ALLIANCE COORDINATION EFFECTIVENESS AND THE PERFORMANCE OF INTERNATIONAL STRATEGIC ALLIANCES: DEVELOPMENT OF THE PARTNERSHIP AND MODERATING ROLE OF MARKET ENVIRONMENT TURBULENCE

A Dissertation

by

YOUNG-TAE CHOI

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DCOTOR OF PHILOSOPHY

August 2004

Major Subject: Marketing

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Approved as to style and content by:

Richard T. Hise (Chair of Committee)	Richard P. Bagozzi (Member)
Jeffrey S. Conant (Member)	James H. Leigh (Member)
William M. Pride (Member)	Stanley H. Kratchman (Member)
P. Rajan Varadarajan (Head of Department)	

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ABSTRACT

Alliance Coordination Effectiveness and the Performance of International Strategic Alliances: Development of the Partnership and Moderating Role of Market Environment Turbulence. (August 2004)

Young-Tae Choi, B. A., Pusan National University, Korea;

M.S., Texas A&M University

Chair of Advisory Committee: Dr. Richard T. Hise

The purpose of this dissertation was to investigate post-international strategic alliance (ISA) formation issues, which have been neglected in the ISA literature. The specific research questions were 1) how do ISA partners develop their relationships? 2) how does this relationship development impact effective management of resources contributed by each ISA partner? and 3) how does effective resource management influence ISA performance?

Data were collected by mail and web surveys from those who were/are involved in ISA operations. Structural equation modeling using LISREL was employed to test the conceptual model and multiple regression analysis was adopted to test the moderating effects in the model. The model was modified by introducing second order factors to correctly interpret the relationships between factors and achieve a more parsimonious model.

Results indicate that alliance partnership interactions between ISA partners (i.e., reciprocity, transparency, formal and informal communication, two-way and

participative communication, and cultural sensitivity) positively influenced the development of desire for joint action between them which is based on trust and commitment. Desire for joint action positively influenced alliance coordination effectiveness (ACE: integration and utilization of resources) which underlies effective resource management between ISA partners. ACE positively affected ISA performance. Market environment turbulence (i.e., host government interference and technology turbulence), however, did not have moderating effects between ACE and ISA performance.

The first question was answered by introducing alliance partnership interaction factors which influence the building of the positive relationship between ISA partners. The introduction of ACE explained how ISA partners manage the resources provided by each partner. The significant impact of ACE on ISA performance and the non-significant impact of the moderating variables indicate that ACE has strong impact on ISA performance that can absorb the effects of host government interference and technology turbulence in the operation of ISAs.

DEDICATION

To my father and mother

Jaekeun Choi and Youngja Kim

and to my loving wife, daughter, and son

Sungsoon, Jungwon, and Woowon

ACKNOWLEDGEMENTS

I would like to thank all the people who supported me through a long and challenging but worthy journey in the marketing doctoral program at Texas A&M University. First and foremost, I would like to thank my advisor, Dr. Richard T. Hise. I can not imagine myself without his guidance, support, and encouragement throughout my whole doctoral program. He provided me with good advice on research topics and stimulated me to keep working in different research streams. His invaluable mentoring enabled me to preserve and overcome difficulties during my doctoral program. I know that just saying "thank you" to Dr. Hise is not enough, but I would like to say "thank you for everything, Dr. Hise."

I also would like to thank my committee members. Dr. James H. Leigh helped me expand my research areas into consumer behavior and improve my English skills. I also learned a lot from him on how to prepare manuscripts. The interactions I had with Dr. Jeffrey S. Conant helped me solidify the contents of my dissertation and his thoughtful questions regarding its contents strengthened my ideas. I appreciate Dr. William M. Pride for his encouragement when I had difficult times and his giving valuable comments to clarify concepts in the dissertation. I would also like to thank Dr. Larry G. Gresham and Dr. Stanley H. Kratchman for participating in the progress of my dissertation. My sincere thanks to Dr. Richard P. Bagozzi for his excellent help and advice regarding methodological approach used in the dissertation. I was fortunate to work with one of our discipline's greatest marketing scholars. I am truly blessed with his invaluable methodological insights.

I would like to thanks Dr. Julian E. Gaspar, director of the Center for International Business Studies at Texas A&M University. He helped me collect data by providing financial support and introducing me to people to whom I could send my survey questionnaire. I also owe a lot to Dr. Rajan Varadarajan, Head, Department of Marketing. Although he was not on my committee, he provided me with valuable insights into the concepts and contents in my dissertation.

I also thank my doctoral colleagues for their support and friendship, especially my cohorts, Mike Kroff, July Guidry, and Diane Dowdell. I also would like to express my thanks to another colleague, Dongwoo Shin, who helped me expedite the statistical analysis of my dissertation. I have two friends, Dokyung Seong and Yongho Lee, to whom I should thank for their support while I was in the doctoral program. I thank the Department of Marketing secretaries (Ms. Adele Lewis, Ms. Suzi Kennedy, and Ms. Clarissia Means) for their help and support.

My heartfelt thanks goes to my family. The seven years that I spent at Texas A&M was a long and hard time for my parents, Jaekeun Choi and Youngja, Kim. Their understanding, support, encouragement, and every day prayers made it possible for me to complete the dissertation. I would like to thank my younger sister, Myohyang, and younger brother, Jintae, for their cheerful encouragement and prayer. I truly appreciate my loving wife, Sungsoon, for her tremendous sacrifice, endless support, and loving inspiration. Mere words can not describe what she has done for me. My daughter, Jungwon, and my son, Woowon, always provided me joy and relaxation, which made me refreshed and gave me the necessary energy to complete the dissertation.

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CHAPTER I

INTRODUCTION

The benefits of international strategic alliances (ISAs), such as lowering production and research costs, entering new markets, strengthening market position in foreign markets, acquiring new managerial skills or technologies, increasing the level of local market and customer knowledge, and overcoming foreign government barriers, have prompted many firms to engage in these cross-border alliances (Contractor and Lorange 1988; Day 1995; Harrigan 1988; Hennart 1988; Ohmae 1989; Spekman, Isabella, and MacAvoy 2000; Varadarajan and Cunningham 1995; Yan 1998; Webster, Jr. 1991). Based on Thomson Financial Securities Data, Kang and Sakai (2000) found that the number of new strategic alliances (both domestic and international, excluding franchising agreements) has increased approximately seven-fold during 1989-1999, from just over 1,000 in 1989 (of which around 860 were cross-border alliances) to 7,000 in 1999 (of which around 4,400 were cross-border alliances). This increase in the proportion of ISAs suggests that many firms have tried to achieve competitive advantage by forming ISAs with other firms in global markets. The same study also shows that the majority of strategic alliances during 1990-1999 involved firms from North America (65%), Asia (33%) and Europe (28%), although rapid growth in alliances involved firms from China, Korea and other Asian countries. Among strategic alliances during 1989-1999, joint ventures occupied the highest percentage (approximately 48%), and 78% of the joint ventures were international.

