# 行政院國家科學委員會補助專題研究計畫 □期中進度報告 ☑期末報告

## 國際合資事業之管理控制與績效關係之再檢視：學習與知識保護的雙元存架構

計畫類別：☑個別型計畫　□整合型計畫

計畫編號：MOST 104-2410-H-126-014-SSS

執行期間： 104 年 8 月 1 日至 105 年 10 月 31 日

執行機構及系所：靜宜大學企業管理學系

計畫主持人：黃銘章

共同主持人：邱雅萍

計畫參與人員：張育慈、段思安

本計畫除繳交成果報告外，另須繳交以下出國報告：

□赴國外移地研究心得報告

□赴大陸地區移地研究心得報告

☑出席國際學術會議心得報告及發表之論文

□國際合作研究計畫國外研究報告

期末報告處理方式：

1. 公開方式：

☑非列管計畫亦不具下列情形，立即公開查詢

□涉及專利或其他智慧財產權，□一年□二年後可公開查詢

2.「本研究」是否已有嚴重損及公共利益之發現：☑否 □是

3.「本報告」是否建議提供政府單位施政參考 □否 □是，____（請列舉提供之單位；本部不經審議，依勾選逕予轉送）

中　華　民　國　105　年　12　月　15　日

# 國際合資事業之管理控制與績效關係之再檢視：學習與知識保護的雙元俱存架構


摘要

基於交易成本理論與知識基礎觀點，本研究探討不同的管理控制如何的影響多國籍企業對國際合資績效的滿意度，檢視學習意圖與知識外溢風險對管理控制與國際合資績效間關係的調節效果。本計畫共獲得 162 筆國際合資的資料，實證結果發現：(1)在多國籍企業或當地夥伴分別面對「分享-保護」的知識張力時，分割管理控制可以導致較高的國際合資績效；(2)當多國籍企業與當地夥伴同時面對「學習-分享-保護」的知識張力時，採取分割管理控制與多國籍企業主導控制比分享管理控制有更高的國際合資滿意度。



關鍵詞: 國際合資、管理控制、知識張力



Abstract

Based on the transaction cost theory and the knowledge-based view, this study investigates how different types of management control affect multinational enterprises (MNEs) satisfaction with international joint venture (IJV) performance. The study also examines the moderating effects of learning intent and the risks of knowledge spillover on the relationship between management control and IJV performance. Through an analysis of 162 Taiwanese JVs, we find that (1) when sharing-protecting tension is faced by MNEs or local partner, split management control can result in higher IJV's satisfaction than other control types; (2) when MNEs and local partner face learning-sharing-protecting tension simultaneous, split management control and MNEs dominant management control can have higher IJV's satisfaction than sharing management control.



Keywords: International joint ventures, management control, knowledge tension

## Introduction

International joint ventures (IJVs) is a formal tie with the birth of a new firm that involve two or more legally distinct partners, at least one of whom is headquartered outside the JV's country. IJVs have benefits in terms of market power, efficient, access to resource and knowledge, learning or flexibility (Beamish & Lupton, 2009; Ertug, Cuypers, Noorderhaven, & Bensaou, 2013; Pak, Ra, & Park, 2009; Westman & Thorgren, 2016), thus, IJVs are frequently used by multinational enterprises (MNEs) as they pursue a global strategy. In IJVs, partners share not only ownership but also management control that leads to the cross-border collaboration between organizations is risky and difficult to manage (Park, Vertinsky, & Becerra, 2015; Parker & Brey, 2015). Management control refers to the pattern or amount of decision-making power each parent exercises in terms of the daily operations of the venture (Choi & Beamish, 2004; Killing, 1983; Yan & Gray, 2001a) or the pattern of decision making power (Steensma & Lyles, 2000). Four types of management control by which partners typically partition IJV control: split management control, shared management control, foreign-partner-dominant control, and local-partner-dominant control. Following the definition of Choi and Beamish (2004), these four control structures can be defined as follows: (1) each JV partner controls its own firm-specific advantage in split control management; (2) both partners share control over all firm-specific advantages in shared management control; (3) an MNC partner assumes dominant control over all firm-specific advantages in foreign-partner-dominant control; and (4) a local partner assumes dominant control over all firm-specific advantages in local-partner-dominant control.

Numerous studies have investigated the relationship between management control and IJV outcome with somewhat contradictory results. No evidence indicates which type of management control can lead to superior IJV outcomes such as survival, economic outcome, duration, and satisfaction than others. Some studies suggested that foreign-parent-dominant control or local-partner-dominant control leads to better performance by helping prevent conflict, reducing coordination costs, and by enabling quick responses to the demands of the host country (Glaister & Buckley, 1998; Killing, 1983; Luo, Shenkar, & Nyaw, 2001; Yan & Gray, 2001b; Zhang & Li, 2001). On the one hand, some researchers have been advocating that shared control may help avoiding conflict among IJV partners over operational decisions, can build perceived fairs of formal procedures and mutual respect among IJV partners, and consequently generate positive outcomes (Barden, Steesma, & Lyles, 2005; Steensma & Lyles, 2000; Li, Zhou, & Zajac, 2009; Luo, 2009). On the other hand, according to the resource-based view, the strategic or complementary resources that partners bring into an IJV are embedded within each parent firm, and these resources are difficult to transfer. Split management control may lead to more productive partnerships and better outcomes, particularly in terms of the most effective use of each parent's specific advantages (Choi & Beamish, 2004). Some recent works even suggest that control-performance relationship depends on strategic orientation, desiring for management control, and control gap (Huang & Chiu,

2014). Theoretically, the nature of the relationship between management control and IJV performance remains a matter for speculation and is not well understood (Liu, Vredenburg, & Steel, 2014; Steensma & Lyles, 2000). Little is known about how collaborative activities are organized and administered within the governance structure (Albers, Wohlgezogen, & Zajac, 2016).

The inconclusive findings of these studies lead us to believe that researchers may not have considered the complex nature of IJV operations and overcome the paradox between joint value creation and opportunism concerns. Through careful literature review, we identify two research gaps regarding to the link between knowledge issue and management control in IJVs. First, management control, a structural process that focuses on the effective governance structure, influences knowledge flow of IJVs (Tseng, 2015; Yang, Fang, Fang, & Chou, 2014). Interorganizational learning, knowledge sharing, and protection also are critical factors in strategic alliance that influence management control. Current works suggest knowledge protection and functional control in key activities, the process by which a party ensures the strategic alliance is managed in a manner benefiting its private variables, are two private controls that are permissible under strategic alliance contract (Luo, Shenkar, & Gurnani, 2008). With a few exceptions, most previous studies generally treated learning and anti-opportunism (i.e., core knowledge protection) as independent motivations when MNCs form IJVs such that prior researches focus on either learning or knowledge protection. Most prior studies have centered on either learning or knowledge sharing and presumed that either process can be completed without the other in international collaborations (He & Wang, 2015). However, knowledge transfer between JV partners is closely related to each partners' desire for learning and for protection against knowledge leakage. Thus, knowledge protection and acquiring may co-exist in an IJV simultaneously that can result in knowledge tension, which are labeled as learning-protecting tension in an IJV (Ho & Wang, 2015; Kale, Singh, & Perlmutter, 2000; Khan, Shenkar, & Lew, 2015), and has impact on the control-performance relationship in an IJV. Knowledge can facilitate or hinder IJVs success through learning, sharing, and transferring, and unintended spillover (Hernandez, Sanders, & Tuschke, 2015; Isidor, Schwens, Hornung, Kabst, 2015; Yang *et al*., 2014). Knowledge tensions result from knowledge flow increase the complex nature of IJV management. Management control need balance knowledge tension from knowledge sharing, protection, and learning simultaneously. Existing studies provide little help with distinguishing successful and unsuccessful case of learning of IJVs (Albers *et al*., 2016). A theoretical framework to dealing the link between management control and knowledge learning-sharing-protecting tension of IJVs is needed.

Second, although some studies address knowledge learning-sharing-protecting dilemma (for example, Fernandez, Le Roy, & Gnyawali, 2014; Larsson, Bengtsson, Henriksson, & Sparks, 1998; Soekijad, & Andriessen, 2003), limit studies address control-performance relationship under such tensions. Knowledge acquisition, sharing and protecting are related the value creation and value capture of IJVs. Value creation and value capture need to be joint analyzed (Obloj & Zemsky,

2015). Previous works overlook the tension between knowledge acquiring, sharing and protecting. IJVs need MENs and local parent company transfer critical resources and knowledge to enhance capability to realizing joint value creation. MNEs may face the situation of sharing-protecting paradox, which MNEs need transfer knowledge to IJVs and protect their knowledge from imitation by IJV partners, and yet stay open to transferring knowledge to accomplishing the collaborative goals (Ho & Wang, 2015). Unilateral concentration on knowledge acquisition through learning/sharing or knowledge protecting in the perspective of MNEs or local firms is not appropriate. Some recent works start to mention the tensions in the trade-off between sharing and protecting knowledge (for example, Becerra, Lunnan, & Huemer, 2008; Yang *et al*., 2014), but few studies mention the impact of knowledge acquisition *via* learning have impact on sharing-protecting tension in an IJV. The learning, sharing, and protecting interactive tensions are overlooked. Alliances are formed only when the interests of both partners are aligned favorably (Phene & Tallman, 2014). Knowledge is embedded within firms that need transfer mechanisms to transfer it across a firm's boundary (Choi & Beamish, 2013). When considering the knowledge flow in IJVs, MNEs would need to face a social dilemma that is generated by learning-sharing-protecting tensions when each partner in an IJV has motivation to absorb or internalize some critical know-how or capability from its partner. Therefore, management control structure need to address knowledge tension that avoiding learning race or asymmetrical changes in commitment to facilitate IJV outcome and stability.

Despite the abundance of studies on knowledge learning/sharing/protecting and IJV management control, these two research streams are not connected well. This research may have following potential contributions to resolve the inconsistent results among knowledge learning-protecting tension, management control and IJV performance in the literature. Although some studies proposed the concept of learning-sharing tension, few theoretical frameworks deal this tension. By offering a framework for theorizing about the interaction of knowledge learning and protecting, this study can contribute to the maintaining a balance between learning and protecting to facilitate collaborative relationship and enhance IJV outcome. The remainder of this paper is organized as follows: First, we review the existing literature and develop our research hypotheses; second, we describe our research methodology; third, we show our empirical results; fourth, we discuss our findings and present our conclusions. We also comment on the limitations of our research and offer possible topics for future research.

## Theoretical background and hypotheses

### Knowledge tensions in IJVs: Learning, sharing, and protecting

The core of knowledge based view (KBV) is the belief that an organization's idiosyncratic know-how and its ability to replicate and exploit knowledge are fundamentally responsible for organization success (Steensma & Lyles, 2000). IJVs can be an important external knowledge source that each partner contributes various types of knowledge and enables new capability development. Knowledge creation, transfer and application contribute significantly to IJV

outcome. Knowledge and resource contributions are related to the desire for control and monitoring (Huang et al., 2014; Musarra, Robson, & Katsikeas, 2016). From KBV or organizational learning perspective, MNEs and local partners may enter into a strategic alliance relationship, like IJVs, with the intent to access and internalize the other partner's know-how, knowledge, and capabilities through learning (Mihailova, 2015). Learning that can take advantage of each other's knowledge is a major goal for MNEs and local partner to entering into an IJV. Knowledge acquisition intent or learning in a strategic alliance describes the extent of the desiring to gain access, to acquiring and internalization certain knowledge and skill from its partner (Simonin, 2004). IJVs offer a channel or vehicle for learning opportunities and provide a means of developing ventures that obtain knowledge, skill and competence from partners (Park & Harris, 2014). Many developing economies, like China, focus on new competence, knowledge, and technologies acquiring through attracting inward foreign direct investments and encouraging outward foreign direct investments (He, Chakrabarty, & Eden, 2016). Interorganizational knowledge sharing has become a central theme in emerging economy business research (Meyer & Peng, 2016). Joint ventures, a structured arrangement for acquiring knowledge from partners, increase the possibility and rate by which partners integrate each other's knowledge and create new knowledge. Some IJV outcomes such as IJV performance satisfaction are determined by the degree to which parents engage in learning efforts, especially in gaining market-specific related knowledge (Berdrow & Lane, 2003). MNEs are often interested in using IJVs to create, store, and apply knowledge in order to pursue local markets (Li *et al*., 2009). The learning intent is positive related to the commitment of the top management to allocate resources to the transfer process (Meier, 2011).

