilitates the success of explorative innovation strategy.

Hypothesis 3b: The relationship between explorative innovation strategy and IJV new product performance becomes stronger when relational governance is high than low.

METHODOLOGY

Data Collection

We conducted surveys of IJVs between foreign partners and Chinese firms in different provinces of China. As the foreign direct investment in China becomes the largest compared to other countries, IJVs become the main entry mode (Shu, Jin, & Zhou, 2017; Wang et al., 2023). The unique institutional environments and dynamic market forces in China promote IJVs to refine existing products or create totally novel products for local customers (Ju & Gao, 2022). The distinct institutional and cultural backgrounds between local and foreign firms warrant appropriate governance mechanisms to coordinate partner interaction and facilitate the effective operations of IJVs (Li et al., 2010). Overall, China offers a suitable context to investigate the design and governance of IJV innovation strategy.

We adopted established measurement scales from prior literature and developed the survey instrument in English. Since we conducted the survey in China, we used the traditional translation and back-translation technique between Chinese and English to ensure the conceptual equivalence. Any misunderstanding was detected and revised in this process. We refined the survey instrumental given the feedback from 10 IJV senior managers. They helped check the

appropriateness of our measurement items and offered advice on the survey design and wording.

For the formal survey, we selected 800 manufacturing IJVs randomly from a directory compiled by a business dataset company. We chose IJVs with one foreign partner and one Chinese partner in the sample. Because mail or postal survey yields a lower response rate in emerging markets, we collect our data through face-to-face interviews, which can enhance the quality of data collection in China (Chen, Chen, & Zhou, 2014; Jin et al., 2016). We recruited trained interviewers to make phone calls to invite their participation in our onsite interviews. Since a single respondent could result in potential common method variance, for each IJV, we asked two senior managers to take part in the interviews. One manager addressed the questions related to IJV innovation strategy and new product performance, while the other responded to the questions about inter-partner governance. The interviewers scheduled appointments with them, visited and presented the surveys, and obtained the finished surveys.

In total, 374 completed questionnaires were collected (responses from 187 firms), yielding a response rate of 23.38 percent. To address the concerns of non-response bias, we conducted the multivariate analysis of variance (MANOVA) and independent sample t-tests. The results of the MANOVA test reveal that there is no significant difference between the responding and non-responding firms in terms of IJV age, size, and sales (*Wilk's A* = 0.99; *F* = 1.70; *p* = 0.17). The results of the independent sample t-tests further indicate that the responding firms show no significant differences from those not responded in terms of IJV age (*t* = 1.12; *p* = 0.26), size (*t* = -0.21; *p* = 0.83), and sales (*t* = 1.43; *p* = 0.15), suggesting that the seriousness of non-response bias is low in this research.

On average, IJVs in our sample had 147 million (RMB) in sales and 349 employees. The average age of the IJVs was 13.69 years. To verify the quality of our survey, we performed a

knowledge test for all respondents to examine whether they were knowledgeable about the subject under study. The respondents of these firms had worked in the industry for 13.50 years and in their firms for 9.12 years. On average, their knowledge about the IJV was 6.41 out of 7. Collectively, they were competent and knowledgeable to provide the information about the questions.

Measures

Table 1 reports detailed information about the measurement items and provides the results of validity and reliability analyses.

***** Insert Table 1 about here *****

IJV new product performance. In line with prior IJV and innovation literatures (Jansen et al., 2006; Li, Bingham, & Umphress, 2007; Zhang, Di Benedetto, & Hoenig, 2009), we adopted the subjective response to collect the information about IJV new product performance. Building on Li et al. (2007) and Zhang et al. (2015), we used three items to evaluate whether the IJV achieves the performance objectives of new products in critical aspects, including sales growth, profitability, and market share.

Exploitative and explorative innovation strategies. We adopted the scales from Jansen et al. (2006) and Morgan & Berthon (2008) and made some adaptations to measure IJVs' exploitative and explorative innovation strategies. To measure exploitative innovation strategy, four items were employed to evaluate the extent to which the IJV refines the production approach, reduce the costs, and improves the process of existing products. Likewise, a four-item scale was adopted to measure explorative innovation strategy and assess whether the IJV engages in a proactive strategy to develop innovative products.

Governance mechanisms. Four items were adapted from Luo (2002) to measure

contractual governance and assess whether the IJV clearly specifies relevant terms and clauses in the contracts. Consistent with Fang et al. (2008), we measured *relational governance* with a three-item scale and captured the perceived trust between foreign and local partners.

Control variables. This study controlled for *IJV age*, which was calculated as the logarithm of the number of years since the IJV was established, and *IJV size* was calculated as the natural logarithm of the number of employees in the IJV (Li et al., 2010). We also controlled for *foreign ownership*, which reflects the number of the equity share the foreign partner had in the IJV. We also included *R&D strength* and used one item to evaluate the relative strength of the IJV's R&D investment compared to its rivals. Given that absorptive capacity affects IJVs' abilities to acquire and integrate both partners' resources in the innovation process, we also included absorptive capacity and measured it by a three-item adopted from Fang & Zou (2010).

At the industry level, we used a dummy variable (*industry type*) to differentiate between high-tech and low-tech industries: 1 = high-tech industries (e.g., electronics, pharmaceutical, telecommunication) and 0 = low-tech industries (e.g., construction, textiles and clothing). We also included several industrial environment factors that could influence the value of innovation strategy within IJV. Three items were employed to measure technological turbulence and assess the change of technology in the focal industry; three items from Jaworski & Kohli (1993) were adopted to measure competitive intensity and evaluate the degree of competition that the focal IJV encounters in the given industry.

We also controlled for cultural and institutional differences between IJV partners. Specifically, we employed three items from Hoetker and Mellewig (2009) to assess *cultural compatibility*, which measures whether the cultures, management approach, and operating styles of the partners are compatible. Following prior studies (e.g., Kaufmann, Kraay, & Mastruzzi,

2011), we adopted the World Bank's governance indicators to measure *institutional difference*. There are six sub-indicators, including rule of law, voice and accountability, government effectiveness, political stability and absence of violence, regulatory quality, and control of corruption. In particular, it uses the formula below to capture the *institutional difference*:

$$ID_j = \sum_{i=1}^6 \frac{(ID_{ij} - ID_{ichina})^2 / V_i}{6}$$

where ID_j stands for the institutional difference between China and country j .