This dissertation follows the style and form of the *Journal of Marketing*.

Depending on whether equity is involved, alliances are categorized as equity alliances, which create a separate entity between the firms, or non-equity alliances, which do not create a separate entity or require future joint decision making beyond the life of the project (Dacin, Hitt, and Levitas 1997; Kang and Sakai 2000; Zahra and Elhagrasey 1994). Equity joint ventures and minority equity investments (i.e., the purchase of a local firm by a foreign investor(s) to expand the operation of the local firm) are examples of equity alliances; marketing agreements, co-production contracts, exploration consortia, supply arrangements, and R&D collaborations are examples of non-equity alliances (Kang and Sakai 2000).

The surge in ISAs caused many researchers to investigate several aspects of ISA phenomena: formation issues (advantages vs. disadvantages) (Contractor and Lorange 1988; Harrigan 1998; Kogut 1988); factors, such as culture, control, ownership, and partner characteristics influencing stability (Dacin et al. 1997; Geringer and Herbert 1991; Hu and Chen 1996; Yan 1998); relational factors, such as trust or commitment which affect partner relationships (Aulakh, Kotabe, and Sahay 1996; Cullen, Johnson, and Sakano 2000; Fey 1996; Sarkar, Echambadi, Cavusgil, and Aulakh 2001); and the eventual dissolution of ISAs (Reuer 1998, 2000). Much of ISA research has explored how these various factors are related to or impact ISA performance (Aulakh et al.1996; Geringer and Herbert 1991; Sarkar et al. 2001).

Despite the popularity of ISAs as a viable entry mode option for firms to achieve competitive advantage in global markets, and the consequent interest from researchers, the significantly high failure rate of ISAs, which has been estimated to be as high as 50-

70% (Day 1995; Dyer, Kale, and Singh 2001; Reuer 1998), and ISA research streams, which have focused mostly on the impact of the structural design of an ISA on its performance, need further research to enhance the understanding of ISAs (Gulati 1998; Yan 1998).

Research Questions

One of the most under-investigated ISA research areas is the management of an ISA after the ISA is initiated (Doz 1996; Yan 1998). The ISA literature has tended to focus more on questions, such as why firms form ISAs, what factors are important for the ISA formation, and how these factors impact ISA performance (Gulati 1998). Much of the ISA literature has dealt with the beginning and closing aspect of ISAs, that is, the initial structural design of ISAs and the consequent implications of the design for ISA performance (Hamel 1991; Yan 1998). The emphasis on the beginning and end part of ISAs results in little research on the middle ground in which the partners cooperate to successfully manage their relationships in order to achieve their objectives (Aulakh et al. 1996; Gulati 1998; Gulati, Khanna, and Nohria 1994; Reuer 2000; Simonin 1999). Alliance managers and researchers have not paid much attention to how alliance partners develop their relationships after an ISA is formed and how they effectively manage resources that each partner contributes to the ISA (Büchel 2002; Doz 1996; Gulati et al. 1994).

The above observations lead to under-studied but important ISA research questions: how do the partners develop their relationships and how can they manage the resources contributed by each partner to achieve their objectives and remain competitive

in the marketplace (Gulati 1998). The ISA research has not fully provided insights into how ISA partners develop their relationships through which each partner can enhance the mutual understanding and cooperation and how the improved understanding and cooperation influences the pooling and capitalization of the resources contributed to the ISA to enhance ISA performance (Barringer and Harrison 2000: Simonin 1999; Yan 1998).

Though some researchers have addressed the importance of such relational factors as trust or commitment in developing ISA partner relationships and the impact of these factors on ISA performance, their research does not fully address how these factors are actually developed to ensure a successful partnership (Fey 1996; Luo 2002; Yan and Zeng 1999). Their research also does not provide sufficient explanations as to how these factors influence the pooling of the resources contributed by each partner and how the partners effectively utilize the resources to achieve their ISA objectives.

Objectives of the Research

The increasing popularity but high failure rate of ISAs, the research needed on the ISA partner relationship development after ISA formation (i.e., the impact of the development on ISA performance and the lack of research on factors developing trust and commitment), and the resource management issues to achieve ISA objectives provide important rationales to investigate this research objective: how ISA partners develop their relationships and effectively manage ISA resources to achieve their ISA objectives. Specifically, this research proposes the following research questions: (1) how do ISA partners develop their relationships? (2) does the relationship development

impact the management of the resources contributed by each partner? (3) does the management of ISA resources influence ISA performance?

In order to investigate the research questions, a new construct, alliance coordination effectiveness (ACE), is introduced. ACE is defined as "the extent to which alliance partners efficiently *integrate* the resources contributed by each partner and *utilize* the pooled resources to achieve the objectives of the alliance." The concept of ACE is developed from various theoretical foundations such as the resource-based view, the knowledge-based view, and the competence-based view and from the strategic management and marketing literature. ACE is introduced to address how ISA partners increase the synergistic benefits of the alliance by which each partner can achieve its alliance objectives. Trust and commitment, which have been recognized as important factors influencing interorganizational partner relationships, are presented as factors that directly impact ACE and indirectly influence ISA performance. Reciprocity, transparency, communication frequency and efficacy, and cultural sensitivity are addressed as antecedents of developing a trusting partnership between alliance partners. Since external environment conditions can influence ISA partner relationships, market environment turbulence, that is, host government interference and technology turbulence, are introduced as moderators between ACE and ISA performance.

Expected Contributions of the Research

The purpose of this research is to provide insights into how ISA partners develop their relationships and effectively integrate and utilize the resources provided by each partner to achieve their alliance objectives. ACE, other variables and their

interrelationships presented to address the research purpose are expected to contribute to the marketing literature.

The first expected contribution is that this research explores one of the underinvestigated alliance research issues, the alliance relationship development process. Though the alliance relationship development process has been emphasized as one of the important alliance research topics, much of the alliance literature has focused on the initial formation issues and their implications for the alliance performance (Doz 1996; Gulati et al. 1994; Simonin 1999; Yan 1998). By introducing trust, commitment, ACE, and market environment turbulence and their relationships for the development of the ISA partnership, this research addresses how alliance partners can successfully process and evolve into the successful relationships that help to achieve competitive advantage in ever-changing global markets. This research is, therefore, expected to contribute to the alliance partnership process research.