As a knowledge contributor, one would concern partner's opportunistic behavior that results in knowledge unintended spillover. Knowledge unintentional and uncompensated spillover from an originator firm to a recipient firm is a dark side for entering into alliance relationships (Hernandez *et al*., 2015; Phene & Tallman, 2014). Transaction cost theory guides the design of management control, helping to overcome opportunistic behavior (for example, knowledge unintended leakage). Knowledge protection towards preventing partners from using a focal firm's proprietary knowledge (Shu, Liu, Gao, & Shanley, 2014) that concern of knowledge unintended spillover can have negative impact on absorptivity. Knowledge spillover risk negatively relates to sharing intent of knowledge contributors. Knowledge sharing is a kind of planned behavior that would be influenced by sharing intent. In collaborative relationship, knowledge sharing or transferring to another organization is not only potential advantage but also in inherently risky activity because it can result in involuntary expropriation and creation of new competition (Park *et al*., 2015). Partners in an IJV, including MNEs and local partner, would not necessary to transfer their know-how to IJV or their partners for the following opportunism concerns that suggest by transaction cost economy (TCE). First, asymmetry in learning or absorptive capability can result in learning race and IJV instability through the changing of bargaining power, mutual

interdependence, especially when the IJV's partners seek complementary strategic knowledge (Inkpen & Beamish, 1997; Khanna, Gulati, & Nohria, 1998; Makino, Chan, Isobe, & Beamish, 2007; Yan & Zeng, 1999; Yang, Zheng, & Zaheer, 2015). Second, knowledge spillover facilitates rent appropriation concerns. Rent appropriation relates to an MNE's ability to capture its fair share of the rent from the IJV (Gulati & Singh, 1998). Knowledge spillover generates external benefits from knowledge creation that is enjoyed by parties other than the party investing in the knowledge creation (Shu *et al*., 2014). Although knowledge spillover may serve as a signal of knowledge dependence and potential complementarity, knowledge spillover can also limit appropriation (Phene & Tallman, 2014). Knowledge transfer and knowledge spillover are knowledge flows, but it is important to distinguish knowledge spillovers from knowledge transfer (Shu *et al*., 2014).

When each parent brings its specific resources into the IJV, valuable resources are exposed, resulting in unintended knowledge spillover (Luo *et al*., 2001; Yan & Gray, 2001a). A partner's intent to learn may be an indicator of opportunistic behavior when another partner does not want to transfer knowledge. Knowledge protection is, from the knowledge owner's perspective, decreasing unintended knowledge flow (Shu *et al*., 2014). Opportunism concern and risk evaluation about unintended knowledge spillovers, knowledge protection is a necessary for knowledge appropriation and barrier for knowledge acquisition from partners. When MNEs or local partner have high learning intent, the trade-off between the need for knowledge exchanging for join value creation and knowledge protection for knowledge appropriation in an IJV increases tensions between MNEs and its local partner. Therefore, resource sharing problems are major factors that increase the asymmetrical changes in partners' commitment, failure rate, and dissatisfaction of joint ventures (Deitz, Tokman, Richey, & Morgan, 2010; Isidor *et al*., 2015; Park & Harris, 2014). Knowledge acquisition intent and knowledge spillover risk crate tension among learning, sharing, and protecting. Figure 1 illustrates the knowledge tension contingency in IJVs that generates by interaction of knowledge acquisition intent and knowledge spillover risk.

- *Insert figure 1 about here* -

Quadrant one indicates the MNEs entering into an IJV with low intention to acquiring its partner's knowledge, but its local partner has high intention to learn from MNEs. In this situation, MNEs will face sharing but protecting tension. IJVs need knowledge that is transferred from parental firms to get superior performance outcome (Beamish & Lupton, 2009; Choi & Beamish, 2013; Yang *et al*., 2014). If MNEs do not share knowledge with local partner and IJVs, the joint problems cannot be solved. Strategic alliances offer opportunities for knowledge sharing, however, they also carry the risk of knowledge leakage to partner firms (Jiang, Li, Gao, Bao, & Jiang, 2013). If MNEs share valuable knowledge that is not intended to be shared or share too much sensitive organizational knowledge, MNEs may be harmed (Jarvenpaa & Majchrzak 2016). Hence, MNEs need transfer some valuable knowledge to the IJV, as well as need protect it from unintended spillover. The same tension that occurs in quadrant one will be faced by the local partners in the

situation of quadrant three where MNEs have high intentions to learn from its local partner but local partner is lacking of desires to internalize MNEs' knowledge.

Knowledge transfer process contains the factors of knowledge contributor, knowledge transmission, and knowledge receiver. Quadrant two shows that that MNEs and local partners will face learning but protecting tension. Some empirical works report that local partners in emerging markets are seeking for technology-related knowledge and MNEs from developed countries are seeking for local-related knowledge, such as local culture, customs, and market characteristics, when an IJV is formed (Choi & Beamish, 2013). MNEs and local partner participate as both knowledge source and knowledge receipt simultaneous with high learning intents and strong motivation to protect their own knowledge. Lau and Bruton (2008) noticed the difference between the goals of Chinese and their Western partners. The Western partner may seek to gain knowledge about China, but the Chinese partner wants to gain knowledge about Western business practices. MNEs and local partner mutually depend on each other to achieve their respective goals (Luo, 2007). In quadrant four, there are no incentives for both MNEs and local partner to forming an IJV for lacking of intention to acquiring knowledge. Thus, three contingencies according to the extent of knowledge acquisition intention and knowledge spillover risk that MNEs and local partners shall face different tensions.

**Hypotheses development**

Management control can be an important factor that influences knowledge transmission process (Yang, Tipton, & Li, 2011). TCE and KBV complement each other in terms of the fear of unintended knowledge spillover to other partner (Bouncken & Kraus, 2013; Choi & Contractor, 2016). Recent empirical studies suggest that an MNC might choose an appropriate mode of governance to balance the competing interests of joint value creation and value appropriation (Albers *et al*., 2016; Gulati & Singh, 1998; Kale *et al*., 2000; Khanna, *et al*., 1998; Zhang, Li, Hitt, & Cui, 2007). The objective of control is for achieving an adequate level of control to balance knowledge transferring tensions that preventing possible opportunistic behavior and facilitating learning. The association between transactional hazards and specific governance mode is contingent, rather than universal (Lee, Hoetker, & Qualls, 2015). Accordingly, this study considers knowledge tensions as moderators that generate specific impact on control-performance relationship.

*Sharing-protecting tension faced by MNEs*

A parent's strategic intent is a critical determinant of the means for focusing control (Chen, Park, & Newburry, 2009; Huang & Chiu, 2014). When MNEs face sharing-protecting tension, MNEs are lacking of intent to learn from their local partners but their partners is interesting in acquiring knowledge from MNEs. When a partner engages in opportunistic behavior, the IJV becomes difficult to operate and manage that result in greater instability and higher failure rates for the IJV. Management control exerted by parents firms to control the risk of appropriation of transferred knowledge is fundamental for safeguarding and decreasing opportunistic behaviors (Li

*et al*., 2009; Liu *et al*., 2014). Therefore, the aims of management control should be facilitating the joint value creation through the knowledge transferring into IJVs. We suggest splitting management control according to parent firms' specific advantages may enhance IJVs satisfaction when MNEs face sharing-protecting tension for the following reasons.

First, exploitation alliances are formed when MNEs leverage existed knowledge and lack intent to acquiring partners' knowledge. The resources and capabilities bundle of an IJV are contributed by two or more parent firms. Transferring and applying resources and capabilities from parent firms are critical for realizing joint value creation. IJV need MNEs and local partner contribute their knowledge with the expectation of enjoying the synergy of complementarity, however, there is a risk of knowledge being imitated by other partner (Hau & Evangelista, 2007). Value creation and value capture are two concerns when MNEs face sharing-protecting tension. When MNEs perceive the learning intent of their counterpart as threat, MNEs which perceive the learning intent of their partner as high are more protective of their knowledge and will restrict communication and knowledge flow (Meier, 2011). Partners' knowledge protection sends a strong signal that protected knowledge is valuable and thus rare (Shu *et al*., 2014). The more specific a MNE's firm-specific advantages are, the more control the MNE tends to exercise over the subsidiary in order to prevent its firm-specific advantages from unintended spilling over to a local partner (Choi & Beamish, 2004). MNEs will face sharing-protecting tension when MNEs lack motivation to acquire knowledge from local partner while local partner aims to learn from IJV with MNEs. In the situation of high sharing-protecting tension faced by MNEs, management control should focus on joint value creation, value appropriation, and knowledge protection that facilitate the satisfaction of IJV outcome. MNEs need help IJVs acquire appropriate resources and capabilities but limit knowledge diffusion (Meyer & Peng, 2016; Mihailova, 2015). Split management control can be a mechanism that isolates MNEs' knowledge from partner's learning.

Second, splitting management control according parent firms specific advantage can avoid knowledge unintended spillover and enhance knowledge transferring from MNEs to IJVs. Knowledge can be transferred only by interpersonal communication or organizational documentation (Shu *et al*., 2014). Expatriates can serve as a mechanism of control for knowledge sharing, as well as, avoiding knowledge unintended spillover. Expatriates are the boundary spanners who can help the transfer of knowledge and applications between IJVs and MNEs with first-hand knowledge of particular cultural contexts that include information about specific markets and customers. Transferring and rotating managers between the MNEs and IJVs can create verbal information channels and facilitate share goal and value (Huang, Hsiung, & Lu, 2015). MNCs can assign their own personnel to control specific activities of the IJV as knowledge transferor and preventive mechanism for rent appropriation and knowledge protecting in the IJV. Many studies suggested that MNCs should control specific activities within the IJV to avoid the leakage of specific firm advantages (e.g., Geringer & Hebert, 1989; Groot & Merchant, 2000; Yan & Child, 2004; Yan & Gray, 2001a; Zhang *et al*., 2007). Therefore, physical separation of MNEs and local

partners can protect knowledge from imitation (Hau & Evagelista, 2007). MNEs and local partner can utilize firm-specific advantages to yield better outcome by splitting control in IJVs (Choi & Beamish 2004). When using split control, MNEs can control over specific activity through expatriates assignment that can facilitate knowledge transferring from MNEs to IJV and limit knowledge unintended knowledge spillover. Therefore, we predicate that foreign dominant management control can result in higher satisfaction than other management control when MNEs face learning-protecting tension. Our first hypothesis is as follows:

$H_1$: In the contingent of sharing-protecting tension faced by MNEs, split management control can yield a higher satisfaction than others.

*Learning-sharing-protecting tension faced by MNEs and local partner simultaneous*

High knowledge learning-protecting tension entails high uncertainty and cause internal tension and conflict among partners over IJV outcomes. Knowledge learning-sharing- protecting tension increases the needs for management control to reducing transaction costs, as well as, knowledge transfer cost. Governance arrangement need protect the interest of one party in the alliance while also allowing its partner to protect its own (Lee *et al*., 2015). We propose that split manage control or MNE dominant management control can result in higher satisfaction with the IJV outcome for the following reasons.

First, the value and costs of knowledge transferring can determine the control power allocation (Windsperger, 2009). When both MNEs and local partner forming an IJV with high motivation to internalize other's knowledge simultaneously increases the likelihood of learning race. Dominant management control can raise the gap toward knowledge transfer process and limit seizing capability of knowledge recipient (Ho & Wang, 2015; Jarvenpaa & Majchrzak, 2016; Shu *et al*., 2014). MNEs may be more confortable sharing their valuable skills with IJVs only when they can exert greater control (Pangarkar & Klein, 2004). Therefore, MNEs dominant management control can increase the extent toward partner's confidence. With more trusted partners, firms are less protective of knowledge and tend to acquire more knowledge, lose less knowledge, and be more satisfied (Norman, 2004). Dominant management control limit the likelihood of opportunisms of knowledge contributor and receiver in IJVs that supports goal alignment and mitigates knowledge misappropriation.

Second, although *ex ante* and *ex post* safeguarding can mitigate opportunism, dominant management control leaves too much room for one parent to extract unfairly disproportionate returns (Barden *et al.*, 2005). MNE dominant management control does not necessary lead to effective transfer and usage process of the complementary firm-specific advantages in the IJVs (Choi & Beamish, 2004), split management control can be another alternative. When MNEs and local partner face learning-sharing-protecting tension, governance needs to transfer mutual credible threats between partners in IJVs into mutual reciprocity that balance the tension between perceived knowledge gains and knowledge leakage costs from learning, knowledge sharing, and knowledge protecting for supporting IJVs success (Li, Eden, Hitt, Ireland, & Garrett, 2012). Therefore,

cooperative learning, joint knowledge application and commercialization can be a solution that exert lesser competitive pressure and are less concerned with unintended knowledge transfer (Meier, 2011). Joint learning by the partners during IJV localization is a kind of learning pattern in an IJV (Isidor *et al*., 2015) and is a mutual process and not an asymmetric one (del Mar Benavides-Espinosa & Ribeiro-Soriano, 2014), which can be a mechanism to reduce learning-sharing-protecting tension in IJV. Joint learning is a kind of cooperative behavior rather than competitive behavior that involves the pursuit of mutually compatible interest. For controlling their own specific advantages in an IJV, split management control can balance the tension between knowledge transferring value and cost of MNEs and its local partner. Split control facilitates the combination of exist complementary knowledge *via* joint knowledge application. Thus, joint learning can be enhanced through management control splitting.