ID_{ij} and ID_{ichina} represent the i th institutional indicators of country j and China, respectively.

V_i captures the variance of the i th indicator.

Table 2 reports the basic descriptive statistical results.

***** Insert Table 2 about here *****

Construct Reliability and Validity

We followed prior studies to evaluate the reliability and validity of the measurement. First, according to the results of the exploratory factor analysis (EFA), the factor solutions are consistent with theoretically expected results. A confirmatory factor analysis (CFA) checks the convergent validity and reliability, whose results show that the model fits the sample data satisfactorily: comparative fit index (CFI) = 0.94, incremental fit index (IFI) = 0.94, root mean square error of approximation (RMSEA) = 0.05. All standardized factor loadings (SFL) are highly significant, indicating satisfactory convergent validity. All composite reliabilities are above 0.70 and average variance extracted (AVE) except technological turbulence is higher than 0.50, indicating that our focal constructs have appropriate reliability and convergent validity.

Likewise, we employed the recommended procedure to evaluate the discriminant validity. The square root of AVEs exceeds the correlations between that construct with all other constructs

in the conceptual framework, demonstrating significant discriminant validity. We also checked the discriminant validity for each pair of constructs by running χ^2 -difference tests. We found that the model performs better when the correlation between each pair of constructs was estimated freely than when the correlation was fixed to 1. These results show that our measurement exhibited acceptable psychometric properties.

Common Method Variance

Since our cross-sectional data was vulnerable to the influence of the common method variance (CMV), we followed the practices of Chang, van Witteloostuijn, & Eden (2010) to address this issue. In collecting the data, we promised the respondents of their anonymity and encouraged them to offer complete information to mitigate the potential of social desirability bias. We also collected data from two senior managers from each IJV to reduce the potential threat of CMV. One senior manager answered the issues related to inter-partner governance mechanisms, whereas the other senior manager addressed the questions related to innovation strategy, external environments, and outcomes (i.e., exploitative and explorative innovation strategies, market forces, new product performance).

In data analysis stage, we adopted the marker variable assessment technique of Lindell & Whitney (2001) to check for the presence of CMV. For the marker variable, we used government intervention as it is theoretically unrelated to at least one of our key variables. We measured government intervention with a three-item scale (Wang et al., 2023). We used the lowest positive correlation with other variables ($r=0.013$) to adjust the construct correlations and create a partial-correlation adjusted matrix. The partial correlation analysis shows that there is no significant change about the correlations among our focal variables (please see Table 2).

In addition, we adopted a latent method factor in the model where the measurement items were loaded onto their theoretical variables and the factor simultaneously, and then compared it

with previous measurement model. The inclusion of the latent method factor did not improve the model fit significantly. The method factor only explained 7.74 percent of the total variance, below the threshold of 25% variance recommended by Williams, Cote, and Buckley (1989). Taken together, we are confident that the CMV problem is not a major issue in this study.

RESULTS

We adopted the hierarchical moderated multiple regressions to test our hypotheses. Since our research examined the moderating effects of governance mechanisms on the relationship between IJV innovation strategy and new product performance, we mean-centered independent variables and moderators to create the interaction terms and facilitate the interpretation of the results. Table 3 reports the empirical results.

***** Insert Table 3 about here *****

Model 1 contained the control variables only. In Model 2, we included the moderators and independent variables to test the main effects. We included the interaction terms between exploitative/explorative innovation strategy and each moderator in Model 3 and 4, respectively. The interaction terms between exploitative/explorative innovation strategy and two moderators were added in Model 5. The largest variance inflation factor (VIF) was 2.93, well below the recommended threshold. Therefore, multicollinearity is not a major issue in our study.

Main Effects

As Table 3 reveals, the effect of exploitative innovation strategy on IJV new product performance is not significant (Model 5: $b = -0.10$, $p > 0.10$) whereas explorative innovation strategy has a positive effect on IJV new product performance (Model 5: $b = 0.32$, $p < 0.01$). We further examine and find that these two coefficients differ significantly from each other ($p < 0.01$), providing support to Hypothesis 1. Thus, IJVs may not effectively capture market

opportunities and achieve better new product performance by pursuing exploitative innovation strategy in China. In contrast, they need to leverage their strategic advantages to engage in explorative innovation strategy.

Moderating Effects of Partner Governance Mechanisms

H2 predicated the moderating effect of contractual governance. Table 3 shows that exploitative innovation strategy and contractual governance have a positive interaction effect on IJV new product performance (Model 5: $b = 0.26, p < 0.01$), supporting Hypothesis 2a. The interaction between explorative innovation strategy and contractual governance is negative and significant (Model 5: $b = -0.36, p < 0.01$), in support of Hypothesis 2b.

Following the procedures of Aiken & West (1991), we decomposed the interaction effects by depicting the relationships at different levels of the moderators (Figure 2). Panel A in Figure 2 reveals a negative effect of exploitative innovation strategy on IJV new product performance at low levels of contractual governance ($b = -0.43, p < 0.01$) but a positive, significant effect at high levels of contractual governance ($b = 0.23, p < 0.05$). The simple slope test in Figure 2, Panel B, reveals that with low contractual governance, explorative innovation strategy has a positive, significant effect ($b = 0.77, p < 0.01$), but the effect becomes insignificant when contractual governance is high ($b = -0.14, p > 0.10$). Therefore, when contractual governance changes from low to high, the effect of exploitative innovation strategy shifts from negative to positive, whereas the effect of explorative innovation strategy on IJV new product performance changes from positive to insignificant.

H3 pertained to the moderating effect of relational governance. As shown in Table 3, exploitative innovation strategy and relational governance have a negative interaction effect on IJV new product performance (Model 5: $b = -0.25, p < 0.05$), providing support to Hypothesis

3a. To decompose the moderation effect, we plotted the relationships in Figure 2, Panel C. When relational governance is low, exploitative innovation strategy has a positive, significant effect ($b = 0.23, p < 0.05$), but the effect becomes negative when relational governance is high ($b = -0.42, p < 0.01$).