The second expected contribution is the introduction of the ACE concept to address the issue of resource management in the alliance context. Because each alliance partner contributes its resources to other partners and tries to take advantage of other partners' resources, the effective management of alliance resources is important for alliance partners to sustain their relationships and achieve their alliance objectives. The introduction of the two dimensions of ACE (i.e., integration and utilization) is expected to provide theoretical contributions to the alliance management research by addressing the collective resource creation dimension (i.e., integration) and the capitalization of the resource dimension (i.e., utilization). The theoretical rationale about the two dimensions

is, therefore, expected to enhance the understanding of effective resource management, which is critical for the maximization of synergistic effects of alliance relationships and for the achievement of each partner's alliance objectives.

Organization of the Research

This research is organized as follows. Chapter I, as noted, introduces the research questions, the objectives, and the expected contributions. In Chapter II, theoretical foundations underlying the development of ACE and the ISA literature are presented. Different theoretical foundations—the resource-based view, the knowledge-based view, and the competence-based view—are presented as underlying theories to provide a more thorough understanding of the development of ACE.

In Chapter III, hypotheses are developed to investigate how ISA partners develop ACE and how ACE affects ISA performance. Specifically, the hypotheses regarding the antecedents of ACE (i.e., trust and commitment), the factors affecting the development of ISA partner trust (i.e., reciprocity, transparency, communication, and cultural sensitivity), and market environment turbulence (i.e., host government interference and technology turbulence) as a moderator between ACE and ISA performance are proposed. Chapter IV deals with methodology. The collection and analysis of the data to test the hypotheses suggested in Chapter III are described in Chapter IV. Chapter V and VI present the findings resulting from the data analysis, and Chapter VII provides discussion, implications for managers and researchers, and conclusion.

CHAPTER II

LITERATURE REVIEW

Theoretical Background for the Development of Alliance Coordination Effectiveness

An international strategic alliance (ISA) is defined as an interfirm cooperative strategic organization or agreement between two or more different country firms to achieve their strategic objectives by pooling their resources (Geringer and Herbert 1991; Lambe, Spekman, and Hunt 2002; Varadarajan and Cunningham 1995). ISA resources comprise tangible and intangible entities such as know-how, information, capabilities, and technologies contributed by each partner to achieve the objectives of the ISA (Lambe et al. 2002). Each ISA partner is basically involved in the processes of sharing, exchanging, transferring, and learning about each other's resources through interactions and cooperation between the partners to maximize the alliance relationship. The formation, operation, and exploitation of ISA resources and the development of ACE to achieve alliance success can be explained by the resource-based theory (Barney 1991; Peteraf 1993; Wernerfelt 1984), the knowledge-based theory (Grant 1996[a, b] 1997; Nonaka 1994; Steensma and Lyles 2000), and the competence-based theory (Sanchez 1997, 2001; Sanchez, Heené, and Thomas 1996).

The Resource-Based View (RBV)

The RBV assumes that a firm possesses heterogeneous resources, which enable it to generate above normal returns (Peteraf 1993). A firm's possession of heterogeneous resources drives it to form alliances to acquire resources it lacks because

the combination of unique resources in alliances can possibly bring about positive effects for the firm, which, in turn, can lead to a sustainable competitive advantage for alliance partners and above-normal economic returns to the participant firms (Lonrenzoni and Lipparini 1999). The RBV also assumes that the complementary resources provided by alliance partners should be rare, imperfectly imitable, valuable, and nonsubstitutable to positively affect the higher performance of the alliance (Barney 1991). Resource constrained firms, thus, will have more chances of accomplishing value creation activities and reducing the uncertainty of the external environment by forming alliances (Varadarajan and Cunningham 1995). It is, therefore, expected that alliances, through the mixture of idiosyncratic or complementary resources of each firm, will exercise more market power relative to their competitors and achieve competitive advantage (Varadarajan and Cunningham 1995). Given diverse national and organizational cultures, unfamiliar market environments, and competitive global market situations, as well as the uncertainty of the foreign market in which ISAs operate, the pooling of heterogeneous and complementary resources from each ISA partner can be essential to achieve alliance success in the global markets.

The RBV sees a firm as an entity that has a unique bundle of idiosyncratic resources and maximizes value through the optimal deployment of the resources (Grant 1997; Wernerfelt 1984). However, the idiosyncratic resources alone in the alliance may not be sufficient to achieve competitive advantage and above-normal returns for alliance partners because of complex market conditions. Resources in alliance relationships can be combined, shared, transferred, and exchanged between alliance partners to create

integrated and coordinated resources in order to achieve alliance objectives and bring higher performance to alliances (Chandler and Hanks 1994). The viability and success of the partners can be enhanced through these processes (Barringer and Harrison 2000; Oliver 1997). Though the RBV emphasizes the possession of unique or idiosyncratic resource and the optimal deployment of the resources to be competitive, it may not fully grasp how the resources that each alliance partner contribute to the ISA should be integrated and coordinated to establish the successful operation of the ISA and achieve long-term competitive advantage for the ISA. The RBV may provide a theoretical perspective on the initial motives and formations of alliances, but it may not fully address how resources provided by each partner to the ISA can be integrated and transformed into effective alliance resources, which can positively enhance the ISA performance.

The Knowledge-Based View (KBV)

The KBV is an extension of the RBV and sees a firm as a heterogeneous knowledge-bearing entity in which a firm's stock knowledge can be an important factor for the firm's competitive advantage (Grant 1996[b], 1997; Grant and Baden-Fuller 1995; Hoskisson, Hitt, Wan, and Yiu 1999). The KBV argues that the role of an organization is to integrate knowledge (Grant and Baden-Fuller 1995) and that "an organization's idiosyncratic know-how and its ability to replicate and exploit knowledge are fundamentally responsible for organizational success"(Steensma and Lyles 2000, p. 836). Integrated knowledge (i.e., not knowledge itself) is the critical source of a firm's competitive advantage (Grant 1996[a]). A firm forms alliances because it can better utilize

its internal knowledge and acquire the knowledge resources of other firms (Grant 1997). An alliance, thus, can be an efficient vehicle by which a partner can learn about other partners' knowledge, providing it with a chance of adding new knowledge to its existing knowledge base (Grant 1996[b]).

While the RBV emphasizes the maximization of value creation through the optimal deployment of each firm's idiosyncratic resources (Grant 1996[a]), the KBV sees the integration of knowledge as the most strategically important element for organizational success (Grant 1997). The KBV emphasizes the effective coordination of knowledge within alliance relationships so that alliance partners can achieve a sustainable competitive advantage for alliance success (Lonrenzoni and Lipparini 1999). The coordination of each partner's knowledge can allow alliances to apply the integrated knowledge to commercial ends (Cohen and Levinthal 1990). The integrated knowledge, in turn, can minimize the impact of uncertainties from alliances' external environments and achieve congruence with changing business situations (Lane, Salk, and Lyles 2001; Teece, Pisano, and Shuen 1997). Alliances, therefore, can be an efficient entity for firms to exchange, reconfigure, and coordinate each partner's knowledge by which each firm's knowledge can be developed into integrated alliance knowledge to achieve its competitive advantage, meet competition, match the requirement of a changing environment, and enhance the higher possibility of alliance success (Teece et al. 1997).