Accordingly, we propose the following hypothesis is proposed:

$H_2$: In the contingent of learning-sharing-protecting tension faced by MNEs and local partner simultaneous, MNEs dominative management control or split management control can yield a higher satisfaction than others.

*Sharing-protecting tension faced by a local partner*

Knowledge protectiveness can reduce the knowledge sharing willingness of knowledge-creating firms and increase the knowledge ambiguity. Partner's protective mind can hinder knowledge acquisition has great impact on the acquisition of knowledge (Hau & Evangelista, 2007). When knowledge sharing-protecting tension is faced by a local partner, the success of such IJVs depends on partner's willingness to share knowledge. Knowledge protecting can hamper knowledge creation firms from utilizing their own internal knowledge (Shu *et al*., 2014). Thus, the aim of management control is facilitating knowledge sharing willingness that enhances learning effectiveness of MNEs when local partner lacks of motivation to learn from MNEs. We suggest that shared management control and dominant management control may yield superior satisfaction than split management control for the following reasons.

First, knowledge transferring need the active support by knowledge transferors (Park, Giroud, & Glaister, 2009). Some prior research argued that a parent firm that wants to learn from its partners can access the latter's specific knowledge through active managerial involvement and participation in an IJV (Inkpen & Beamish, 1997; Meier, 2011; Park II *et al*., 2009; Tsang, 2002). Zhang and Li (2001) suggested that strategic control over an IJV may ensure the most effective use of strategic resources shared by partner firms. Thus, greater control exercised by a partner implies that this partner seeks to acquire the other partner's technology more quickly and effectively (Luo *et al*., 2001). Dominate control can increase the extent of internal integration by controlling and coordinating an IJV's activities (Tseng, 2015).

Second, the donor and recipient are often put in a situation of power asymmetry, with the former being in a more superior position (Easterby-Smith, Lyles, & Tsang, 2008). A partner in a position of power within an IJV often bolsters its position by engaging in opportunistic behavior

(Steensma & Lyles, 2000). Sharing management control facilitates goal alignment that results in preference to sharing at the expense of protection and leads to release of sensitive knowledge (Jarvenpaa & Mazchrzak, 2016). Share management control also provides a monitoring mechanism to detect partner's changing in commitment. The more management control over all value-creation is shared among partners, the more country-specific advantages the MNE parent will acquire (Choi & Beamish, 2004). The knowledge spillover cost that perceived by local partner can be compensated by sharing rents from IJVs operating success. Thus, shared management control embodies the strong strategic rationale of transferring the knowledge and skills of both partners into the IJV (Lyles & Salk, 1996). MNEs can access local knowledge from their local partners by jointly participating in management.

Third, share management control is a vehicle for tapping country-specific advantages embedded within a local partner (Choi & Beamish, 2004). Sharing management control allows MNEs and local partners to acquiring knowledge from each other through active management involvement (Pak *et al*., 2009; Tsang, 2002). Share management control involves greater interaction between parent firms that partner can develop a set of routines and producers to directing any cooperation actions and facilitating the development of learning protocols. These learning protocols acts as the information channels through which knowledge and capabilities are exchanged (del Mar Benavides-Espinosa & Ribeiro-Soriano, 2014).

Thus, in the situation of sharing-protecting tension faced by local partner, we expect sharing management control or MNEs dominant management control may result in higher IJV outcome than others. We propose the following hypothesis.

*$H_3$:* In the contingent of sharing-protecting tension faced by a local partner, share management control can yield a higher satisfaction than others.

Accordingly, a conceptual framework of this study is provided in Figure 2.

*- Insert Figure 2 about here -*

## METHOD

### Sample and Data Collection

The source for our sample collection was the list of *Approved Foreign Investments in the Year 2014*, which was published by the Investment Commission of the Ministry of Economic Affairs in Taiwan. The data for this study were collected through questionnaires mailed to the Taiwanese general or deputy general managers in charge of managing Taiwanese–Chinese JVs in China. These informants, who regularly checked the operational status of their joint ventures and their partner's behaviors, were good respondents who provided rich information about IJVs. If the subject MNEs had multiple IJVs, this investigation asked the informant to choose the most significant one. Owing to the difficulties associated with analyzing multi-partner IJVs (Choi & Beamish, 2004), this survey did not include a few IJVs that involved more than two partners. Some prior studies (e.g., Beamish & Lupton, 2009; Choi & Beamish, 2004) also suggested that a

venture cannot be treated as an IJV if any parent's ownership is below 20% or over 80%. Based on this criterion, we removed some IJVs from our sample profile.

The data collection was conducted in three stages. In the first stage, we contacted each IJV by fax and telephone. A total of 642 IJVs were contacted, excluding those with incorrect telephone numbers and addresses. Among the 642 IJVs, 372 executives promised to support the study, which eventually gave us a participation rate of 57.94%. In the second stage, we sent questionnaires with cover letters and self-addressed return envelopes to the said IJV executives. Within six months, we received 205 questionnaires (after follow-up contact by telephone). Thus, the effective respondent rate was 55.11% in this stage. For avoiding the common method variance, in third stage, we sent questionnaires to the informants who returned our questionnaires in the second stage and asked them to evaluate the satisfaction of the IJV's outcome. We got 162 responses and yield a 76.02% effective respondent rate.

We assessed non-response bias using two methods. First, we compared respondents in our sample with non-respondents on key study variables. Eighty-three non-responding IJVs were randomly selected, which were then compared with 162 responding firms in terms of ownership structure (the percentage of equity owned by foreign firms), JV size (average sales for the past three years), and JV age (number of years since founding). The t-test results were all insignificant. Second, following the procedure by Armstrong and Overton (1977), we performed a t-test by comparing early and late respondents in terms of ownership structure, IJV size, and IJV age. Again, we did not find significant differences between early and late respondents in terms of these variables. These two tests suggested non-response bias in our sample was insignificant

In this study, we asked informants to evaluate all constructs subjectively, including IJV performance. To avoid common method bias, we utilized Harman's one-factor method, as suggested by Podsakoff and Organ (1986) and by Minbaeva, Pedersen, Björkman, Fey, and Park (2003). Unrotated factor analysis extracted four factors with eigenvalues greater than one. The variance explained by the first factor was 28.03% —under the crucial 50%— suggesting that common method bias was not a problem.

**Measurements**

In accordance with the suggestion of Gong *et al*. (2007) for dealing with situations wherein little empirical precedent is available for developing measures, we devised our measures with the help of relevant academic literature.

*Dependent Variables*

Similar to previous JV studies (e.g., Luo *et al*., 2001), we defined IJV performance by examining the perceptions of JV managers. Geringer and Hebert (1991) showed a generally high correlation between subjective and objective measures of IJV performance. Other researchers also suggested subjective measures of joint venture performance to be appropriate (Choi & Beamish, 2013; Gong *et al*., 2007). In the present study, IJV performance was assessed by measuring three items on a seven-point Likert scale, where 1=very dissatisfied and 7=very satisfied. The three items

measured were as follows: (1) strategic goal achievement of IJV partners; (2) cooperative relationship with IJV partners; and (3) overall satisfaction. These measures have been used successfully by other researchers to examining IJV control and performance (e.g., Choi & Beamish, 2004; Huang *et al*., 2014; Liu, Adair, & Bello, 2015; Luo *et al*., 2001; Luo & Park, 2004). We then took the mean of the three items as an overall measure of IJV performance. Cronbach's alpha was 0.89.

*Independent Variables*

Steensma and Lyles (2000) defined management control as the pattern by which partners divide power to govern a joint venture. This definition is similar to that in the study of Choi and Beamish (2004), in which management control was defined as the relative extent of control by both partners over a foreign partner's firm-specific advantages and a local partner's specific advantages. By applying the classification scheme suggested by Choi and Beamish (2004), the present study outlined and examined three categories of IJV control: (1) *split control* means each JV partner controls its own firm-specific advantages; (2) *shared control* means both partners share management control over all firm-specific advantages; and (3) *MNC/local-partner-dominant control* means the MNC and local partners, respectively, exercise dominant management control over their own firm-specific advantages. To categorize these different modes of management, we measured the relative decision-making influence a parent will exercise over an IJV in eight IJV value-creation activities (Choi & Beamish, 2004): (1) product R&D, (2) process R&D, (3) manufacturing decisions, (4) local marketing, (5) international marketing, (6) brand name/trademarks, (7) management of local labor force, and (8) management of legal/government relations. We asked informants to rate the relative decision-making influence pertaining to specific activities on a seven-point scale (1=local-partner-dominant control, 4=equally shared control, and 7=Taiwanese-partner- dominant control). To determine which firm-specific advantages belong to Taiwanese firms and which belong to local partners, we asked informants to compare each party's relative strength (1=local partner is strong, 4=equal capability, and 7=Taiwanese firm is strong) in the eight activities mentioned above.

*Contingency Variables*

An MNC's *intention to learn (Learning)* was used to indicate a firm's motivation to learn from its partners or from the alliance environment (Simonin, 2004). Following the methods of a previous study (Mihailova, 2015; Tsang, 2002) and using a seven-point Likert scale (1=strongly disagree and 7= strongly agree), we measured three items that foreign partners want to acquire through the IJV to reflect learning intent. These three items were as follows: (1) technological expertise, (2) specific market knowledge of the host country, and (3) collaborative skills with local partners. In this measurement, Cronbach's alpha was 0.91.

An MNC's *perceived risk of knowledge spillover* indicates the extent to which a local partner may show opportunistic intentions with regard to learning via the IJV. However, knowledge spillover is difficult to measure directly (Singh, 2007). As other researchers did (Mihailova, 2015;

Steensma & Lyles, 2000; Tsang, 2002), we measured three items that local partners want to learn through the IJV to help indicate the risk of knowledge spillover. Measured on a seven-point Likert scale (1=strongly disagree and 7= strongly agree), the three items were as follows: (1) technological expertise, (2) international operating skill and experience, and (3) collaborative skills with MNCs. For these measurements, Cronbach's alpha was 0.92.

*Control variables*

Previous studies provide a number of control variables that should be considered. This investigation included IJV age and IJV size as control variables (Chang, Bai, & Li, 2015; Choi & Beamish, 2013; Park *et al*., 2015; Parker & Brey, 2015; Yang *et al*., 2014). Size positively related to IJV termination cost, bargaining power, and engaging in more boundary-spanning activities (Isidor *et al*., 2015; Meier, 2011). The average volume of sales (using logarithm values) of IJV was used as proxies of size in this investigation. The social factors, such as trust, communications, and mutual understanding, could be associated with IJV ages (Deitz *et al*., 2010; Park *et al*., 2015). The MNE's local experience and knowledge transferring also positively related to IJV age (Mohr, Wang, & Fastoso, 2016; Park *et al*., 2015). Thus, this investigation used the years of an IJV was calculated as the proxy of age.

**Measurement Validity**

Confirmatory factor analysis was used to establish the construct validity of our measurements. The results of the analysis show that our measurement model was a satisfactory fit for maximum likelihood estimation ($\chi 2$=132.46, $p$>0.05, d.f.=158, RMSEA=0.047, GFI=0.90, NFI=0.96, CFI=0.99). The ratio of GFI, chi-square to the degree of freedom, and RMSEA indicate a good fit. NFI and CFI were both above 0.9, indicating that the measurement model was a good fit. Table 1 shows the value of composite reliability (CR), the squared multiple correlations (SMC), and the average variance extracted (AVE). CR evaluates the internal consistency of a measurement. All CR values were above 0.6, and all SMC values were above 0.5, all of which were above the cut-off values suggested by Bagozzi and Yi (1988). These results indicate that our measurements had a high level of internal consistency.

- *Insert Table 1 about here* -

To assess discriminant validity, we compared the average variance extracted as well as the variance shared between constructs, as suggested by Fornell and Larcker (1981). They suggested that the square root of the average variance extracted should be greater than the correlation coefficient in the corresponding columns and rows. Table 2 shows the means, standard deviations, and correlation coefficients between each of the contingency variables and the dependent variables. Table 2 also shows that the square root of each average variance extracted was greater than the correlation coefficient in the corresponding columns and rows. The result indicates that adequate discriminant validity exists in our measurements.