Further, the interaction between explorative innovation strategy and relational governance is positive and significant (Model 5: $b = 0.26, p < 0.01$), in support of Hypothesis 3b. As shown in Figure 2, Panel D, the simple slope test implies that explorative innovation strategy exerts a greater positive impact on IJV new product performance at high levels ($b = 0.67, p < 0.01$) than at low levels ($b = -0.03, p > 0.10$) of relational governance. Therefore, when relational governance changes from low to high, the effect of exploitative innovation strategy shifts from positive to negative, whereas the effect of explorative innovation strategy on IJV new product performance shifts from insignificant to positive.

Post-hoc Analysis

As exploitative/explorative innovation strategy is likely influenced by inter-partner governance mechanisms, we conducted additional tests to check the robustness of the findings. We ran the regressions by considering exploitative /explorative innovation strategy as the dependent variables with inter-partner governance mechanisms as the independent variables. The results show that only relational governance significantly affects exploitative innovation strategy. Second, we ran two-stage least square approach as recommended by Hamilton and Nickerson (2003). In the two-stage estimation, we regressed exploitative innovation strategy and explorative innovation strategy on contractual governance and relational governance. We then obtained the residuals of exploitative innovation strategy and explorative innovation strategy, which are free of the influence of partner governance mechanisms. We computed the interaction

terms using the residuals in the second-stage analysis and re-tested the hypotheses. The results were consistent.

DISCUSSION

This study connects IJV innovation and governance literatures to examine how partner governance mechanisms shape the impacts of exploitative and explorative innovation strategies on IJV new product performance. According to the empirical analyses of 187 IJVs in China, our results indicate that exploitative innovation strategy has a nonsignificant influence while explorative innovation strategy positively relates to IJV new product performance. The findings further indicate that the efficacy of exploitative and explorative innovation strategies is contingent on partner governance mechanisms in distinct ways. Exploitative innovation strategy is more effective when contractual governance is high or relational governance is low. In contrast, explorative innovation strategy works better when contractual governance is low or relational governance is high. Our findings offer some insights into the design and management of IJV innovation strategy.

Theoretical Contributions

This study contributes to IJV innovation and governance literatures. First, our findings extend the IJV literature and the exploitation-exploration framework by investigating the influence of innovation strategies on new product performance. The majority of prior IJV studies focuses on how to leverage and manage the relationships between partners to achieve the competitive advantage in emerging markets (Chang et al., 2020; Konara & Mohr, 2023; Kwok et al., 2019; Wang et al., 2023). However, as an independent entity, IJVs should develop their own innovation strategy, which acts as an important means to adapt to the complex environments in emerging markets. While recent studies have investigated the value of different innovation

strategies (Jin & Zhou, 2021; Jin et al., 2016; Le Nguyen et al., 2019), our study enriches this research stream by investigating the roles of exploitative and explorative innovation strategies. Furthermore, for the exploitation-exploration framework, while prior studies mainly examine their value as the innovation strategy in a domestic context and focus on the focal firm's performance (He & Wong, 2004; Junni et al., 2013), we extend the research setting into a complex, international context, namely IJVs (Jin et al., 2016). Our study reveals the differential roles of exploitative and explorative innovation strategies for IJV new product performance. Our results indicate that explorative innovation strategy has a positive effect while exploitative innovation strategy is not significantly related to IJV new product performance, which reflects the uniqueness of IJV context.

Second, our study enhances the IJV innovation literature by constructing a contingent view of innovation strategies from the governance perspective. Prior IJV studies have focused on the important role of IJV governance mechanisms and examined how different approaches can affect partner relational development and the achievement of competition advantage (e.g., Dhanaraj et al., 2004; Wang, Jin, Yang, & Zhou, 2020). Enriching prior studies, our study indicates that governance mechanisms influence partner interaction and resource exchange within IJVs and thus generate important roles for the effectiveness of innovation strategies. Furthermore, for the exploitation-exploration framework, previous research primarily investigates how external market environments and firm-level elements influence the effectiveness of exploitation and exploration (Voss & Voss, 2013). Enriching this line of enquiry, our study investigates the moderating effects of *dyadic* relationships between IJV partners, i.e., partner governance mechanisms. In particular, our findings posit that the impacts of exploitative and explorative innovation strategies depend on partner governance mechanisms in opposite

ways. These findings emphasize the importance of matching innovation strategies with appropriate partner governance mechanisms to foster better IJV new product performance.

Third, this study sheds new light on IJV governance mechanisms by differentiating the influences of contractual and relational governance. Regarding governance mechanisms, extant work concentrates on the complex relationships between contractual and relational governance and their effects on inter-partner knowledge transfer and performance outcomes (Li et al., 2010; Wang et al., 2019; Zhou & Xu, 2012). Our study extends prior literature and integrates it with IJV innovation research. Specifically, our findings reveal the merits and limitations of contractual governance and relational governance and showcase their contrasting effects in moderating the influence of exploitative and explorative innovation strategies. Contractual governance helps establish clear guidelines to direct partners' attention and thereby strengthen the role of exploitative innovation strategy. But it also can constrain access to diverse resources and effective interaction between partners, which thereby inhibits the impact of explorative innovation strategy. In contrast, relational governance fosters mutual understanding and promotes high-quality information sharing, such that it facilitates the success of explorative innovation strategy. However, relational governance hinders the effects of exploitative innovation strategy.