The RBV and the KBV

Both the RBV and the KBV provide good theoretical foundations to explain ACE needed for successful alliance operations. Each partner should not only contribute

its unique resources to alliances but also integrate the resources most efficiently to alliance objectives. When an alliance becomes a competent organization through the integration of resources provided by each partner, alliance partners can have better control of resources and also have a higher chance of achieving their alliance objectives (Lorenzoni and Lipparini 1999; Sanchez 2001).

From the above arguments, it can be contended that the RBV and the KBV are not isolated theoretical frameworks that explain the development of ACE. They are complementary in explaining how alliances can develop effective relationships and successfully manage the resources contributed by each alliance partner. The RBV provides the basic premises of motives for alliance formation. The heterogeneous resources each partner possesses induce firms into alliance formation, which is a basic tenet of ACE. However, the RBV does not extensively explain how the resources each partner contributes should be integrated and utilized to positively influence alliance success. On the other hand, the KBV focuses on knowledge integration in alliance relationships (Hoskisson et al. 1999). The KBV argues that alliance partners coordinate their activities to maximize the combination of each partner's knowledge for alliance success. The emphasis of coordinated processes to create integrated resources between alliance partners by the KBV, thus, provides an underlying theoretical rationale to develop ACE.

The Competence-Based View (CBV)

The last theoretical perspective to explain the development of ACE is the competence-based view (Sanchez 1997, 2001; Sanchez et al. 1996). The CBV sees

competence as "the ability of an organization to sustain coordinated deployments of assets and capabilities in ways that help the organization achieve its goals"(Sanchez et al. 1996, p. 8). For the CBV, "assets are anything tangible or intangible the firm can use in its processes of creating, producing, and/or offering its products (goods or services) to the market…Capabilities are repeatable patterns of action in the use of assets to create, produce, and/or offer products to a market"(Sanchez et al. 1996, p. 7). A firm is a goal-seeking system of tangible and intangible assets deployed to achieve the firm's goals and is characterized by an open system of asset stocks and flows (Sanchez 1997, 2001). The firm as an open system tries to achieve its strategic goals by identifying and coordinating internal resources within the firm and acquiring external resources through interaction with other firms (Sanchez 1997). Through the systematic and coordinated processes of internal and external resource integration and deployment, firms can continuously leverage their existing resources and build their competitive advantage to achieve their strategic goals.

The CBV also emphasizes the environments surrounding the organization as evolving, dynamic and changing conditions to which the organization should be strategically flexible in order to achieve its goals (Sanchez et al. 1996). A strategically flexible firm can recoordinate resources within the firm and from other firms and redeploy and reallocate the resources to the firm's advantage (Sanchez 2001). The flexible management of the firm, thus, enables the firm to more readily detect and respond to the uncertainties of changing market conditions.

The CBV and Alliances

Strategic alliances encompass or carry out all or part of value creating activities through exchange, sharing, learning and co-development of new relationships between partners (Gulati 1998; Reuer 1998; Varadarajan and Cunningham 1995). The construction of collaborative relationships through such activities allows alliance partners to enhance their competitive position and maintain sustainable cooperative relationships with their partners (Samdasani and Sheth 1995).

The collaborative activities emphasized between alliances partners by the CBV can be another theoretical foundation to develop ACE. An alliance provides an opportunity for its participant firms to create new assets and capabilities by cooperating with the partners (Sanchez et al. 1996; Tallman 1999). Alliance partners provide their unique but constrained assets and capabilities to enhance their competencies that may not be obtained through an individual firm's market activities (Tallman 1999). By participating in an alliance, the partners will increase the chance of achieving their success in the market through coordinated resource deployment between them, which allows the alliance to be more flexible to external environments, compete with other firms, and achieve competitive advantage in the marketplace (Lambe et al. 2002; Sanchez 1997; Spekman et al. 2000).

The Role of the Theoretical Foundations for the Development of Alliance Coordination Effectiveness

The RBV focuses on the acquisition of each alliance partner's valuable resources, which allows them to generate a competitive position in the market (Lane et

al. 2001). The RBV, however, does not provide more complex theoretical foundations which address how alliance participant firms actually manage the resources from each partner to achieve their competitive position (Barringer and Harrison 2000). Because the RBV emphasizes the motivations for alliance formation and the static acquisition of resources from each alliance partner, it does not consider much how alliance partners develop their relationships and cooperate to effectively manage the resources contributed by each partner after the alliance is formed.

On the other hand, the KBV and the CBV focus on the processes of interlinking each partner's resources through the integration and proper deployment of the assets and capabilities between alliance partners. The processes of integration and deployment of partner resources facilitate cooperation and interaction between alliance partners to learn and improve the understanding about each partner. The emphasis of the dynamic processes could help the partners identify and develop new assets and capabilities and provide them with more opportunities to respond to changing market conditions. Alliances thus cope better with their external environment changes by developing new resources through integration and coordination between alliance partners.

In summary, the three theories lay foundations to form alliance relationships and utilize the resources contributed by each partner. The RBV provides a fundamental rationale to form alliances (i.e., to acquire other firms' resources that a firm does not possesses). The KBV and the CBV provide theoretical bases to explain resource coordination between alliance partners to create a collective resource base and utilize the resources to implement its strategies and achieve its objectives. Therefore, these

theories can be the foundations to develop the concept of ACE and the implications for the alliance.

Research on ISA Performance

Despite a long interest in understanding and measuring ISA performance, the research on ISA performance is still complex and challenging (Anderson 1990; Ariño 2003; Gulati 1998; Luo 2002; Yan and Gray 1994). The multifaceted nature of performance measures (e.g., what measures should be evaluated), the various constituents of performance evaluation (e.g., whose views should be measured: the parent firm or ISA managers), and the situations in which ISAs operate make the correct evaluation of ISA performance difficult, leading to non-consensus on the correct measures of ISA performance (Geringer and Herbert 1991; Gulati 1998; Yan and Zeng 1999). However, without an accurate assessment of what ISAs have achieved, the parent firm or ISA managers can't objectively evaluate the quality of their strategic decisions for ISA operation (Chakravarthy 1986). It is, therefore, essential that researchers develop proper performance measures of the ISA to correctly evaluate the health of the alliances and ensure that the maximum value from the ISA can be obtained for the partners.

Despite the incongruence of the ISA performance measures, researchers have used three extensive measures: financial measures (e.g., return on investment, return on sales or assets, sales growth, market share, etc)(Aulakh et al. 1996; Calantone and Zhao 2000; Luo 2002), non-financial measures (e.g., survival, duration, exit, high quality products, competitiveness, etc)(Barkema, Shenkar, Vermeulen, and Bell 1997;

Chowdury 1992), or combinations of both financial and non-financial measures (Cullen et al. 2000; Ding 1997; Killing 1983; Geringer and Herbert 1991; Mjoen and Tallman 1997)(Table 1 shows a brief overview of the research on ISA performance).