- *Insert Table 2 about here* -

## Results

Following the method proposed by Choi and Beamish (2004), we used three stages of analysis to identify how many types of management control structures emerged from our sample. In the first phase, factor analysis with varimax rotation was conducted to check the eight firm-specific advantages belonging to each partner. Table 3 gives the results of the exploratory factor analysis. As expected, two factors were produced, with all activities highly loaded toward the appropriate factors. Factor 1 consists of five activities in which Taiwanese partners might play leading roles: (1) product development, (2) process development, (3) manufacturing decisions, (5) international marketing, and (6) brand names/trademarks. Factor 2 shows that the local partner is stronger than the Taiwanese partner in (4) local marketing, (7) managing the local labor force, and (8) management of legal/government relations.

- *Insert Table 3 about here* -

The second factor analysis was conducted to check the activities in which parents exercised control over firm-specific advantages. Table 4 shows two control patterns. Factor 1 indicates the control exercised over the specific advantages of Taiwanese partners (1, 2, 3, 5, and 6), and factor 2 indicates the control exercised over the specific advantages of the local partners (4, 7, and 8).

- *Insert Table 4 about here* -

In the second phase, we employed cluster analysis to identify a meaningful system for classifying the management control structures of our 162 samples. We used Ward's cluster analysis to determine the number of clusters. Table 5 shows the clustering coefficients of the four-stage clustering process along the two dimensions of control derived from our factor analysis. The coefficient of percentage change between the different coefficient levels suggests that creating three clusters may be appropriate.

- *Insert Table 5 about here* -

As indicated by the results of ANOVA in Table 6, we named Cluster 1 "split management control." We found that foreign partners exercised control over the following operational activities: product research and design, process research and design, product manufacturing, international marketing, brand names and trademarks, thereby providing them with advantages over such activities. Likewise, we found that local partners exercised control over the three activities in which they typically had advantages over (i.e., local marketing, local labor force management, and legal/government relations management). Cases in which foreign partners exercised control over all of the operational activities in an IJV were placed in Cluster 3, which we labeled "MNE-dominant management control." Cases in which foreign and local partners had almost equal control over the abovementioned activities operating in an IJV fell into Cluster 3, which we labeled "shared management control." The clustering results of the present study was a little different from the study of Choi and Beamish (2004), we did not find the local-partner-dominance cluster.

- *Insert Table 6 about here* -

Factor analysis with varimax rotation was used to check the knowledge acquisition intent and knowledge spillover risk. Table 7 reported the results of this exploratory factor analysis.

- *Insert Table 7 about here* -

Cluster analysis was also used to classify different patterns knowledge tensions. We used Ward's cluster analysis to determine the number of clusters. Table 8 shows the clustering coefficients of the four-stage clustering process along the two dimensions of knowledge acquisition intent and knowledge spillover risk. The coefficient of percentage change between the different coefficient levels suggests that creating three clusters may be appropriate. Table 9 reported the ANOVA analysis that showed the difference among clusters along the knowledge acquisition intent and knowledge spillover risk. We named cluster 1 as "sharing-protecting tension faced by local partner", cluster 2 as "learning-sharing-protecting tension face by both MNE and local partner", and cluster 3 as "sharing-protecting tension faced by MNEs".

- *Insert Table 8 about here* -

- *Insert Table 9 about here* -

Table 10 report the analysis of covariance (ANCOVA) that investigated how different types of control and knowledge tension affected satisfaction with IJV performance. Each control types ($F$=13.24, $p$<0.001) and knowledge tension ($F$=6.98 $p$<0.001) performed differently according to our measures of IJV performance. The interactive term also had significant effect on IJV performance ($F$=3.03, $p$<0.05).

- *Insert Table 10 about here* -

Figure 3 plotted the interaction between management control structures and knowledge tension. When MNEs faced the sharing-protecting tension, split management control had highest IJV satisfaction. Therefore, our hypothesis 1 was supported. The satisfaction of toward IJV outcome was higher when MNEs dominant control or split management control were used than using share management control. Thus, our hypothesis 2 was supported. We predicted that share management control can result in better performance than other when local partner faced sharing-protecting tension. However, surprised, MNEs dominant management control yield higher satisfaction regarding the IJV than others. Hypothesis 3 was not be supported.

- *Insert figure 3 about here* -

## Discussion and Conclusion

IJVs have been the object of much scholarly interest, and scholars have been especially keen on understanding how parental control over JV management influences JV performance. Because conclusions made by researchers on this subject are very inconsistent, the relationship between management control and IJV performance remains a debatable issue for the last three decades. To the best of our knowledge, few (if any) studies attempted to examine the relationship of IJVs to different knowledge tensions. We combine TCE, organizational learning, and KBV into a knowledge tension framework to describe how IJV partners' knowledge tension characteristics influence the way IJV parents exercise management control and to understand the consequences of

such management. Three management control patterns from 162 IJVs were found to be similar—but not identical—to those described in the study of Choi and Beamish (2004). That is, we did not find a local-partner-dominant-control structure in the present study. By introducing knowledge tension, this study did come up with some interesting results. First, MNE-dominant management control and split management control appeared to lead to significantly better performance than sharing management control in situation in which both foreign and local partner face high learning-sharing-protecting tension. Second, split management control also can get higher satisfaction than other types of management control when MNEs face high sharing-protecting tension. We predict that sharing management control may facilitate IJV satisfaction when local partner faces sharing-protecting tension. Contrary to our expectations, split management control leads to significantly better performance than other types of management control. In fact, it was found that sharing management control leads to poorer performance in situations when MNEs partners have more interest to acquiring knowledge from the local partner.

Our findings make some substantial contributions to the existing literature on IJVs by advancing the understanding of the relationship between management control structures and IJV performance in three main ways. First, IJVs provide an opportunity for knowledge spillover. TCE provides a theoretical backgrounding for safeguarding knowledge and limit the learning opportunities through management control (Norman, 2004). MNEs must effectively reduce appropriabiltity hazards by implementing systems of management control that help secure rent appropriation. However, from organizational learning and KBV, knowledge acquisition is another critical factor for firms to forming an IJV. One partner's learning from its partner means another party's knowledge loss. A partner's intent to learn can be an indicator of opportunism to another partner in an IJV. Most previous works assume that MNEs and local partners have asymmetry motivation to acquiring knowledge from each others. These works refer knowledge receiving as bright side and knowledge leakage as dark side in business relationship that ignore the critical role of joint value creation. This study suggest that learning and knowledge loss are neither bright side nor dark side in IJVs. Transaction cost caused by knowledge spillover can be enhanced or mitigated by learning. MNEs and local partner may need face knowledge tension concurrently (Ho & Wang, 2015; Yang *et al*., 2014). Thus, this study introduces knowledge tension view to re-examine the relationship between managemenr control and IJV's satisfaction. Recent empirical studies suggest that MNEs might choose an appropriate mode of governance to balance the competing interests of joint value creation and value appropriation (Gulati & Singh, 1998; Huang & Chiu, 2014; Khanna *et al*., 1998; Li, *et al*., 2009; Yang *et al*., 2014; Zhang *et al.*, 2007). Our framework address the knowledge tension issue and can contribute to IJV's management control by linking TCE, organizational learning, and KBV.

Second, reducing opportunism and coordination costs are the primary reasons why MNEs may want to play the dominant role in management. If one party has dominant control in an IJV, the other party will have less influence over the IJV's operational decisions. The latter party with less

control may become concerned about the extent to which it will not be able to achieve its goals. The more acutely this party feels this concern, the more difficult it may be to foster a cooperative relationship among partners. Though some studies suggest governance may need to reduce or can reduce behavior uncertainty for avoiding the darkside effect (for example, knowledge leakage and learning race risk) in strategic alliance, these suggestions did not address the situation that MNEs and local partner may need to face high learning intent and high knowledge spillover risk simultaneously. Choi and Beamish (2004) suggested, if MNCs lack the expertise or know-how to manage the specific advantages of local partners, they should not be in control of those advantages. When one party wants to exercise control over the other partner's specific advantages, rent appropriation concerns and management control conflicts may arise. Our empirical findings confirm that split management control can have higher satisfaction when both MNEs and local partner face knowledge simultaneously. Some studies suggest that knowledge acquisition may also lead to the desire for control (Barden *et al*., 2005; Inkpen & Currall, 2004). Learning can be a significant factor in leading to MNEs' preference for higher levels of control. Comparing with split management control, this survey shows that MNE dominant management control also can yield similar level of IJV outcome when knowledge tension is faced by MNEs and local partner simultaneously. Regarding to the knowledge tension, this study can contribute to IJV management for providing a theoretical framework to facilitate joint value creation *via* balancing knowledge sharing, knowledge loss, and knowledge acquiring.

Third, the ability of exchange partners to match governance structures with exchange attributes is viewed as critical to realizing economic advantage (Gulati & Singh, 1998). In the IJV context, management control is the result of a firm's need to respond to a partner's possible opportunism, as well as of its need to achieve its own strategic goals. Echoing the suggestions that a contingency approach should be taken to examine control-IJV attributes' coalignment effect on IJV performance (Barden *et al*., 2005; Lu & Hebert, 2005; Pangarkar & Klein, 2004;), this study aimed to examine some knowledge tensions IJV partners that might moderate the relationship between management control structure and IJV performance. This investigation can contribute to contingency approach by addressing a critical boundary conditions knowledge tension that can increase transaction costs and joint value creation simultaneously.

IJVs are effective vehicles for the transference of knowledge embedded within a partner's firm (Dhanaraj, Lyles, Steensma, & Tihanyi, 2004; Glaister *et al.*, 2003; Makhija & Ganesh, 1997). We expect that the positive relationship between share management control and IJV performance when sharing protecting tension is faced by local partner, but our empirical results cannot support this hypothesis. Some studies suggest that knowledge acquisition may also lead to the desire for control (Barden *et al*., 2005; Inkpen & Currall, 2004). However, Inkpen (2000) noted that we should distinguish between the two forms of learning from partners: first, firms may seek to access knowledge about their partners, but not with the aim of integrating the knowledge into their own operations; second, a firm may acquire knowledge from its partner that can be used to enhance

strategy and operations in areas unrelated to the alliance activities. Future research may need to control the related key variables such as the motivations of knowledge acquisition and knowledge types.

*Managerial implications*

IJV managers and policy makers will likely see some useful implications in this study. First, the term "appropriable" refers to MNEs' ability to capture the rents generated by the valuable resources brought into an IJV. MNEs must effectively reduce appropriabiltity hazards by implementing systems of management control that help secure rent appropriation. This factor is typically the reason why MNEs want dominant control over IJVs' operational decisions. Notably, IJVs have often been considered a mode of entry that allows MNEs to overcome opportunistic behaviors (Dhanaraj *et al*., 2004). However, the fact neither of an IJV nor of any of the various levels of ownership is equal to management control in terms of deterring a partner's opportunism. Shared equity does not necessarily positively relate to shared management control (Mohr, 2006). If one party has dominant control in an IJV, the other party will have less influence over the IJV's operational decisions. The latter party with less control may become concerned about the extent to which it will not be able to achieve its goals. The more acutely this party feels this concern, the more difficult it may be to foster a cooperative relationship among partners. To achieve enhanced IJV performance, the relationship between resource contribution and the scope of control should be linked in ways that go beyond the level of ownership. Defining clearly who is responsible for each activity is important to avoid having more than one person responsible for the same thing (Glaister, Husan, & Buckley, 2003).

Second, IJVs are a popular entry strategy for MNEs wishing to expand into new markets. IJVs also need knowledge transferring from MNEs to strengthen competitive advantage. While numerous types of opportunistic behavior exist, the unintended sharing of knowledge is undoubtedly one of the chief concerns of MNEs, most especially when the knowledge is closely related to MNEs' competitive advantages (Singh, 2007; Yan & Child, 2004). IJVs provide an opportunity for knowledge spillover from MNEs to local partners (Zhang *et al*., 2007). MNEs have no way of knowing *ex ante* whether their local partner will behave opportunistically. To limit such spillover, MNEs need to exercise firm control over IJVs' daily operations. However, exercising control over the specific advantages of partners may result in conflict. Split management control can be an alternative to solving this knowledge tension.