Managerial Implications

Our research offers insights for practitioners regarding how to enhance IJV new product performance by designing and managing innovation strategies. First, IJV managers need to pay special attention to their strategic choices in the type of innovation strategies. Although traditional wisdom suggests that both exploitative and explorative innovation strategies are beneficial, they may not always be suitable for IJVs in China. Since IJV partners are from

different countries, managers need to recognize that the coordination and interaction difficulty within IJVs may inhibit value realization of exploitative innovation strategy in China. For instance, the Chinese Guangzhou Auto Factory (GAF) and the French auto maker PSA Peugeot Citroën (PSA) formed an IJV in China, which failed to succeed in the Chinese auto market. One major reason is the IJV's focus on exploiting the market with existing products while lacking substantial investment into explorative technological upgrading. With high levels of coordination costs between foreign and local partners, it is difficult for the IJV to establish a competitive position in the local market. Rather, IJVs should adopt the explorative innovation strategy to develop innovative products to meet the emerging demands and provide better benefits in the Chinese market. IntuitiveFosun, an IJV established by Intuitive Surgical, headquartered in California, and Fosun Pharma from China, has led the development and manufacturing of medical robots. In particular, it has created Da Vinci surgical robotic system, the world's only minimally invasive endoscopic surgery robot product licensed by both FDA and China National Medical Products Administration. Since 2017, this novel product has become increasingly popular in China.³

Second, IJV managers should employ pertinent governance mechanisms to coordinate their behaviors and match the innovation strategy with specific approaches. This research provides actionable guidelines in several scenarios: if IJVs engage in explorative innovation strategy, managers should avoid relying on detailed contracts, which might constrain their interactions and impede high-quality information sharing. Instead, to increase the value of explorative innovation strategy, they should actively leverage relational governance by developing informal norms and trust. In contrast, if IJVs choose to take exploitative innovation strategy, they better employ detailed contracts but not rely on their trust to govern their

³ <https://www.biospace.com/article/releases/fosun-pharma-announces-2019-annual-results/>

coordination. The benefits of exploitative and explorative innovation strategies on new product performance can be achieved only through a careful consideration of appropriate governance mechanisms.

Limitations and Future Research

There are several limitations in our research, offering insights for future research. First, our study adopts the cross-sectional approach, which may prevent us from identifying the causal relationships in our research framework. However, past performance may affect the likelihood whether the IJV takes part in specific innovation strategies and the governance mechanisms between partners likely change over time. We encourage future research to employ a longitudinal design to clarify the causal and dynamic relationships. It is also worthwhile to explore long-term and short-time performance implications of different innovation strategies.

Second, the sample of our study is limited to two-partner IJVs in a single country, which enables us to control for country-specific differences and increases the internal validity. Yet China's unique institutional and cultural environments may limit the generalizability of our findings. Scholars also might consider the governance mechanisms within IJVs with three or more partners and collect additional information from other markets to corroborate our findings. Furthermore, ideally, we should collect the data from both foreign and local sides to check the robustness of our findings. Given the challenges of conducting multi-surveys onsite, we opted not to clarify the identity of the senior managers and asked them directly to evaluate IJVs' innovation strategy, governance mechanisms, and performance outcomes. Future research may collect the information from both parties to examine our research framework.

Third, we consider partner governance mechanisms as the boundary conditions for IJV innovation strategy. To continue this line of inquiry, researcher might examine the influence of

other inter-partner factors, such as partner competition, goal congruence, and information sharing. IJVs could also take an ambidextrous innovation strategy to exploit current resources and explore new competences at the same time (He & Wong, 2004; Jin & Zhou, 2021); thus additional research should investigate how IJVs might achieve success with ambidexterity in various partner relationships.

References

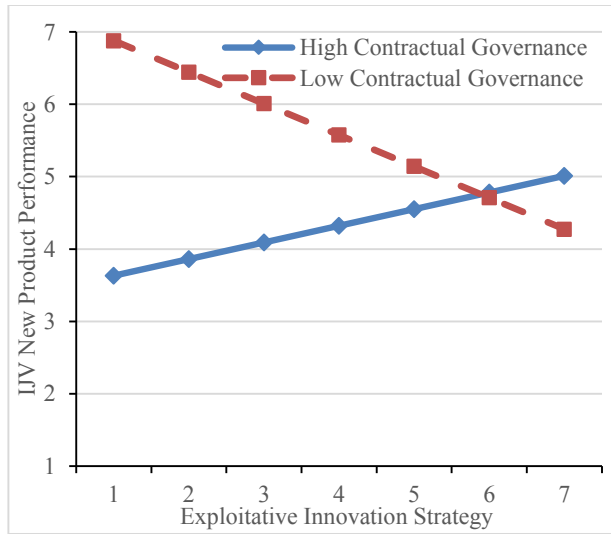
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*: Newbury Park, CA: Sage.
- Ali, T., Khalid, S., Shahzad, K., & Larimo, J. (2021). Managing international joint ventures to improve performance: The role of structural and social mechanisms. *International Business Review*, 30(3), Article 101791.
- Atuahene-Gima, K. (2005). Resolving the capability–rigidity paradox in new product innovation. *Journal of Marketing*, 69(4), 61-83.
- Atuahene-Gima, K., & Murray, J. Y. (2007). Exploratory and exploitative learning in new product development: A social capital perspective on new technology ventures in China. *Journal of International Marketing*, 15(2), 1-29.
- Cao, Q., Gedajlovic, E., & Zhang, H. (2009). Unpacking organizational ambidexterity: Dimensions, contingencies, and synergistic effects. *Organization Science*, 20(4), 781-796.
- Carson, S. J., Madhok, A., & Wu, T. (2006). Uncertainty, opportunism, and governance: The effects of volatility and ambiguity on formal and relational contracting. *Academy of Management journal*, 49(5), 1058-1077.
- Chang, J., Wang, J.J., & Bai, X. (2020). Good match matters: Knowledge co-creation in international joint ventures. *Industrial Marketing Management*, 84 (1), 138-150.
- Chang, S. J., Witteloostuijn, A. V., & Eden, L. (2010). Common method variance in international business research. In *Research Methods in International Business* (pp. 385-398). Palgrave Macmillan, Cham.
- Chen, X., Chen, A. X., & Zhou, K. Z. (2014). Strategic orientation, foreign parent control, and differentiation capability building of international joint ventures in an emerging market. *Journal of International Marketing*, 22(3), 30-49.
- Das, T. K., & Teng, B. S. (1998). Between trust and control: Developing confidence in partner cooperation in alliances. *Academy of Management Review*, 23(3), 491-512.
- Dhanaraj, C., Lyles, M. A., Steensma, H. K., & Tihanyi, L. (2004). Managing tacit and explicit knowledge transfer in IJVs: The role of relational embeddedness and the impact on performance. *Journal of International Business Studies*, 35(5), 428-442.
- Ertug, G., Cuypers, I. R., Noorderhaven, N. G., & Bensaou, B. M. (2013). Trust between international joint venture partners: Effects of home countries. *Journal of International Business Studies*, 44(3), 263-282.
- Fang, E., Palmatier, R. W., Scheer, L. K., & Li, N. (2008). Trust at different organizational levels. *Journal of Marketing*, 72(2), 80-98.
- Fang, E., & Zou, S. (2010). The effects of absorptive and joint learning on the instability of international joint ventures in emerging economies. *Journal of International Business Studies*, 41(5), 906-924.
- Faroque, A. R., Morrish, S. C., Kuivalainen, O., Sundqvist, S., & Torkkeli, L. (2021). Microfoundations of network exploration and exploitation capabilities in international opportunity recognition. *International Business Review*, 30(1), 101767.