Financial vs Non-Financial Performance Measures

Many ISA researchers have extensively used financial measures because the measures can explicitly reveal the economic health of an ISA. The use of these measures, however, potentially causes problems due to the lack of standardization in international accounting conventions, difficulty in obtaining objective financial data, and the diverse partner objectives in ISAs (Chakravarthy 1986; Dess and Robinson 1984; Woodcock, Beamish, and Makino 1994). Different accounting practices between countries may not allow for the correct comparisons of financial performance measures between ISAs, which makes it difficult to evaluate their financial performance. ISA parent firms also usually do not disclose valid and reliable financial data about their subsidiaries (Anderson 1990; Venkatraman and Ramanjuam 1986). Without the appropriate data from the parent firms, researchers also may have difficulty in accurately evaluating the ISA financial performance. The use of financial performance measures, thus, can be relevant only when researchers can get the objective financial data that support specific financial objectives of an ISA (Ariño 2003). However, ISA objectives are not limited to the achievement of financial goals. ISA objectives can include non-financial ones such as technology acquisition, preemption of foreign markets, product line diversification, acquisition of partner marketing skills and services, or improvement of product design or quality (Ariño 2003; Geringer and Herbert 1991; Varadarajan and

Table 1: Selected ISA Performance Research: Performance Measures, Key Factor(s) Influencing Performance, and Key Findings or Arguments

Author(s)	Performance Measures	Key Factor(s)	Key Findings or Arguments
Killing (1983)	Subjective: IJV managers' perception of IJV performance Objective: liquidation, major reorganization (e.g., new product line)	Control	Dominant parent control of IJVs outperform shared management IJVs(the same result between subjective and objective measures).
Beamish (1985)	Parent firm management assessment of IJV operation satisfaction		A greater managerial dissatisfaction in JVs in less developed countries than in developed countries. A strong correlation between unsatisfactory performance and dominant foreign control in less developed countries. No performance differences between IJV partner number.
Anderson (1990)	Subjective measures		IJVs as stand alone entities in performance measurement. Objective financial measures are only one dimension of IJV performance measures.
Geringer and Herbert (1991)	Objective: survival, stability, and duration Subjective: the parent firm or the IJV managers' satisfaction with overall performance of the IJV.	Cultural similarity	Positive correlations between subjective and objective measures. Positive correlations between the parents' and IJV managers' satisfaction. Positive relationships between cultural similarity and IJV performance.

Table 1 : Continued

Chowdury(1992)	Objective non-financial: exit rate, longevity, stability of ownership status, integration with the parent system, export sales, and factor usage (the number of employees)	Entry mode (the IJV vs the WOS)	Relative superior performance of IJVs or WOSs based on specific circumstances
Inkpen(1994)	The parent firms' overall satisfaction with IJV performance (failure: early or unplanned terminations, moderate: still exist but partner conflict, success: well functioning without considering termination).	Equity share and control	No performance differences based on equity share. No relationships between dominant control and superior venture performance.
Yan and Gray (1994)	The IJV's achievement of its strategic objectives measured by the IJV or the parent firm managers	Control	Different objectives between the foreign (eg., profits) and the local partners(e.g., technology acquisition). The same performance assessments between the JV managers and the parent managers. Higher performance by equally shared control.
Aulakh, Kotabe, and Sahay(1996)	Upper management's evaluation of sales growth and market share relative to competitors' in distribution and license partnerships	Trust, relational norms, and monitoring mechanisms	The positive impact of the norms and the mechanisms on trust. Trust itself does not have a direct impact on performance. The positive impact of relational norms (flexibility and continuity expectations) and informal control on performance.

Table 1 : Continued

Fey (1996)	IJV managers' evaluation of overall performance of the IJV	Trust between IJV and its parent, long-term commitment by parents, empowerment to workers, parents' agreement of contribution	The positive impact of trust between the IJV and its parent firm(s), a clear understanding of the parent roles, empowerment for IJV local managers, and long-term commitment on IJV performance.
Hu and Chen (1996)	Success vs non-success (objective: high quality products, profits and export revenue	Partner commitment, foreign control, number of partners, & cultural distance	The positive impact of the number of partners, culture, and commitment on performance. No significant impact of control on performance.
Lyles and Salk(1996)	IJV managers' business measures (e.g., volume growth, achieving planned goals, and profits), competencies/human resources (e.g., training and management skills), and a general evaluation	Knowledge acquisition from foreign parent	High correlations between the IJV managers' and the foreign parent managers' assessments of IJV performance. The positive relationship between knowledge (tacit and explicit) acquisition from the foreign parent and IJV performance.
Makino and Delios(1996)	Top Japanese IJV managers' categorical assessment of financial performance (loss, breakeven, and gain)	Foreign parent's host country IJV experience, the foreign parent's past host country experience, and the local partner existence	The positive impact of partnering with local firms and of the foreign parent experience in the host country on IJV performance. The declining effect of the increased foreign parent's IJV experience with local partners on IJV performance.
Barkema, Shenkar, Vermeulen, and Bell (1997)	Longevity	IJV or IWOS experience, cultural distance, domestic JV experience	The positive impact of domestic JV and IWOS experience on performance. No positive impact of IJV experience on performance. A negative relationship between cultural distance and performance.

Table 1 : Continued

Ding (1997)	A parent firm's satisfaction with IJV performance (financial and non-financial)	Control and conflict	The positive impact of dominant control by foreign partners (US) on performance. The negative impact of conflict on ISA performance
Mjoen and Tallman(1997)	The parent firm managers' perception of their IJV performance (satisfaction, to the extent of objective achievement, and a profitable investment)	Control	The positive effect of overall control (not equity share) of the IJV on IJV performance. .
Park and Ungson (1997)	Duration of IJVs	Cultural distance, partner firms' strategic diversity (age, size, and scope), and rivalry of partner firms(direct competitors)	No impact of cultural distance and partner firms' strategic diversity on duration. IJVs with direct competitor partner firms are less likely to endure.
Lin and Germain (1998)	IJV partner managers' satisfaction(personal relationship with the other IJV party, financial performance, , and the overall IJV relationship)	Cultural similarity, relative power(the capability to influence the other party's decision)	The positive impact of cultural similarity between partners on performance. No relationship between relative power of partners on performance. Significant impact of the age of IJV on performance.
Calantone and Zhao(2000)	Top IJV managers' subjective IJV financial performance achievement (ROI, ROE and sales growth)	Control	The positive impact of control of major functional areas on performance (IJVs between the US or Korean firms and Chinese firms) or no impact (IJVs between Japanese and Chinese) of control on performance.
Cullen, Johnson, and Sakano (2000)	ISA top managers' evaluation of alliance objective achievement (financial and non-financial)	Trust and commitment	The higher the trust and commitment, the higher the alliance performance