*Limitations and Future Research*

While our study helped to refine our understanding of the relationship between IJV management control structures and their consequences, it has certain limitations. First, some prior works suggest the positive relationships among learning, bargaining power, management control, and IJV instability (Inkpen & Currall, 2004; Inkpeng & Beamish, 1997). There are different gains for partners in IJVs with asymmetry motivation, commitment, and absorptive capability. This study doesn't access these interactive relationships, especially when MNEs face a contingency of

high learning-protecting tension. Future research can examine the relationships among earning, bargaining power and IJV instability with learning-protecting tension.

Second, we excluded from our study some IJVs that involved more than two partners. This research simply asked Taiwanese executives to express their opinions. However, Mohr (2006) stated that partners in an IJV often have very different expectations of how an IJV should perform. Such differing expectations will surely influence evaluations of IJV performance. Moreover, in this study, we only collected the perspectives of Taiwanese executives. Dyadic data collection from the perspective of both MNEs and local partner is need for future exploration.

Third, control structures might be the expression of bargaining power resulting from the specific advantages of firms (Choi & Beamish, 2004; Yan & Gray, 2001a, 2001b). MNCs typically staff expatriates who have higher knowledge absorption capabilities to aid in knowledge acquisition (Makhija & Ganesh, 1997). Future work may examine the moderating effects of learning intent on the relationship between staff control mechanisms and IJV performance, especially in the case of a highly learning-oriented MNC.

Finally, as this paper only tested MNCs satisfaction with IJV from the perspective of MNCs perspective, such method may possibly be a research limitation. Some studies indicated that a highly positive correlation between subjective and objective IJV performance measurement exists. Thus, collecting related data on the objective IJV performance or on the perspective of local partners can be a potential future research direction.

**References**


Albers, S., Wohlgezogen, F., & Zajac, E. J. 2016. Strategic alliance structures: An organization design perspective. *Journal of Management*, 42(3): 582−614.

Armstrong, S. J., & Overton, T. S. 1977. Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, 14(3): 396-402.

Bagozzi, R. P., & Yi, Y. 1988. On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1): 74-94.

Barden, J. Q., Steensma, H. K., & Lyles, M. A. 2005. The influence of parent control structure on parent conflict in Vietnamese international joint ventures: An organizational justice-based contingency approach. *Journal of International Business Studies*, 36(2): 156-174.

Beamish, P. W., & Lupton, N. C. 2009. Managing joint ventures. *Academy of Management Perspectives*, 23(2): 75-94.

Berdrow, I., & Lane, H. W. 2003. International joint ventures: Creating value through successful knowledge management. *Journal of World Business*, 38(1): 15-30.

Becerra, M., Lunnan, R., & Huemer, L. 2008. Trustworthiness, risk, and the transfer of tacit and explicit knowledge between alliance partners. *Journal of Management Studies*, 45(4): 691−713.

Bouncken, R. B., & Kraus, S. 2013. Innovation in knowledge-intensive industries: The double-edged sword of coopetition. *Journal of Business Research*, 66(10): 2060-2070.

Chang, J., Bai, X., & Li, J. J. 2015. The influence of institutional forces on international joint ventures' foreign parents' opportunism and relationship extendedness. *Journal of International Marketing*, 23(2): 73–93.

Chen, D., Park, S. H., & Newburry, W. 2009. Parent contribution and organizational control in international joint ventures. *Strategic Management Journal*, 30(11): 1133-1156.

Choi, C-B., & Beamish, P. W. 2004. Split management control and international joint venture performance. *Journal of International Business Studies*, 35(3): 201-215.

Choi, C.-B., & Beamish, P. W. 2013. Resource complementarity and international joint venture performance in Korea. *Asia Pacific Journal of Management*, 30(2): 561–576.

Choi, J., & Contractor, F. J. 2016. Choosing an appropriate alliance governance mode: The role of institutional, cultural and geographical distance in international research & development (R&D) collaborations. *Journal of International Business Studie*s, 47(2): 210-232.

Deitz, G. D., Tokman, M., Richey, R. G., & Morgan, R. M. 2010. Joint venture stability and cooperation: Direct, indirect and contingent effects of resource complementarity and trust. *Industrial Marketing Management*, 39(5): 862-873.

del Mar Benavides-Espinosa, M., & Ribeiro-Soriano, D. 2014. Cooperative learning in creating and managing joint ventures. *Journal of Business Research*, 67(4): 648-655.

Dhanaraj, C., Lyles, M. A., Steensma, H. K., & Tihanyi, L. 2004. Managing tacit and explicit knowledge transfer in lJVs: The role of relational embeddedness and the impact on performance. *Journal of International Business Studies*, 35(5): 428-442.

Easterby-Smith, M., Lyles, M. A., & Tsang, E. W. K. 2008. Inter-organizational knowledge transfer: Current themes and future prospects. *Journal of Management Studies*, 45(4): 677-690.

Ertug, G., Cuypers, I. R. P., 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.

Fernandez, A.-S., Le Roy, F. & Gnyawali, D. R. 2014. Sources and management of tension in co-opetition case evidence from telecommunications satellites manufacturing in Europe. *Industrial Marketing Management*, 43(2): 222–235.

Fornell, C., & Larcker, D. F. 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1): 39-50.

Geringer, M. J., & Hebert, L. 1989. Control and performance of international joint ventures. *Journal of International Business Studies*, 20(2): 235-254.

Geringer, M. J., & Hebert, L. 1991. Measuring performance of international joint ventures. *Journal of International Business Studies*, 22(2): 249-262.

Glaister, K. W., & Buckley, P. J. 1998. Management-performance relationships in UK joint ventures. *International Business Review*, 7(3): 235-257.

Glaister, K. W., Husan, R., & Buckley, P. J. 2003. Learning to manage international joint ventures. *International Business Review*, 12(1): 83-108.

Groot, T. L. C. M., & Merchant, K. A. 2000. Control of international joint ventures, *Accounting, Organizations and Society*, 25(6): 579-607.

Gulati, R., & Singh, H. 1998. The architecture of cooperation: Managing coordination costs and appropriation concerns in strategic alliances. *Administrative Science Quarterly*, 43(4): 781-814.

Hau, L., N., & Evangelista, F. 2007. Acquiring tacit and explicit marketing knowledge from foreign partners in IJVs. *Journal of Business Research*, 60(11): 1152−1165.

He, X., Chakrabarty, S., & Eden, L. 2016. The global emergence of Chinese multinations: A resource-based view of ownership and performance. *Asian Business & Management*, 15(1): 1-31.

Hernandez, E., Sanders, W. M. G., & Tuschke, A. 2015. Network defense: Pruning, grafting, and closing to prevent leakage of strategic knowledge to rivals. *Academy of Management Journal*, 5(4): 1233−1260.

Ho, M. H.-W., & Wang, F. 2015. Unpacking knowledge transfer and learning paradoxes in international strategic alliances: Contextual differences matter. *International Business Review*, 24(2): 287-197.

Huang, M.-C., & Chiu, Y. 2014. The antecedents and outcome of control in IJVs: A control-gap framework. *Asia Pacific Journal of Management*, 31(2): 245-269.

Huang, M.-C., Hsiung, H.-H., & Lu, T.-C. (2015). Reexamine the relationship between control mechanisms and IJV performance: The mediating roles of perceived value gap and information asymmetry. *Asia Pacific Management Review*, 20(1): 32−43.

Inkpen, A. C. 2000. Learning through joint ventures: A framework of knowledge acquisition. *Journal of Management Studies*, 37(7): 1019-1043.

Inkpen, A. C., & Beamish, P. W. 1997. Knowledge, bargaining power, and the instability of international joint ventures. *Academy of Management Review*, 22(1): 177-202.

Inkpen, A. C., & Currall, S. C. 2004. The coevolution of trust, control, and learning in joint ventures. *Organization Science*, 15(5): 586-599.

Isidor, R., Schwens, C., Hornung, F., & Kabst, R. 2015. The impact of structural and attitudinal antecedents on the instability of international joint ventures: The mediating role of asymmetrical change in commitment. *International Business Review*, 24(2), 298-310.

Jarvenpaa, S. L., & Majchrzak, A. 2016. Interactive self-regulatory theory for sharing and protecting in interorganizational collaborations. *Academy of Management Review*, 41(1): 9-27.

Jiang, X., Li, M., Gao, S., Bao, Y., & Jiang, F. 2013. Managing knowledge leakage in strategic alliances: The effects of trust and formal contract. *Industrial Marketing Management*, 42(6): 983−991.

Kale, P., Singh, H., & Perlmutter, H. 2000. Learning and protection of proprietary in strategic alliances: Building relational capital. *Strategic Management Journal*, 21(3): 217-231.

Khan, Z., Shenkar, O., & Lew, Y. K. 2015. Knowledge transfer from international joint venture to local suppliers in a developing economy. *Journal of International Business Studies*, 46(6): 656-675.

Khanna, T., Gulati, R., & Nohria, N. 1998. The dynamics of learning alliances: Competition, cooperation, and relative scope. *Strategic Management Journal*, 19(3): 193-210.

Killing, P. J. 1983. *Strategies for Joint Venture Success*. NY, NY: Praeger.

Larsson, R., Bengtsson, L., Henriksson, K., & Sparks, J. 1998. The interorganizational learning dilemma: Collective knowledge development in strategic alliances. *Organization Science*, 9 (3): 285−305.

Lau, C. M., & Bruton, G. D. 2008. FDI in China: What we know and what we need to study next. *Academy of Management Perspectives*, 22(4): 30-44.

Lee, J., Hoetker, G., & Qualls, W. 2015. Alliance experience and governance flexibility. *Organization Science*, 26(5): 1536−1551.

Li, D., Eden, L., Hitt, M. A., Ireland, R. D., & Garrett, R. P. 2012. Governance in Multilateral R&D alliance. *Organization Science*, 23(4): 1191−1210.

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.

Liu, L. A., Adair, W. L., & Bello, D. C. 2015. Fit, misfit, and beyond fit: Relational metaphors and semantic fit in international joint ventures. *Journal of International Business Studies*, 46(7): 830-849.

Liu, X., Vredenburg, H., & Steel, P. 2014. A meta-analysis of factors leading to management control in international joint ventures. *Journal of International Management*, 20(2): 219-236.

Lioukas, C. S., & Reuer, J. J. 2015. Isolating trust outcomes from exchange relationships: Social exchange and learning benefits of prior ties in alliances. *Academy of Management Journal*, 58(6): 1826−1847.

Luo, Y. 2007. A coopetition perspective of global competition. *Journal of World Business*, 42(2): 129-144.

Luo, Y. 2009. Are we on the same page? Justice agreement in international joint ventures. *Journal of World Business*, 44(4): 383-396.

Luo, Y., & Park, S. H. 2004. Multiparty cooperation and performance in international equity joint ventures. *Journal of International Business Studies*, 35(2): 142-160.

Luo, Y., Shenkar, O., & Gurnani, H. 2008. Control-cooperation interfaces in global strategic alliance: A situational typology and strategic responses. *Journal of International Business Studies*, 39(3): 428−453.

Luo, Y., Shenkar, O., & Nyaw, M-K. 2001. A dual parent perspective on control and performance in international joint venture: Lessons from a developing economy. *Journal of International Business Studies*, 32(1): 41-58.

Lyles, M. A., & Salk, J. E. 1996. Knowledge acquisition from foreign parents in international joint ventures: An empirical examination in the Hungarian context. *Journal of International Business Studies*, 27(5): 877-903.

Makhija, M. V., & Ganesh, U. 1997. The relationship between control and partner learning in learning-related joint ventures. *Organization Science*, 8(5): 508-527.

Makino, S., Chan, C. M., Isobe, T., & Beamish, P. W. 2007. Intended and unintended termination of international joint ventures. *Strategic Management Journal*, 28(11): 1113–1132.

Meier, M. 2011. Knowledge management in strategic alliances: A review of empirical evidence. *International Journal of Management Review*, 13(1): 1–23.

Meyer, K. E., & Peng, M. W. 2016. Theoretical foundations of emerging economy business research. *Journal of International Business Studies*, 47(1): 3–22.

Mihailova, I. 2015. Outcomes of learning through JVs for local parent firms in transition economies: Evidence from Russia. *Journal of World Business*, 50(1): 220–223.

Minbaeva, D., Pedersen, T., Björkman, I., Fey, C. F., & Park, H. J. 2003. MNC knowledge transfer, subsidiary absorptive capacity, and HRM. *Journal of International Business Studies*, 34(6): 586 -599.

Mohr, A. T. 2006. A multiple constituency approach to IJV performance measurement. *Journal of World Business*, 41(3): 247-260.

Mohr, A., Wang, C., & Fastoso, F. 2016. The contingent effect of state participation on the dissolution of international joint ventures: A resource dependence approach. *Journal of International Business Studies*, 47(4): 408–426.