- Griffith, D. A., Dean, T., & Yalcinkaya, G. (2021). Building and leveraging competence exploitation and exploration for firm new product success. *Industrial Marketing Management*, 97, 233-244.
- Gulati, R. (1995). Social structure and alliance formation patterns: A longitudinal analysis. *Administrative Science Quarterly*, 619-652.
- Gulati, R., Wohlgezogen, F., & Zhelyazkov, P. (2012). The two facets of collaboration: Cooperation and coordination in strategic alliances. *Academy of Management Annals*, 6(1), 531-583.
- Hamilton, B. H., & Nickerson, J. A. (2003). Correcting for endogeneity in strategic management research. *Strategic Organization*, 1(1), 51-78.
- He, Z. L., & Wong, P. K. (2004). Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis. *Organization Science*, 15(4), 481-494.
- Hitt, M. A., Ireland, R. D., Sirmon, D. G., & Trahms, C. A. (2011). Strategic entrepreneurship: creating value for individuals, organizations, and society. *Academy of Management Perspectives*, 25(2), 57-75.
- Hoang, H. A., & Rothaermel, F. T. (2010). Leveraging internal and external experience: Exploration, exploitation, and R&D project performance. *Strategic Management Journal*, 31(7), 734-758.
- Hoetker, G., & Mellewigt, T. (2009). Choice and performance of governance mechanisms: Matching alliance governance to asset type. *Strategic Management Journal*, 30(10), 1025-1044.
- Homburg, C., Vomberg, A., & Muehlhaeuser, S. (2020). Design and governance of multichannel sales systems: Financial performance consequences in business-to-business markets. *Journal of Marketing Research*, 57(6), 1113-1134.
- Jansen, J. J., Van Den Bosch, F. A., & Volberda, H. W. (2006). Exploratory innovation, exploitative innovation, and performance: Effects of organizational antecedents and environmental moderators. *Management Science*, 52(11), 1661-1674.
- Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: Antecedents and consequences. *Journal of Marketing*, 57(3), 53-70.
- Jin, J. L., & Wang, L. (2021). Resource complementarity, partner differences, and international joint venture performance. *Journal of Business Research*, 130, 232-246.
- Jin, J. L., & Zhou, K. Z. (2021). Is ambidextrous innovation strategy beneficial to international joint venture performance? Evidence from China. *Journal of International Marketing*, 29(4), 1-21.
- Jin, J. L., Zhou, K. Z., & Wang, Y. (2016). Exploitation and exploration in international joint ventures: Moderating effects of partner control imbalance and product similarity. *Journal of International Marketing*, 24(4), 20-38.
- Ju, M., & Gao, G. Y. (2022). Performance implication of exploration and exploitation in foreign markets: The role of marketing capability and operation flexibility. *International Marketing Review*, 39(4), 785-810.
- Junni, P., Sarala, R., Taras, V., & Tarba, S. (2013). Organizational ambidexterity and performance: A meta-analysis. *Academy of Management Perspectives*, 27(5), 299-312.

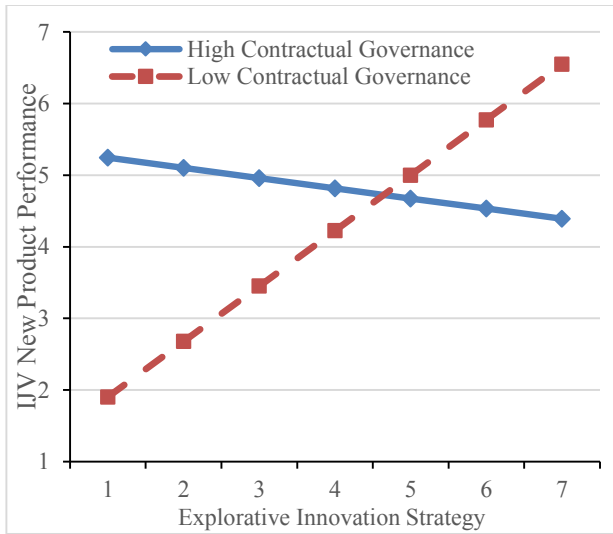
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2011). The worldwide governance indicators: Methodology and analytical issues. *Hague Journal on the Rule of Law*, 3(2), 220-246.
- Khalid, S., & Ali, T. (2017). An integrated perspective of social exchange theory and transaction cost approach on the antecedents of trust in international joint ventures. *International Business Review*, 26(3), 491-501.
- Konara, P., & Mohr, A. (2023). Cultural bridging and the performance of international joint ventures. *International Business Review*, 32(4), 102109.
- Kwok, F., Sharma, P., Gaur, S. S., & Ueno, A. (2019). Interactive effects of information exchange, relationship capital and environmental uncertainty on international joint venture (IJV) performance: An emerging markets perspective. *International Business Review*, 28(5), 101481.
- Lane, P. J., Salk, J. E., & Lyles, M. A. (2001). Absorptive capacity, learning, and performance in international joint ventures. *Strategic Management Journal*, 22(12), 1139-1161.
- Lavie, D., & Rosenkopf, L. (2006). Balancing exploration and exploitation in alliance formation. *Academy of Management Journal*, 49(4), 797-818.
- Le Nguyen, H., Larimo, J., & Wang, Y. (2019). Control, innovation and international joint venture performance: The moderating role of internal and external environments. *International Business Review*, 28(6), 101591.
- Lechner, C., Frankenberger, K., & Floyd, S. W. (2010). Task contingencies in the curvilinear relationships between intergroup networks and initiative performance. *Academy of Management Journal*, 53(4), 865-889.
- Levinthal, D. A., & March, J. G. (1993). The myopia of learning. *Strategic Management Journal*, 14(S2), 95-112.
- Li, C. (2023). Cultural Friction in International Joint Ventures: Whose Cultural Distance Affects Market Reactions? *Journal of Management*, 49(7), 2288–2317.
- Li, H., Bingham, J. B., & Umphress, E. E. (2007). Fairness from the top: Perceived procedural justice and collaborative problem solving in new product development. *Organization Science*, 18(2), 200-216.
- Li, J., Zhou, C., & Zajac, E. J. (2009). Control, collaboration, and productivity in international joint ventures: Theory and evidence. *Strategic Management Journal*, 30(8), 865-884.
- Li, J. J., Poppo, L., & Zhou, K. Z. (2010). Relational mechanisms, formal contracts, and local knowledge acquisition by international subsidiaries. *Strategic Management Journal*, 31(4), 349-370.
- Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, 86(1), 114-121.
- Liu, Y., Luo, Y., & Liu, T. (2009). Governing buyer-supplier relationships through transactional and relational mechanisms: Evidence from China. *Journal of Operations Management*, 27(4), 294-309.
- Luo, Y. (2002). Product diversification in international joint ventures: Performance implications in an emerging market. *Strategic Management Journal*, 23(1), 1-20.
- Luo, Y. (2007). Are joint venture partners more opportunistic in a more volatile environment? *Strategic Management Journal*, 28(1), 39-60.

- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71-87.
- Morgan, R. E., & Berthon, P. (2008). Market orientation, generative learning, innovation strategy and business performance inter- relationships in bioscience firms. *Journal of Management Studies*, 45(8), 1329-1353.
- Mueller, V., Rosenbusch, N., & Bausch, A. (2013). Success patterns of exploratory and exploitative innovation: A meta-analysis of the influence of institutional factors. *Journal of Management*, 39(6), 1606-1636.
- Nielsen, B. B., & Gudergan, S. (2012). Exploration and exploitation fit and performance in international strategic alliances. *International Business Review*, 21(4), 558-574.
- Nippa, M., & Reuer, J.J. (2019) On the future of international joint venture research. *Journal of International Business Studies*, 50(4), 555–597.
- Park, C., Vertinsky, I., & Becerra, M. (2015). Transfers of tacit vs. explicit knowledge and performance in international joint ventures: The role of age. *International Business Review*, 24(1), 89-101.
- Poppo, L., & Zenger, T. (2002). Do formal contracts and relational governance function as substitutes or complements?. *Strategic Management Journal*, 23(8), 707-725.
- Reuer, J. J., & Ariño, A. (2007). Strategic alliance contracts: Dimensions and determinants of contractual complexity. *Strategic Management Journal*, 28(3), 313-330.
- Sheng, S., Zhou, K. Z., Li, J. J., & Guo, Z. (2018). Institutions and opportunism in buyer–supplier exchanges: The moderated mediating effects of contractual and relational governance. *Journal of the Academy of Marketing Science*, 46(6), 1014-1031.
- Shi, W. S., Sun, S. L., Pinkham, B. C., & Peng, M. W. (2014). Domestic alliance network to attract foreign partners: Evidence from international joint ventures in China. *Journal of International Business Studies*, 45(3), 338-362.
- Shu, C., Jin, J. L., & Zhou, K. Z. (2017). A contingent view of partner coopetition in international joint ventures. *Journal of International Marketing*, 25(3), 42-60.
- Stahl, G. K., & Tung, R. L. (2015). Towards a more balanced treatment of culture in international business studies: The need for positive cross-cultural scholarship. *Journal of International Business Studies*, 46(4), 391-414.
- Steensma, H. K., Barden, J. Q., Dhanaraj, C., Lyles, M., & Tihanyi, L. (2008). The evolution and internalization of international joint ventures in a transitioning economy. *Journal of International Business Studies*, 39(3), 491-507.
- Voss, G. B., & Voss, Z. G. (2013). Strategic ambidexterity in small and medium-sized enterprises: Implementing exploration and exploitation in product and market domains. *Organization Science*, 24(5), 1459-1477.
- Wang, L., Jin, J. L., Yang, D., & Zhou, K. Z. (2020). Inter-partner control, trust, and radical innovation of IJVs in China: A contingent governance perspective. *Industrial Marketing Management*, 88, 70-83.
- Wang, L., Zhang, C., & Jiang, F. (2019). Matching governance mechanisms with transaction-specific investment types and supplier roles: An empirical study of cross-border outsourcing relationships. *International Business Review*, 28(2), 316-327.