Table 1 : Continued

Steensma and Lyles(2000)	IJV survival	Parent firm conflict	Negative impact of imbalance control by parent firms on IJV survival. No equity share difference influence on survival. Positive impact of foreign parent firm support for technical know-how on parental conflict and IJV survival.
Li, Lam, and Qian(2001)	Objective: ROA, sales per employee, and asset growth	Culture	No impact of culture on ownership. More significant effects of technological resources and well-established brand names than those of culture on IJV performance in China.
Sarkar, Echambadi, Cavusgil, and Aulakh(2001)	Non-equity collaborative ventures' perceived strategic performance (SP: strategic and learning objectives) and project performance (PP: profitability, efficiency, client satisfaction, and project quality)	Complementarity (resource, culture, and operation) and mediators, (relationship capital: trust, commitment, and information exchange)	Positive direct/indirect impact of resources on PP. Indirect impact of the resources on SP through relationship capital. Indirect positive impact of culture on PP through the capital. Direct /indirect positive impact of culture on SP. Positive indirect impact of operation on PP. Negative direct impact of operation on SP.
Luo(2002)	Objective financial data (ROI and sales per asset)	Trust	The positive moderating effects of younger (age) alliance, more uncertain market conditions, and higher reciprocal commitment on the trust-ISA performance relationship. No moderating effects of cultural distance on the relationship (no culture influence on ISA performance once trust is established).

Table 1 : Continued

Pothukuchi, Damanpour, Choi, Chen, and Park (2002)	Local (Indian) partners' satisfaction with joint ventures, efficiency (financial and product), and competitiveness (against competitors)	National culture and organizational culture	A positive impact of national culture distance on efficiency and competitiveness. A strong negative effect of organizational culture distance on satisfaction. No significant influence of the interaction between national and organizational culture distance on IJV performance.
Robins, Tallman, and Fladome-Lindquist (2002)	Subjective strategic outcomes by ISA managers (growth, sales, meeting strategic goals)	Strategic resources from foreign firms, local resources(marketing and labor: Mexico), and operating resources by foreign firm	Positive (or negative) influence of strategic (or operating) resources and local labor on performance via services and product quality. Direct positive impact of local resources on performance and indirect positive impact on performance via human resource development in ISAs.

Note: ISAs: international strategic alliances (equity IJV and non-equity alliances). IJV: international joint venture, (I)WOS: (international) wholly owned subsidiary

Cunningham 1995). Since each partner firm may have different objectives that it wants to achieve in ISAs, the differing objectives of each partner make the financial performance of ISAs an incomplete measure of the true economic health of the ISAs (Ariño 2003).

In summary, despite the extensive use of financial measures, the lack of availability of accurate financial data, different accounting systems across countries, and the possible differing objectives of the partners do not allow the financial measures of ISA performance to fully reflect overall performance dimensions of ISAs, but represent only one dimension of ISA performance (Anderson 1990; Geringer and Herbert 1991). ISA researchers often use non-financial measures to evaluate ISA effectiveness such as liquidation, major reorganization (e.g., equity renegotiation), exit rate, termination, high quality products, longevity (e.g., survival or duration), and competitiveness (Barkema et al. 1997; Geringer and Herbert 1991; Gulati 1998; Inkpen and Beamish 1997; Killing 1983; Pothukuchi et al. 2002). These non-financial measures can reflect various partner objectives and stability of an ISA not related to financial objectives (Yan and Zeng 1999). Though these non-financial measures allow researchers to measure different ISA objectives and stability, it is questionable whether the longevity-related measures (i.e., survival, duration, exit, termination, etc.) can be valid measures of ISA performance (Inkpen 1998). For example, ISAs can be terminated earlier than expected by the partners' mutual agreement after they achieved their objectives, high exit or termination costs may deter a withdrawal from ISA operation, or an ISA itself can be a transitory organization for its parent firm due to the nature of the firms' objectives in the ISA

(Inkpen 1994; Gulati 1998). Therefore, though the longevity-related measures can objectively reflect the temporal stability/instability of an ISA, they do not truly reflect adequate measures of ISA performance (Ariño 2003).

The combination of both financial and non-financial measures can capture a wide variety of ISA performance dimensions that ISA partners try to achieve in ISA relationships. The wide use of diverse measures would provide researchers with an improved lens to understand and evaluate the diverse objectives of ISAs from various performance aspects. Since the objectives of many ISAs are not limited to either financial or non-financial ones, it would be appropriate for researchers to evaluate both financial and non-financial aspects of ISA performance given the multidimensional aspects of ISA performance measures. Researchers, such as, Killing (1983), Geringer and Herbert (1991), Ding (1997), and Sarkar et al. (2001), used a combination of financial and non financial measures to evaluate multidimensional ISA performance aspects. It can be contended that the combinations of financial and non-financial performance measures are generally used to evaluate multifaceted ISA performance dimensions.

Objective vs Subjective Measures

Whether researchers evaluate the performance of ISAs by using financial or non-financial measures or both of these measures, the performance criteria can either be objective measures, which use data from public information sources or firms, or subjective measures in which researchers ask for the parent firm or ISA managers' perception of their ISA performance. Though financial measures of ISAs through

published information can evaluate the economic health of ISAs, the measures may not be directly comparable across different countries, industries, and stages in ISA life cycles as previously stated (Osland and Cavusgil 1996). Various accounting systems and different classifications of industries in countries and diverse objectives other than financial goals would make it difficult to adopt objective financial measures as proper ISA performance measures. Other objective measures, such as duration, survival, exit or termination also may suffer from the validity issue of using the measures as previously indicated. Subjective performance measures (e.g., satisfaction with performance) from the parent firm or ISA managers can also pose the problems of finding appropriate managers who can correctly evaluate their ISA performance and the inherent weakness of the self-evaluated performance(i.e., not objectively evaluated) (Osland and Cavusgil 1998).

The above arguments regarding the multidimensional performance measures of an ISA do not lead to agreed performance measures of ISAs. However, research shows that objective and subjective alliance performance measures are strongly related, which allows objective measures to be used as a substitute for subjective measures, or vice versa (Dess and Robinson 1984; Geringer and Hebert 1991). It also would not pose a great concern regarding whose perspectives are measured to evaluate alliance performance because performance evaluations between parent firm managers and international joint venture (IJV) managers are also strongly related (Geringer and Hebert 1991; Lyles and Baird 1994; Yan and Gray 1994).