Musarra, G., Robson, M. J., & Katsikeas, C. S. 2016. The influence of desire for control on monitoring decisions and performance outcomes in strategic alliances. *Industrial Marketing Management*, 55, 10–21.

Obloj, T., & Zemsky, P. 2015. Value creation and value capture under moral hazard: Exploring the micro-foundations of buyer-supplier relationships. *Strategic Management Journal*, 36(8): 1146-1163.

Pak, Y. S., Ra, W., & Park, Y. R. 2009. Understanding IJV performance in a learning and conflicting mediated context. *International Business Review*, 18(5): 470–480

Pangarkar, N., & Klein, S. 2004. The impact of control on international joint venture performance: A contingency approach. *Journal of International Marketing*, 12(3): 86-107.

Park, C., Vertinsky, I., & Becerra, M. 2015. Transfer of tacit vs. explicit knowledge and performance in international joint ventures: The role of age. *International Business Review*, 24(1): 89-101.

Park, J.-Y., & Harris, S. 2014. Microfoundations for learning within international joint ventures. *International Business Review*, 23(3): 490–503.

Parker, H., & Brey, Z. 2015. Collaboration costs and new product development performance. *Journal of Business Research*, 68(7): 1653-1656.

Phelps, C., Heidl, R., & Wadhwa, A. 2012. Knowledge, networks, and knowledge networks: A review and research agenda. *Journal of Management*, 38(4): 1115-1166.

Phene, A., & Tallman, S. 2014. Knowledge spillover and alliance formation. *Journal of Management Studies*, 51(7): 1058–1090.

Podsakoff, P. M., & Organ, D. W. 1986. Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4): 531-544.

Shu, C., Liu, C., Gao, S., & Shanley, M. 2014. The knowledge spillover theory of entrepreneurship in alliances. *Entrepreneurship Theory and Practice*, 38(4): 913–940.

Simonin, B. L. 2004. An empirical investigation of the process of knowledge transfer in international strategic alliances. *Journal of International Business Studies*, 35(5): 407-427.

Singh, J. 2007. Asymmetry of knowledge spillovers between MNCs and host country firms. *Journal of International Business Studies*, 38(5): 764-786.

Soekijad, M., & Andriessen, E. 2003. Conditions for knowledge sharing in competitive alliances. *European Management Journal*, 21(5): 578–587.

Steensma, H. K., & Lyles, M. A. 2000. Explaining IJV survival in a transitional economy through social exchange and knowledge-based perspectives. *Strategic Management Journal*, 21(8): 831-851.

Tsang, E. W. K. 2002. Acquiring knowledge by foreign partners from international joint ventures in a transition economy: Learning-by-doing and learning myopia. *Strategic Management Journal*, 23(9): 835-854.

Tseng, C.-H. 2015. Determinants of MNC's knowledge inflows to subsidiaries: A perspective on internalization advantages. *Management International Review*, 55(1): 119–150.

van Burg, E., Berends, H., & van Raaij, E. M. 2014. Framing and interorganizational knowledge transfer: A process study of collaborative innovation in aircraft industry. *Journal of Management Studies*, 51(3): 349–378.

Westman, C., & Thorgren, S. 2016. Partner conflicts in international joint ventures: A minority owner perspective. *Journal of International Management*, 22(2): 168–185.

Windsperger, J. 2009. Allocation of decision rights in joint ventures. *Managerial and Decision Economics*, 30(8): 491-501.

Yan, A., & Gray, B. 2001a. Negotiating control and achieving performance in international joint ventures: A conceptual model. *Journal of International Management*, 7(4): 295-315.

Yan, A., & Gray, B. 2001b. Antecedents and effects of parent control in international joint ventures. *Journal of Management Studies*, 38(3): 393-416.

Yan, A., & Zeng, M. 1999. International joint venture instability: A critique of previous research, a reconceptualization, and directions for future research. *Journal of International Business Studies*, 30(2): 397-414.

Yan, Y., & Child, J. 2004. Investors' resource commitments and information reporting systems: Control in international joint ventures. *Journal of Business Research*, 57(4): 361-371.

Yang, H., Zheng, Y., & Zaheer, A. 2015. Asymmetric learning capabilities and stock market returns. *Academy of Management Journal*, 58(2): 356−374.

Yang, H., Zheng, Y., & Zhao, X. 2014. Exploration or exploitation? Small firms' alliances strategies with large firms. *Strategic Management Journal*, 35(1): 146−157.

Yang, S.-M., Fang, S.-C., Fang, S.-R., & Chou, C.-H. 2014. Knowledge exchange and knowledge protection in interorganizational learning: The ambidexterity perspective. *Industrial Marketing Management*, 43(2): 346−358.

Yang, J. Y., Tipton, F. B., & Li, J. 2011. A review of foreign business management in China. *Asia Pacific Journal of Management*, 28(3): 627−659.

Zhang, Y., & Li, H. 2001. The control design and performance in international joint ventures: A dynamic evolution perspective. *International Business Review*, 10(3): 341-362.

Zhang, Y., Li, H., Hitt, M. A., & Cui, G. 2007. R&D intensity and international joint venture performance in an emerging market: Moderating effects of market focus and ownership structure. *Journal of International Business Studies*, 38(6): 944-960.

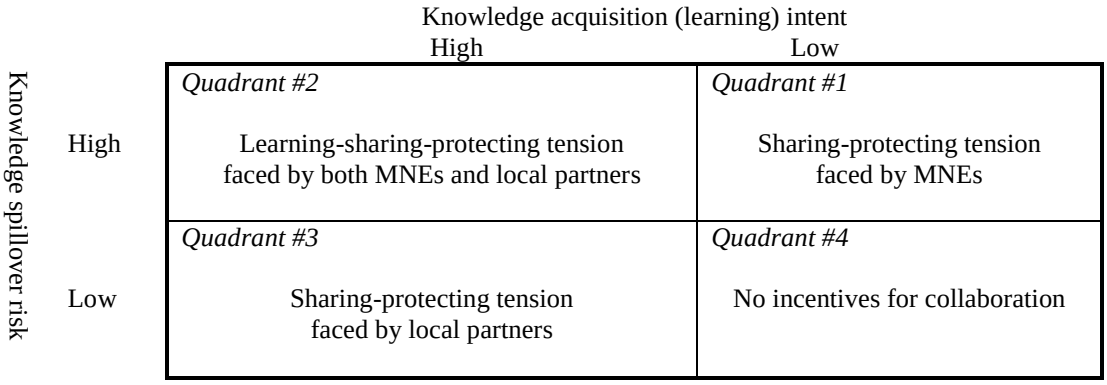


Figure 1. Knowledge learning/sharing/protecting tensions of IJVs for MNEs

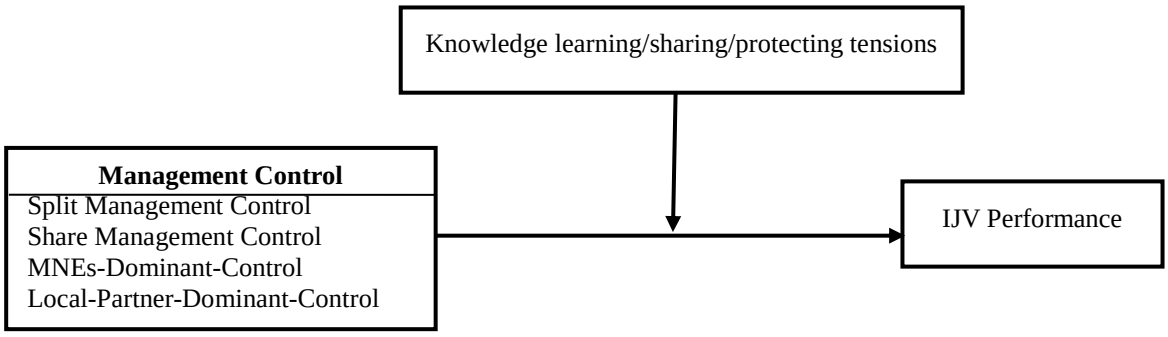


Figure 2. Research conceptual framework

Table 1. The value of SMC, CR and AVE of Measurement Model

| Construct/indicator | Factor loading | t-value | SMC | CR | AVE |
|---|---|---|---|---|---|
| ***Learning intent*** | | | | | |
| Acquisition of technological expertise | 1.00 | | 0.64 | | |
| Acquisition of specific market knowledge of host country | 1.06*** | 13.43 | 0.79 | 0.90 | 0.76 |
| Acquisition of collaborative skill with MNC posed by local partner | 1.04*** | 13.63 | 0.85 | | |
| ***Knowledge spillover risk*** | | | | | |
| Spillover risk for technological expertise | 1.00 | | 0.74 | 0.92 | 0.79 |
| Specific market knowledge | 0.89*** | 14.67 | 0.74 | | |
| Spillover risk for collaborative skill with MNC | 1.06*** | 16.50 | 0.88 | | |
| ***Satisfaction with JV performance*** | | | | | |
| Strategic goal achievement | 1.00*** | | 0.74 | 0.88 | 0.71 |
| Cooperative relationship with IJV's partners | 0.97*** | 12.58 | 0.64 | | |
| Overall satisfaction to this cooperative relationship | 1.04*** | 13.41 | 0.74 | | |

*Note*: n=162, *: p<0.05, **: p<0.01, ***: p<0.001.

Table 2. Correlation of latent construct and discriminiant validity

| Variables | Means | S.D. | a. | b. | c. | d. |
|---|---|---|---|---|---|---|
| a. Learning intent | 5.01 | 1.33 | 0.87 | | | |
| b. Knowledge spill-over risk | 5.33 | 1.23 | 0.26** | 0.88 | | |
| c. Satisfaction with JV performance | 5.64 | 1.04 | 0.18* | 0.26** | 0.84 | |
| d. IJV Age | 8.89 | 7.53 | 0.01 | -0.07 | -0.03 | |
| e. Ownership | 0.55 | 0.14 | -0.19* | -0.17* | 0.09 | -0.19* |

*Note*: Diagonal terms are square root of the average variance extracted. The lower triangle provides the correlation of latent construct. *: p<0.05; **: p<0.01 (two-tailed)

Table 3. Exploratory factor analysis of firm-specific advantages: Varimax rotation

| Firm-specific advantage variable | Factor loading | |
|---|---|---|
| | Factor 1 | Factor 2 |
| 1. Product development | 0.92 | |
| 2. Process development | 0.93 | |
| 3. Manufacturing | 0.73 | |
| 4. Local marketing | | 0.80 |
| 5. International marketing | 0.89 | |
| 6. Brand name/trade mark | 0.87 | |
| 7. Management on local labor force | | 0.84 |
| 8. Management of legal/Government relations | | 0.79 |
| Variance explained | 48.32% | 26.73% |

Table 4. Exploratory factor analysis of control over firm-specific advantages: Varimax rotation

| Management control variable | Factor loading | |
|---|---|---|
| | Factor 1 | Factor 2 |
| 1. Product development | 0.95 | |
| 2. Process development | 0.95 | |
| 3. Manufacturing | 0.83 | |
| 4. Local marketing | | 0.80 |
| 5. International marketing | 0.91 | |
| 6. Brand name/trade mark | 0.93 | |
| 7. Management on local labor force | | 0.92 |
| 8. Management of legal/Government relations | | 0.90 |
| Variance explained | 52.67% | 28.70% |

Table 5. Clustering coefficient of management control at the last four stages clustering process

| Number of clusters | Clustering Coefficient | Percentage change in coefficient change to next level (%) |
|---|---|---|
| 4 | 70.104 | 32.52 |
| 3 | 92.907 | **113.73** |
| 2 | 198.576 | 62.15 |
| 1 | 322.000 | |

Table 6. Group means for three-cluster solution of management control

| Control activity | Clusters | | | F-value | Scheffe's test |
|---|---|---|---|---|---|
| | C1: Split Control (n=41) | C2: MNE Dominant (n=55) | C3: Share control (n=66) | | |
| Product R&D | 6.56 | 6.41 | 3.54 | 191.65*** | (C1>C3)(C2>C3) |
| Process R&D | 6.56 | 6.39 | 3.72 | 164.72*** | (C1>C3)(C2>C3) |
| Manufacturing | 6.16 | 5.36 | 3.68 | 51.24*** | (C1>C2)(C1>C3)(C2>C3) |
| Local Marketing | 2.00 | 6.02 | 4.54 | 182.53*** | (C2>C1)(C3>C1)(C2>C3) |
| International Marketing | 6.34 | 6.12 | 3.43 | 125.10*** | (C1>C3)(C2>C3) |
| Brand name/ trade mark | 6.25 | 6.24 | 3.72 | 103.56*** | (C1>C3)(C2>C3) |
| Management of local labor force | 2.10 | 6.34 | 4.66 | 159.11*** | (C2>C1)(C3>C1)(C2>C3) |
| Management of legal/government relations | 2.18 | 6.58 | 4.96 | 186.33*** | (C2>C1)(C3<C1)(C2>C3) |

*Note*: 7=MNCs full control; 4=equally share management control; 1= Local partner full control; *: $p<0.05$, **: $p<0.01$, ***: $p<0.001$.