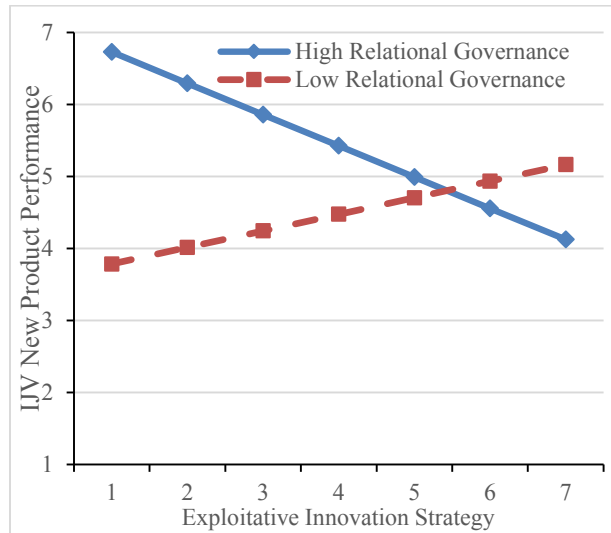
- Wang, Q., Bai, X., & Li, J. J. (2023). Achieving value co-creation through cooperation in international joint ventures: A two-level perspective. *International Business Review*, 102028.
- Williams, L. J., Cote, J. A., & Buckley, M. R. (1989). Lack of method variance in self-reported affect and perceptions at work: Reality or artifact?. *Journal of Applied Psychology*, 74(3), 462-468.
- Williamson, O. E. (1985). *The Economic Institutions of Capitalism*. New York: Free Press.
- Wuyts, S., & Geyskens, I. (2005). The formation of buyer–supplier relationships: Detailed contract drafting and close partner selection. *Journal of Marketing*, 69(4), 103-117.
- Yamakawa, Y., Yang, H., & Lin, Z. J. (2011). Exploration versus exploitation in alliance portfolio: Performance implications of organizational, strategic, and environmental fit. *Research Policy*, 40(2), 287-296.
- Zhan, W., & Luo, Y. (2008). Performance implications of capability exploitation and upgrading in international joint ventures. *Management International Review*, 48(2), 227-253.
- Zhan, W., & Chen, R. R. (2013). Dynamic capability and IJV performance: The effect of exploitation and exploration capabilities. *Asia Pacific Journal of Management*, 30(2), 601-632.
- Zhang, H., Wu, F., & Cui, A. S. (2015). Balancing market exploration and market exploitation in product innovation: A contingency perspective. *International Journal of Research in Marketing*, 32(3), 297-308.
- Zhang, J., Di Benedetto, C. A., & Hoenig, S. (2009). Product development strategy, product innovation performance, and the mediating role of knowledge utilization: evidence from subsidiaries in China. *Journal of International Marketing*, 17(2), 42-58.
- Zhang, Z., Lyles, M. A., & Wu, C. (2020). The stock market performance of exploration-oriented and exploitation-oriented cross-border mergers and acquisitions: Evidence from emerging market enterprises. *International Business Review*, 29(4), 101707.
- Zhou, C., & Li, J. (2008). Product innovation in emerging market-based international joint ventures: An organizational ecology perspective. *Journal of International Business Studies*, 39(7), 1114-1132.
- Zhou, K. Z., & Wu, F. (2010). Technological capability, strategic flexibility, and product innovation. *Strategic Management Journal*, 31(5), 547-561.
- Zhou, K. Z., & Xu, D. (2012). How foreign firms curtail local supplier opportunism in China: Detailed contracts, centralized control, and relational governance. *Journal of International Business Studies*, 43(7), 677-692.
- Zhou, K. Z., Zhang, Q., Sheng, S., Xie, E., & Bao, Y. (2014). Are relational ties always good for knowledge acquisition? Buyer–supplier exchanges in China. *Journal of Operations Management*, 32(3), 88-98.



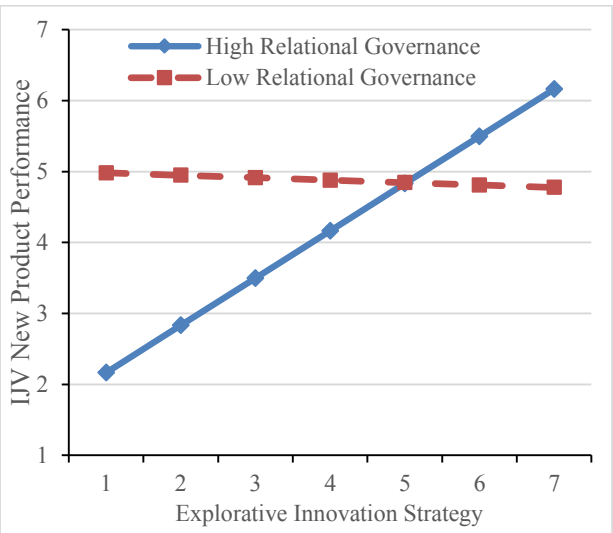
Panel A: Interaction between exploitative innovation strategy and contractual governance (H2a)



Panel B: Interaction between explorative innovation strategy and contractual governance (H2b)



Panel C: Interaction between exploitative innovation strategy and relational governance (H3a)



Panel D: Interaction between explorative innovation strategy and relational governance (H3b)

Figure 2 Interaction Effects between IJV Innovation Strategy and Governance Mechanism

Table 1 Measurement

Construct	Item	SFL	CR	AVE
IJV New Product Performance	The extent to which the IJV has achieved the following new product objectives in the first 12 months after launch (1 = “to a very little extent” and 7 = “to a great extent”)		0.81	0.59
	Sales growth relative to expected objectives	0.76		
	Overall profitability relative to expected objectives	0.84		
	Market share relative to expected objectives	0.70		
Exploitative Innovation Strategy	We decrease production costs by improving the processes	0.80	0.88	0.64
	We reduce costs to customer through process improvements	0.82		
	We improve processes to reduce the time taken for production	0.77		
	We add the value of our products by improving the processes	0.82		
Explorative Innovation Strategy	We never follow other companies’ ideas within same the industry	0.54	0.80	0.50
	We pursue a proactive/pioneering strategy	0.76		
	We adopt offensive rather than defensive product innovation strategy	0.77		
	Our products are highly innovative	0.74		
Contractual Governance	The IJV contract specifies relevant terms and clauses concerning the following:		0.88	0.66
	How to set up the joint venture	0.79		
	How to operate and manage the joint venture	0.89		
	How to cooperate and resolve conflicts between partners	0.78		
Relational Governance	Both partners trust each other	0.79	0.85	0.66
	Both partners are always frank and truthful in dealing with each other	0.93		
	Both partners believe that the other partner would go out of its way to make sure the relationship is not damaged or harmed	0.71		
Absorptive Capacity	Please evaluate the IJV’s capacities in the following aspects (1 = “very weak” and 7 = “very strong”)	0.80	0.87	0.70
	Understanding external knowledge and skills.			
	Assimilating external knowledge and skills.	0.93		
	Applying external knowledge and skills independently	0.77		
Cultural Compatibility	The organizational cultures of the two partners are compatible with each other	0.82	0.85	0.66
	The management styles of the two partners are compatible with each other	0.87		
	The operating strategies of the two partners are compatible with each other	0.74		
Technological Turbulence	The technology in our industry is changing rapidly.	0.60	0.71	0.46
	Most technological developments in our industry are radical changes on existing techniques.	0.73		
	The technological changes in our industry can bring many opportunities for firms.	0.69		
Competitive Intensity	Competition in our industry is very intense.	0.72	0.76	0.52
	Any product that a company can offer, others can easily match.	0.61		
	There are many competitors in our industry.	0.82		

Notes: Model fit: $\chi^2/df = 1.41$, $p < .01$, CFI = 0.94, IFI = 0.94, RMSEA = 0.05.