Based on the above observations of the ISA performance measure literature, this research adopts the performance of ISAs as the achievement of strategic objectives of each partner from the perspective of the parent or ISA manager (Cullen et al. 2000; Yan and Gray 1994). This view of ISA performance evaluation is an integrated measurement, which tries to measure each partner's objectives by using financial and/or non-financial performance criteria and different manager perspectives from either the parent firm or the ISA. The measures are subjective measures, which may suffer from the self-reporting problem. However, since objective and subjective measures are closely related (Geringer and Herbert 1991), subjective measures from various managers' perspectives will reflect the multifaceted performance evaluation of ISAs.

Factors Influencing ISA performance

ISA researchers have used a wide variety of factors that can affect ISA performance. The various factors are so wide in scope that it is difficult to limit as to what factors influence and how the factors exactly affect ISA performance (Roboson, Leondiou, and Katisikeas 2002). However, commonly cited factors contributing to ISA performance are cultural similarity or distance, control (i.e., which partner firm controls the operation), ownership(i.e., equity share), prior experience of ISA participant firms (international experience, ISA experience, or host country experience), the number of participant firms, the resources that each partner contributes to the ISA (e.g., resource complementarity), and organizational culture (e.g., senior management support), and trust or commitment (Roboson et al. 2002)(see Table 2). The external environment changes, such as industry characteristics (e.g., new competitors) and government

pressures (e.g., policy changes), are also addressed as factors influencing ISA performance (Blodgett 1991; Yan 1998; Yan and Zeng 1999). Since the impact of these factors on ISA performance varies depending on ISA conditions, such as, locations (eg., countries) or industries in which ISAs operate or on ISA types (e.g., vertical vs horizontal alliances), it is not easy to generalize to what extent these factors affect ISA performance and how these factors work together to influence the performance (Dussauge and Garrette 1995; Dussauge, Garrete, and Mitchell 2000; Roboson et al. 2002; Yan 1998).

Research Gaps in the ISA Literature

Much research on the impact of the wide variety of factors on ISA performance have contributed to enhancing the understanding of the complex management and operational aspects of ISAs. However, the complexities of ISA relationships still require further research to improve understanding of the successful operation and management of ISAs.

One of the underinvestiagted research areas in the ISA literature is relationship development between the partners after an ISA is formed and how the development affects ISA performance (Doz 1996; Yan 1998). It is important to understand the initial structure of the ISA and how the structure impacts the success of the ISA. However, since interorganizational organizations develop and experience the processes of cooperation and involve interaction to shape theirs strategic courses and establish the quality relationship, it may be worthy of investigating how ISA partners develop their relationships after the ISA is formed (i.e., what are important to further develop their

successful relationships after the ISA is formed) and how these relationships affect ISA management (Gulati 1998; Hutt 1995: Niederkofler 1991; Yan 1998; Wilson 1995). Unfortunately, the prolific ISA literature has not sufficiently investigated how ISA partners should develop successful interpartner relationships and how relationship development influences the ISA operation. Since alliance partners can evolve into negative or positive relationships as they go through various processes, research on how ISA partners develop their partnerships and how relationship development can impact ISA management would add a theoretical rationale to enhance the research on alliance process.

Another research area in the ISA literature is the resource management of ISA partners. The partners basically look for the necessary resources from their alliance partner firms, which requires the processes of exchanging, sharing, combining, redeploying, and learning about each partner's resources to achieve alliance objectives. The questions arise: How can ISA partners effectively manage the resources each partner contributes to the ISA? Will the effective management of these resources result in the achievement of alliance objectives? What are the factors facilitating effective resource management? The premise underlying these questions assumes that ISA partners have positive working relationships to effectively manage through interaction and cooperation between them. The ISA literature does not fully indicate how ISA partners effectively create a collective resource base that can be utilized to achieve their alliance objectives.

ISAs are often subject to complicated and unexpected foreign market conditions, such as changing market situations and host government regulations on foreign operations, that a firm did not experience in the domestic market. The impact of external environments on ISA operation, however, has not received much attention from researchers. Since external market environment factors can affect a firm's strategies and performance, it would be enlightening to investigate how they can influence ISA management and operation and how they can impact ISA performance (Blodgett 1991; Slater and Narver 1994).

The impact of trust on interfirm relationships has been extensively investigated (Aulakh et al. 1996; Anderson and Narus 1990; Morgan and Hunt 1994; Wilson 1995). Many ISA studies assume that trust directly influences ISA performance (Luo 2002; Madhok 1995; Sarkar, Cavusgil, and Evirgen 1997; Whipple and Frankel 2000). The extensive research of trust in ISA contexts has not focused much on the factors facilitating the development of a trusting relationship after the ISA is formed (e.g., not based on the initial structures) and the possible indirect impact of trust on ISA performance (Aulakh et al. 1996; Morgan and Hunt 1994). It may be necessary to understand what factors help ISA partners develop trust and whether trust in alliance relationships can indirectly affect the performance of the alliance.

The research gaps substantiate the introduction of the new concept of alliance coordination effectiveness (ACE). The introduction of the ACE construct would allow this research to investigate the processes of the development of the alliance partnership after the ISA is formed and the impact of this development on the effective management

of each partner's resources, which eventually affects the performance of the ISA. Trust would be dealt with as a variable which indirectly influences the performance of the ISA via ACE. The impact of external environments on ISA operation would enrich the theoretical understanding of the complexities of ISA operation.