Table 7. Exploratory factor analysis of Knowledge acquisition intent and spillover risk: Varimax rotation

| Knowledge acquisition intent and spillover risk | Factor loading | |
|---|---|---|
| | Factor 1 | Factor 2 |
| Acquiring local partner's technological expertise | | 0.90 |
| Acquiring specific market knowledge of host country | | 0.91 |
| Acquiring collaborative skill with MNC posed by local partner | | 0.92 |
| Spillover risk of MNE's technological expertise | 0.91 | |
| Spillover risk of MNE's specific market knowledge | 0.92 | |
| Spillover risk of MNE's collaborative skill with MNC | 0.94 | |
| Variance explained | 53.87% | 31.99% |

Table 8. Clustering coefficient at the last four stages of the clustering process

| Number of clusters | Clustering Coefficient | Percentage change in coefficient change to next level (%) |
|---|---|---|
| 4 | 108.95 | 25.43 |
| 3 | 136.67 | **64.24** |
| 2 | 224.47 | 43.45 |
| 1 | 322.00 | |

Table 9. Group means for three-cluster solution of knowledge tension

| | Clusters | | | F value | Scheffe's test |
|---|---|---|---|---|---|
| | K1:Sharing-protecting tension faced by local partner (n=43) | K2:Learning-sharing-protecting tension (n=88) | K3:Sharing-protecting tension faced by MNEs (n=31) | | |
| Knowledge acquisition intent | 4.32 | 5.91 | 3.42 | 118.99*** | K1>K2; K2>K3; K1>K3 |
| knowledge spillover risk | 3.80 | 5.81 | 6.09 | 106.67*** | K1>K2; K3>K2 |

*Note*: n=162, *: p<0.05, **: p<0.01, ***: p<0.001.

Table 10. ANCOVA: dependent variable= satisfaction with IJV performance

| | Df | Mean of squares | F-value |
|---|---|---|---|
| Intercept | 1 | 143.90 | 138.35*** |
| Control variables | | | |
| IJV Age | 1 | 0.08 | 0.10 |
| Ownership | 1 | 0.34 | 0.40 |
| Control Structure | 2 | 11.15 | 13.24*** |
| Knowledge tension | 2 | 5.88 | 6.98*** |
| Control Structure×Knowledge tension | 4 | 2.55 | 3.03* |
| Model fit: $F=3.36^{***}$(df=8), $R^2=0.27$ | | | |

*Note*: n=162, *: p<0.05, **: p<0.01, ***: p<0.001.

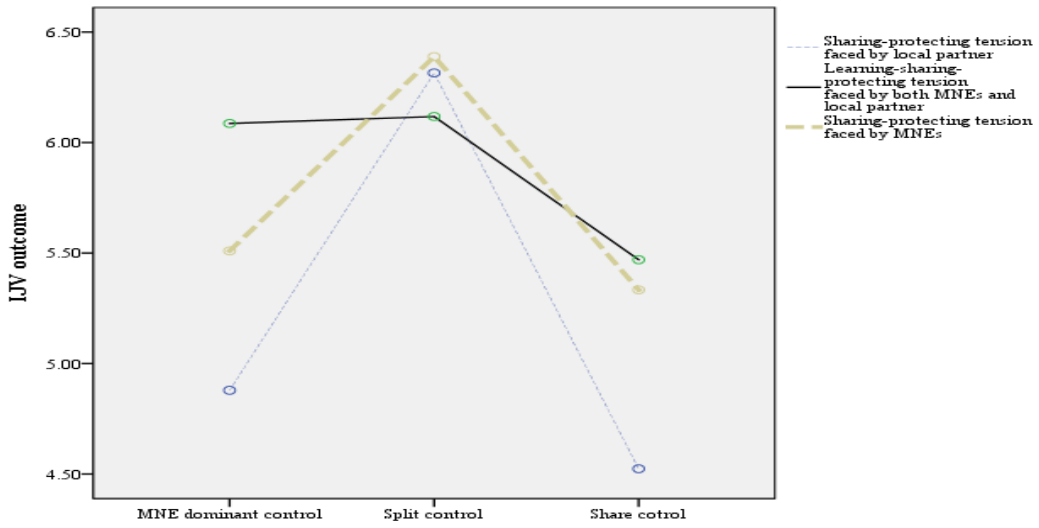


Figure 3. Interactive effects of knowledge tension on control-performance relationship

# 科技部補助專題研究計畫成果報告自評表

請就研究內容與原計畫相符程度、達成預期目標情況、研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）、是否適合在學術期刊發表或申請專利、主要發現（簡要敘述成果是否有嚴重損及公共利益之發現）或其他有關價值等，作一綜合評估。

1. 請就研究內容與原計畫相符程度、達成預期目標情況作一綜合評估

☑ 達成目標

☐ 未達成目標（請說明，以 100 字為限）

☐ 實驗失敗

☐ 因故實驗中斷

☐ 其他原因

說明：

2. 研究成果在學術期刊發表或申請專利等情形：

論文：□已發表 □未發表之文稿 ☑撰寫中 □無

專利：□已獲得 □申請中 □無

技轉：□已技轉 □洽談中 □無

其他：（以 100 字為限）

3. 請依學術成就、技術創新、社會影響等方面，評估研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性），如已有嚴重損及公共利益之發現，請簡述可能損及之相關程度（以 500 字為限）

許多理論及實證研究探討知識在跨組織間關係所扮演的角色及其影響，例如:交易成本交焦點放在防弊，討論如何透過保護機制避免知識外溢的風險；知識觀點或組織學習觀點將焦點放在知識的移轉與學習，討論如何促進知識的跨組織移轉。然而，知識外溢風險與知識移轉、學習是會在一個跨組織關係中(例如：國際合資)同時發生，而產生所謂的知識張力，但過去的理論與文獻卻鮮少關注知識張力所產生的影響。本研究提出知識張力的觀點，對於跨組織間關係的關係管理、組織學習等領域應可引導出後續新的研究方向，同時也可以提供廠商在面對跨組織合作時的關係維持的決策參考，具有學術與應用的價值。

# 科技部補助專題研究計畫成果彙整表

| | |
|---|---|
| **計畫主持人**：黃銘章 | **計畫編號**：MOST 104-2410-H-126-014-SSS |
| **計畫名稱**：國際合資事業之管理控制與績效關係之再檢視：學習與知識保護的雙元存架構 | |

| 成果項目 | | | | | 量化 | 單位 | 質化<br>（說明：各成果項目請附佐證資料或細項說明，如期刊名稱、年份、卷期、起訖頁數、證號...等） |
|---|---|---|---|---|---|---|---|
| 國內 | 學術性論文 | 期刊論文 | | | | 篇 | 請附期刊資訊。 |
| | | 研討會論文 | | | | | |
| | | 專書 | | | | 本 | 請附專書資訊。 |
| | | 專書論文 | | | | 章 | 請附專書論文資訊。 |
| | | 技術報告 | | | 1 | 篇 | |
| | | 其他 | | | | 篇 | |
| | 智慧財產權及成果 | 專利權 | 發明專利 | 申請中 | | 件 | 請附佐證資料，如申請案號。 |
| | | | | 已獲得 | | | 請附佐證資料，如獲證案號。 |
| | | | 新型/設計專利 | | | | |
| | | 商標權 | | | | | |
| | | 營業秘密 | | | | | |
| | | 積體電路電路布局權 | | | | | |
| | | 著作權 | | | | | |
| | | 品種權 | | | | | |
| | | 其他 | | | | | |
| | 技術移轉 | 件數 | | | | 件 | |
| | | 收入 | | | | 千元 | 1. 依「科技部科學技術研究發展成果歸屬及運用辦法」第 2 條規定，研發成果收入係指執行研究發展之單位因管理及運用研發成果所獲得之授權金、權利金、價金、股權或其他權益。<br>2. 請註明合約金額。 |
| 國外 | 學術性論文 | 期刊論文 | | | | 篇 | 請附期刊資訊。 |
| | | 研討會論文 | | | 1 | | |
| | | 專書 | | | | 本 | 請附專書資訊。 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 專書論文 | | | 章 | 請附專書論文資訊。 |
| | | 技術報告 | | | 篇 | |
| | | 其他 | | | 篇 | |
| | 智慧財產權及成果 | 專利權 | 發明專利 | 申請中 | | 請附佐證資料，如申請案號。 |
| | | | | 已獲得 | | 請附佐證資料，如獲證案號。 |
| | | | 新型/設計專利 | | | |
| | | 商標權 | | | 件 | |
| | | 營業秘密 | | | | |
| | | 積體電路電路布局權 | | | | |
| | | 著作權 | | | | |
| | | 品種權 | | | | |
| | | 其他 | | | | |
| | 技術移轉 | 件數 | | | 件 | |
| | | 收入 | | | 千元 | 1. 依「科技部科學技術研究發展成果歸屬及運用辦法」第 2 條規定，研發成果收入係指執行研究發展之單位因管理及運用研發成果所獲得之授權金、權利金、價金、股權或其他權益。<br>2. 請註明合約金額。 |
| 參與計畫人力 | 本國籍 | 大專生 | | | 人次 | |
| | | 碩士生 | | 2 | | |
| | | 博士生 | | | | |
| | | 博士後研究員 | | | | |
| | | 專任助理 | | | | |
| | 非本國籍 | 大專生 | | | | |
| | | 碩士生 | | | | |
| | | 博士生 | | | | |
| | | 博士後研究員 | | | | |
| | | 專任助理 | | | | |

| | |
|---|---|
| 其他成果<br>(無法以量化表達之成果如辦理學術活動、獲得獎項、重要國際合作、研究成果國際影響力及其他協助產業技術發展之具體效益事項等，請以文字敘述填列。) | |

# 行政院國家科學委員會補助國內專家學者出席國際學術會議報告

105 年 8 月 15 日

| | | | |
|---|---|---|---|
| 報告人姓名 | 黃銘章 | 服務機構及職稱 | 靜宜大學企管系<br>教授 |
| 會議時間<br>會議地點 | 105/08/05-105/08/09<br>美國洛杉磯 Anaheim 市 | 本會核定補助文號 | MOST 104-2410-H-126-014-SSS |
| 會議名稱 | (中文) 2016 管理學會年會<br>(英文) Academy of Management 2016 Annual Meeting | | |
| 發表論文題目 | (中文) 供應鏈整合對專屬性投資對廠商績效影響的跨層次效果<br>(英文) The Cross-Level Effects of SCI on the Relationships between TSIs and Firm Performance | | |

## 一、 參加會議經過

本人於 8 月 5 日出發，因時差的關係，洛杉磯當地時間 8 月 5 上午 7 點 40 抵達，隨後轉車前往 Anaheim，9:30 抵達後隨即向大會報到，領取相關會議資料開始參加會議的議程。參加會議的經過說明如下

【8 月 5 日(星期五)】

第一天的議程以論文發展工作坊等為主，這些議程對於論文寫作及投稿有很大的助益。第一場研討參加主題為 Managing the Revise and Resubmit Process 的討論，主席 Erwin 教授指出：Read it, Put it down for a day or two, Re-read it, organize it。組織評審意見可以參考表 1 的格式。

表 1：組織評審及回應意見的彙總表

| Reviewer # | Comment # | Page# | Response |
|---|---|---|---|
| | | | |
| | | | |

與會第一位討論人 McCaughey 教授指出評審總是想要找出作者研究的缺口，面對評審意見作者的態度可以分為：(1) don't take it personally, it's not about; (2)Mom was right, manner get you everywhere 等。如果你覺得不想接受評審的意見，可以：(1) 更精密的分析資料；(2)並不所有的 Citation 都這麼主張；(3)在研究限制討論。第二位討論人 Diana 教授指出：評審是有幫助的，善用這項優勢；評審可能很不好應付，要小心的回應(careful pushing back)。他提到有一個評審常見的意見：本研究的疑就貢獻有限，回應時一定要指出研究的缺口。第三位討論 O'Conner 教授是前任 Journal of Healthcare Management 的主編，他指出這本期刊一年只接受 24 篇，一年投稿量約 160~180 篇。他認為有 R&R 的機會是好的，接