We use the seven-point Likert scale in our measurement (1 = “strongly disagree” and 7 = “strongly agree”).

Table 2 Descriptive Statistics of the Constructs

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. IJV New Product Performance		0.11	0.40**	-0.05	-0.00	-0.09	-0.03	-0.08	0.09	0.33**	0.20*	0.05	0.08	0.15*
2. Exploitative Innovation Strategy	0.12		0.41**	0.05	0.16*	-0.19*	0.05	-0.10	0.21**	0.31**	0.19*	0.05	0.05	0.09
3. Explorative Innovation Strategy	0.41**	0.42**		-0.04	0.10	-0.02	0.05	-0.06	0.24**	0.49**	0.29**	0.15*	0.08	0.06
4. Contractual Governance	-0.04	0.07	-0.03		0.27**	-0.09	-0.12	-0.06	0.19*	-0.03	0.01	0.00	0.26**	-0.01
5. Relational Governance	0.01	0.17*	0.12	0.28**		-0.13†	-0.09	-0.19*	0.07	0.07	0.08	0.12	0.28**	-0.05
6. IJV Age	-0.08	-0.17*	-0.01	-0.07	-0.11		0.22**	0.06	-0.08	-0.13†	-0.25**	-0.08	0.03	0.06
7. IJV Size	-0.01	0.06	0.06	-0.11	-0.07	0.23**		-0.03	-0.02	-0.01	-0.05	0.01	0.05	0.02
8. Foreign Ownership	-0.06	-0.08	-0.05	-0.04	-0.18*	0.07	-0.02		-0.03	-0.05	-0.10	-0.07	-0.06	-0.01
9. R&D Strength	0.10	0.22**	0.25**	0.20**	0.09	-0.07	-0.01	-0.01		0.26**	0.22**	0.10	0.08	0.05
10. Absorptive Capacity	0.34**	0.32**	0.50**	-0.02	0.08	-0.11	0.00	-0.03	0.27**		0.13†	0.00	0.03	0.10
11. Technological Turbulence	0.21**	0.20**	0.30**	0.02	0.09	-0.23**	-0.04	-0.08	0.23**	0.14†		0.26**	0.07	0.07
12. Competitive Intensity	0.06	0.06	0.16*	0.02	0.13†	-0.07	0.02	-0.06	0.12	0.01	0.27**		0.07	-0.03
13. Cultural Compatibility	0.10	0.06	0.09	0.27**	0.29**	0.05	0.06	-0.05	0.09	0.05	0.08	0.08		-0.11
14. Institutional Difference	0.16*	0.10	0.07	0.00	-0.04	0.07	0.03	-0.01	0.07	0.11	0.08	-0.02	-0.09	
Marker variable	0.14†	-0.09	0.01	-0.22**	-0.13†	0.07	0.03	-0.07	0.10	0.12	-0.02	0.06	-0.14†	-0.09
Mean	4.80	5.64	4.82	5.75	5.51	13.69	349.10	0.43	4.50	5.18	4.87	5.21	5.16	38.67
S.D.	0.89	0.94	1.03	0.86	0.89	7.01	487.89	0.22	1.31	1.08	1.14	1.03	1.06	6.81

† $p < .10$; * $p < .05$; ** $p < .01$.

Table 3 Regression Results: IJV Innovation Strategy and Governance Mechanism

Variables		DV: IJV New Product Performance				
		Model 1	Model 2	Model 3	Model 4	Model 5
IJV Age		-0.03 (0.13)	-0.12 (0.13)	-0.11 (0.13)	-0.15 (0.13)	-0.15 (0.13)
IJV Size		-0.02 (0.07)	-0.03 (0.07)	-0.03 (0.07)	-0.02 (0.07)	-0.03 (0.07)
Foreign Ownership		-0.18 (0.27)	-0.22 (0.27)	-0.24 (0.26)	-0.22 (0.26)	-0.25 (0.25)
R&D Strength		-0.03 (0.05)	-0.03 (0.05)	-0.02 (0.05)	-0.02 (0.05)	-0.02 (0.05)
Absorptive Capacity		0.25** (0.06)	0.14* (0.07)	0.14* (0.06)	0.13* (0.06)	0.12† (0.07)
Industry Type		0.30* (0.12)	0.27* (0.12)	0.32** (0.12)	0.30* (0.12)	0.37** (0.12)
Technological Turbulence		0.11 (0.07)	0.05 (0.07)	0.01 (0.07)	0.05 (0.07)	0.00 (0.06)
Competitive Intensity		0.02 (0.06)	-0.01 (0.06)	-0.01 (0.06)	-0.01 (0.06)	-0.01 (0.06)
Cultural Compatibility		0.09 (0.06)	0.11† (0.06)	0.12* (0.06)	0.11† (0.06)	0.12* (0.06)
Institutional Difference		0.02† (0.01)	0.02* (0.01)	0.02† (0.01)	0.02* (0.01)	0.02* (0.01)
Contractual Governance			-0.05 (0.07)	-0.06 (0.07)	-0.05 (0.07)	-0.06 (0.07)
Relational Governance			-0.06 (0.07)	-0.05 (0.07)	-0.06 (0.07)	-0.05 (0.07)
Exploitative Innovation Strategy	H1a		-0.09 (0.07)	-0.12 (0.07)	-0.08 (0.07)	-0.10 (0.07)
Explorative Innovation Strategy	H1b		0.28** (0.07)	0.33** (0.07)	0.26** (0.07)	0.32** (0.07)
Exploitative Innovation Strategy × Contractual Governance	H2a			0.19* (0.09)		0.26** (0.09)
Explorative Innovation Strategy × Contractual Governance	H2b			-0.31** (0.09)		-0.36** (0.09)
Exploitative Innovation Strategy × Relational Governance	H3a				-0.18* (0.09)	-0.25* (0.10)
Explorative Innovation Strategy × Relational Governance	H3b				0.22** (0.08)	0.26** (0.08)
R ²		0.19	0.26	0.31	0.29	0.35
Δ R ²			0.07**	0.05**	0.03*	0.09**
F		4.17**	4.37**	4.73**	4.41**	5.03**

† $p < .10$; * $p < .05$; ** $p < .01$.