受與否通常由主編決定，評審結果分為：修正後接受、小修、大修、高風險的修正(High Risk)。他建議：仔細閱讀主編的決定信函、不要和主編爭執但可以請主編澄清、修正投出。作者有時也要面對：修正後撤回、或者修正後轉投其它期刊(小心會碰到同一個評審)。有時候評審的建議有相互衝突的情形，仔細閱讀建議轉換成可以行動(actionable)的元素。如果論文被拒絕，不要難過這很常見，建議適度回應評審意見然後 reformat 後投出，目標就是獲得接受。如果你真的不接受評審的觀點，你需要提出非常充分的證據。與會學者提出 cover letter 要寫什麼？Diana 教授回應：建議規劃三頁的 cover letter，描述研究問題、研究缺口、研究方法、研究結果與貢獻。

【8 月 6 日(星期六)】

本日的議程仍以論文發表工作坊為主，參加第一場研討的主題為：Do I have an endogeneity problem, and does it matter? 主持人先介紹內生性的問題，因為內生性關係相關但不一定有因果關係，例如：一位經理人有 MBA 學位可以提升廠商的利潤嗎？可能是有能力聘用有 MBA 學位的廠商本身就是有利潤的廠商！可能有其它因素影響利潤。第一位報告人舉一個研究上的例子：管理實務與經理人和員工之間的關係契約有互動關係，實證對象是卡車公司，該公司有 13000 名司機，超過 300 家分公司。實驗剛開始的契約是打卡制、個人，之後才是關係契約，觀察契約損失量。發現關係契約的確和汽油損失的量有相關，但問題是：關係契約的分配是隨機嗎？經濟的幅度？什麼機制造成？必需要有合適的夥伴才能有 high enough N for power, stratification，也要追蹤公司其它的機制。

第二場參加主題為 A practice-based perspective on paradox: Studying strategic tensions，第一位報告人 Wendy Smith 教授指出，所謂 paradox 指相互衝突又相依的元素組合(contradictory and interdependent simultaneously，Hargrave & Van de Ven 在 Organization Science 即將發表的論文將會就此定義)，有以下的特性：persistent、dynamic、processual、nested、interwoven，最後她介紹 organization Science 近期將會出刊一版討論 paradox and practice 的 special issue。第二位報告人 Eero Vaara 教授指出這個短點未來研究的重點與機會在於瞭解 how multiple views may coexist? Productive role of tensions and resistance、political processes and dynamic in strategy。第三位報告人 Ann Langley 教授，她認為思維應該從 managing paradox 轉向 enacting paradox，對實務的意涵在於我們常假設面對兩難的經理人是在兩難以外而且可以管理兩難(assumes “managers” of paradox are outside paradox and can manage)，同時四個理論面向是值得未來關注的，包括：social construction, micro-activities, consequentiality, relationality。

第三場研討參加主題為 Uncertainty and management theory 討論，因為參加的人數過多，大會主辦單位進場要求不能擋住大門，以免堵住逃生通道。第一位報告人 Nathan Furr 教授首先提出一個問題：Where does management theory come from? Management is for coordination and control，在不確定下的創業行動導致工業革命，管理建立於風險的基礎，所以有最佳化、協調與控制等行動。不確定與風險是有區別的，不確定是知道變數但不知道機率，考慮不確定的研究機會(參考 Furr et al. 2016)：考量不確定的正向價值是方向之一。第二位報告人為 Jack Nickerson 教授指出現今在衡量需求/市場不確定、技術不確定、環境

不確定的指標，以產業為分析單位，R&D 投入占營收比重變異作為不確定的衡量、以市場營收的變異/進入廠商數變異/退出廠商數的變異作為市場不確定，組織需要安排不同的經理去對應不同型態的不確定，例如：創新經理要去面對需求不確定。第三位報告人是 Kathleen Eisenhardt 指出：因應變革或成長吹適合的結構存在倒 U，太多或太少的結構都是惰性。U 是 a skew 嗎？什麼是動態 dynamism (Answer: Davis et al., 2009)? Invert U is skew right - better to over-structure，另一個問題 shape varies- inverted plateau at low uncertainty, inverted V at high uncertainty。第四位報告人 Benjamin Hallen 教授發表 Entrepreneurial finance and uncertainty，Classic approaches to uncertainty in entrepreneurial finance: (1) Staging (2) Triangulation vs syndication (3) value added advice。第五位報告人 Jeffrey Dyer 教授，談 endogenous uncertainty，研究上第一個問題就是如何將各種不確定性的內生問題予以排除。Uncertainty 是一個 human factor，會造成過程承諾的風險，治理結構(governance structure)則會降低這個問題。

接下來參加今天的第四場研討，主題為 Value creation and value appropriation in the context of public and nonprofit organization，會中提出 Strategic Management Journal 在明年截稿的同一主題專刊，專刊副主編也說明專刊主題並歡迎大家投稿。第一篇論文以波音客機的組裝為例提出交易中需要 B2B B2G 甚至是 G2G，但政府是否可以適用管理原則？第二篇則談到策略聯盟的議題，透過聯盟獲取共同的整體資源(collective resources)，例如 reputation。聽完二篇論文報告趕赴另一會場參加 Meet the IM editors 的活動，會中主要有關國際企業管理的期刊總編輯(Journal of International Business Studies, Global Strategy Journal, Asia Pacific Journal of Management, International Business Review 等)來到會場介紹期刊的屬性與要求，期刊主編提醒投稿時注意：質性貨量化研究不是問題，要關注文章的定位是否適合該期刊(例如 GSJ 要求投稿務必為 Global strategy 的研究，僅是跨國而沒有 global strategy 意涵的請不要投；APJM 則專注於亞洲)、要關注現象不要只寫理論(最好能舉例說明到底研究的不一致在哪裡？)、不要 overselling 你的論文、摘要需要好好寫等，也有主編提到 cover letter 的問題，他說有許多的投稿沒有 cover letter 說明文稿的獨特性，如果有 1~3 頁的 cover letter 可以協助他判斷；AoM/AIB/SMS 等級的研討會論文通常還不足以被 Top Journal 所接受；如果被期刊拒絕，不見得要馬上改架構或放棄，好好的看評審或主編的意見，修改看看；要有一個認知，在你的研究生涯中被 Rejection 的比率一定會超過被 Accept 的比率。晚上 7 點出席陳明哲教授主持的 Chinese Management Scholars' Community: 2016 open reunion 的活動，該活動討論利用中國數據進行研究的挑戰與機會，晚間十點結束本日的研討活動。

【8 月 7 日(星期日)】

8 月 7 日(星期日)，本日上午的議程為 teaching and learning 的工作坊，這個工作坊活動持續一天。因為論文發表被安排在今日下午 2:30，所以未再報名本項工作坊的活動。於 12:45 選擇參加主為 Alliances, complementarity and complexity 的討論。其中我感到有興趣的一篇是：Managing tensions in competitor collaboration to improve social or ecological sustainability，既然談到競爭的張力(tensions)顯然有潛在衝突的力量，例如作者提出的知識

分享降低夥伴之間的投機行為的可能性，但競爭之間分享知識就容易產生知識外溢的風險，可能會增加投機的風險。針對這個問題，作者表示還要想想。緊接著於 14:30 開始的下一場次 輪到我發表論文，在與會者的提問方面多著重於 dependent variable 採主觀衡量的問題。然而，樣本中有許多的中小企業，無法取得客觀的財務數據，這是本研究的限制之一。晚上六點出席大會舉行的歡迎晚宴。

【8 月 8 日(星期一)】

今日選擇參與幾個與未來研究方向有關的論文發表場次，這幾篇論文都和策略聯盟的知識移轉、知識保護與競爭行為有關。第一篇論文的主題討論在開發中經濟體資源互補與績效的關係，研究主張資源互補與績效的關係決定於：夥伴行為的不確定(TCE arguments)、次國家層級的制度環境的發展(高 vs.低)、政府支持(institutional perspectives; 倒 U 關係)。本研究的樣本是中國，主席提問：Why China？對於其他開發中國家適用這個研究結果嗎？這和前天晚上參加陳明哲老師主持的 workshop 時討論在中國的研究所面對挑戰是一樣的。第二篇論文討論在開發中國家透過策略聯盟提升知識？研究問題在於回答：在什麼情境下地主國夥伴如何透過多國籍企業夥伴學習來提升知識？作者認為不同的知識類型在不同的情境下可以被累積。情境包括：多國籍企業保護知識的傾向、多國籍企業投資於地主國的動機 (出口導向、尋求資源)、國家的差異(技術、文化、制度、地理)、吸收能力的重要性、聯盟的類型(equity vs. non-equity; vertical vs. horizontal)，本論文是透過文獻討論及與 36 位 CEO 的訪談推導命題，為作者博士論文的前期階段，但知識保護並沒有相關命題的發展。第三篇論文的主題在當聯盟夥伴接近敵人時的知識保護，研究主張：透過股權的安排、降低任務的相互依賴程度可以達到適度的知識保護。但本論文事實上並為衡量知識保護，其依變項為相互依賴及股權聯盟的選擇，自變項為夥伴和敵對廠商的地理位置，研究結果顯示在股權安排的影響並不顯著。

第二場研討出席主題為 Paradox in strategy 的研討，但第二篇論文發表時提到 ambidexterity 有 multi-level 的概念，這也是我現行研究的重心，但本篇論文的內僅放在 individual level，主張 ambidexterity 是一個學習行為，ambidexterity 是一種展現能力的行為，和現行主張 ambidexterity 是一種動態能力有所差異，值得關注。第三篇論文討論 The micro processes of strategic paradox evolution，作者首先提出 ambidexterity 的特性為：Contradictory (trade-off), interrelated, persistent, simultaneous, focus on corporate innovation and environmental compliance 等，研究發現組織面對多層次的 paradox 例如在組織層次：environmental compliance and organization profit，以 EU 能源標章為樣本訪談 90 位主管，演化過程(組織回應的演化)可以分為：label adoption and scaling，本階段組織會做鑲嵌式回應 (embedded response) 稱為調適 (adjusting)，第二階段為 label revision，接下來是 strategic paradox proliferation。

緊接著 The boundaries of the firm, ownership and transactions *the boundaries of the firm* 為主題的研討。第一篇論文 Allocating Capital Amidst Perceived Uncertainty: Relative (Not Absolute) Ownership Matters，討論資本如何分配？論文假設公司內部的效率是不好的，討論法人(機構投資人)的角色，研究假設：法人持股比率對資源分配的效率的影響呈現倒 U

形的關係，效率指資源分配的相對附加價值(Rajan et al., 2000)。第二篇論文 The buck stops here: Ownership and judgment as complements in strategy research，主張 ownership under theorized 因為股權在現金流量與控制(ownership ability is the skill with which ownership right are exercised)、勞動生產力與管理能力(different from labor productivity or managerial capability)、判斷與好的判斷(judgement versus good judgement)、market selection for ownership ability 等觀點上有所混淆。作者主張 ownership competence: Governance competence: how to own? Match competence: what to own? Timing competence: when to own? 區別這些差異的意涵可以分為：個人與組織層次加以討論。第三篇論文題目為：Towards a more complete taxonomy of design solutions for managerial collective action problems，這是一篇文獻討論的論文，討論問題在於如何可以獲得更好的整體行動(collective actions)？與合作情境連結的影響整體性行動的問題有：搭便車(free rider)、囚犯兩難 (prisoner's dilemma game)、膽小鬼(chicken game)、保證(assurance game)三個面向，情境又可以分為：組織內、組織間與外部制度等個面向。為了解決這些問題需要治理機制，機制又分為事前(*ex ante*)與事後(*ex post*)兩個面向。

【8 月 9 日(星期二)】

論文發表完畢並參加完大部分的議程，於 8 月 9 日搭乘 12:50 的班機返台，於 8 月 10 日傍晚 17:05 返抵桃園中正機場。

## 二、與會心得

參與本次的研討，參與會議前兩天的 PDW sessions 提供了許多好的學習機會，論文發表時與會者的討論對論文修正有實質的幫助，在研討的過程，與會者對理論架構沒有太多的意見，大部分討論在於衡量，但這可能是本研究最大了限制，也是未來需要努力克服的方向。其次，許多研究在研究上為了突破 survey 的限制，採用不同的資料庫與代理變數，但代理變數與研究概念仍有相當的落差，如何在研究方法上突破？是未來研究上可以努力的方向；因為參加各場次的研討，瞭解到目前在個人研究領域內的研究議題發展，是本次參與會議的另項收穫。

## 三、建議

## 四、 攜回資料名稱及內容

大會議程手冊一本。