CHAPTER III

CONCEPTUAL MODEL AND DEVELOPMENT OF RESEARCH HYPOTHESES

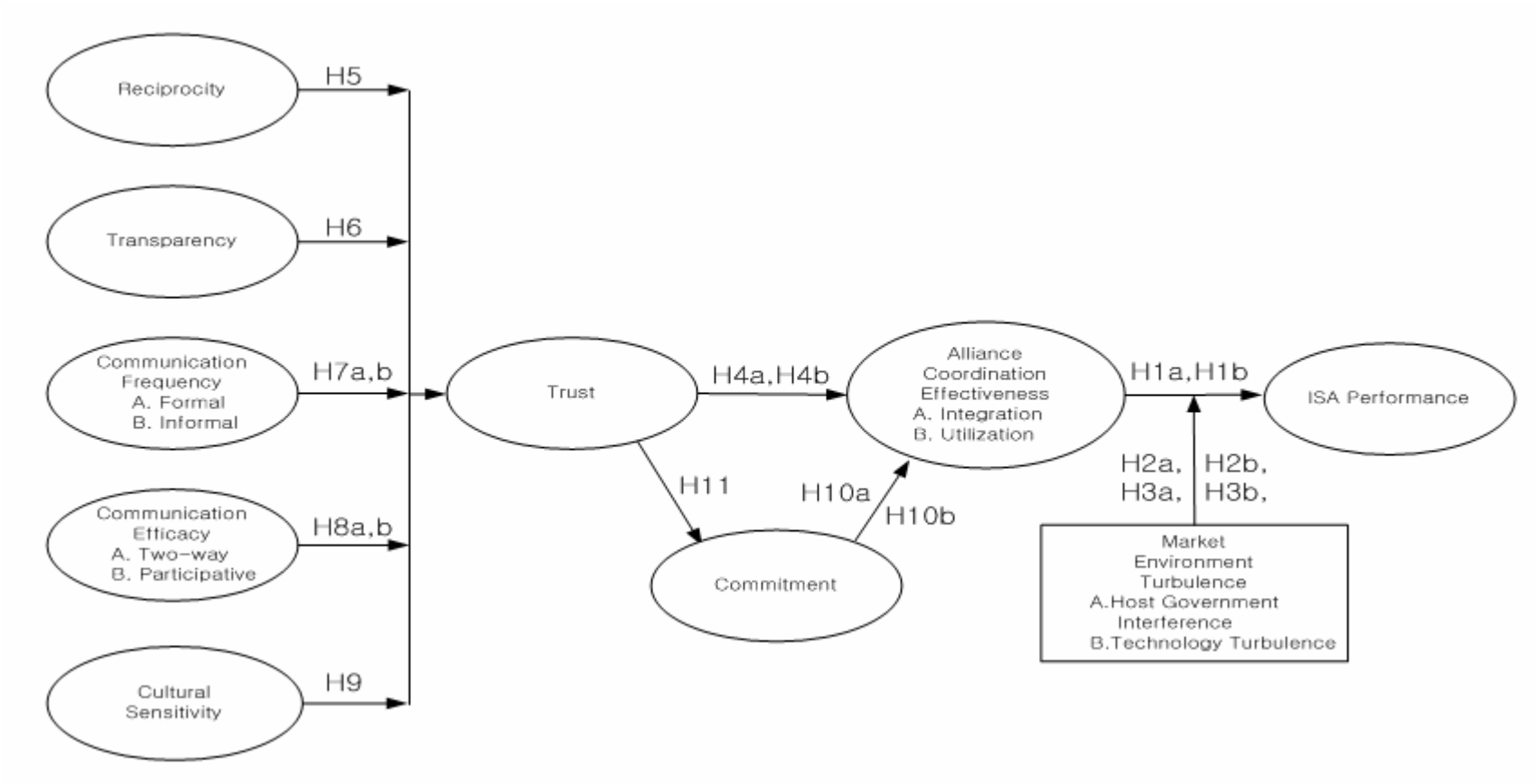
Alliance Coordination Effectiveness: The Construct and Its Dimensions

The Construct

Alliance coordination effectiveness (ACE) encompasses the processes of recognizing, sharing, exchanging, transferring, combining, and learning about each alliance partner's idiosyncratic and complementary resources to generate an alliance competitive advantage that can't be obtained by a firm alone in the marketplace. The ACE construct is, thus, based on the assumption that each partner firm contributes its unique resources to the alliance and it should coordinate its activities with the partner firm to collect a variety of resources and capitalize on the resources in order to maximize the alliance relationship benefits.

Figure 1 provides a conceptual framework, which illustrates the relationship between trust, commitment, and ACE; antecedents (reciprocity, transparency, and communication, and cultural sensitivity) of trust; the relationship between ACE and ISA performance; and the moderating role of market environment turbulence between ACE and ISA performance. The research investigates how ISA partners can improve ISA performance through enhancing ACE. ACE is assumed to improve ISA performance. Market environment turbulence is modeled as a moderator influencing the relationship between ACE and ISA performance. Trust and commitment, the two most compelling

Figure 1
Alliance Coordination Effectiveness and the Performance of International Strategic Alliances: Development of the Partnership and Moderating Role of Market Environment Turbulence



factors influencing the partner relationship in interorganizational relationships, are assumed to positively influence ACE and trust is assumed to positively influence commitment. Reciprocity, transparency, communication, and cultural sensitivity are presented as factors which impact trust in an ISA relationship.

Dimensions of Alliance Coordination Effectiveness and ISA Performance

There are two dimensions of alliance coordination effectiveness (ACE): integration and utilization. Integration refers to the extent to which alliance partners undertake coordinating activities to create a collective resource base for the partners to employ. Integration refers to the activities of alliance partners to synthesize, synchronize, exchange, share, and transfer a variety of knowledge and capabilities and find new ways of using the resources (Hoopes and Postrel 1999). The integration process complements the lack of each partner's resources, transforms explicit and tacit resources into articulated ones, and generates a new collective resource pool for strategic purposes of the alliance. Integration is also beyond a routine and simple relationship beneficial to the partners. Integration is a process in which the partners have an explicit and acknowledged stake in the other's success and view the alliance relationship as an asset that creates value for each other (Johnson 1999). Since the essence of an organizational capability is to integrate specialized individual knowledge, the purpose of integration is to maximize the potential of knowledge and skills from each partner and exploit the unexplored potential of the knowledge and skills from each partner (Grant 1997; Hamel 1991; Kogut and Zander 1992). To generate the most valuable and optimal

resources within the ISA, the partners add, delete, and combine their resources (Zahra and George 2002).

Successful integration is based on "mutual forbearance" and formal and informal procedures in which different knowledge or skills are combined by solving partner conflict (Buckley and Casson 1988). The steady exchange of information between the partners and the development of social relations between them that go beyond a narrow self-interest and opportunism may also be needed for successful integration (Larson 1992). Though many alliance resources are generally "internally sticky" and "tacit," the collaborative processes of integration can transform each partner's knowledge and skills into an alliance capability, which allows an ISA to appropriate higher rents (Kogut and Zander 1992; Nonaka 1994; Szulanski 1996). Successful integration creates a new collective resource pool and value for the alliance through effecting transformation, which is fundamental to creating a sustainable competitive advantage (Grant 1996[a]). Successful integration is, therefore, a precursor for a successful partner relationship in the alliance. The above arguments regarding integration lead to the following hypothesis:

> H1a: The greater the *integration* of activities related to pooling of resources in an international strategic alliance, the higher the *performance* of the alliance.

Utilization refers to the extent to which alliance partners undertake coordinating activities to capitalize on the pooled resources to accomplish the strategic objectives of the alliance in the target market(s). Utilization is the ability of an alliance to effectively harness resources from each partner to successfully implement its market strategy (Grant

1997; Moorman 1995). Utilization results from the collective learning and strengths of the alliance relationship, helping the alliance productively use the newly collective resources to maximize the achievement of alliance strategic goals (Das and Teng 2000; Inkpen and Beamish 1997). Utilization is not only the retrieval of the integrated resources for the creation of new capabilities but the employment of such capabilities for a sustainable period of time, resulting in the enhancement of new strategic initiatives to better compete in the global marketplace (Zahra and George 2002).

Utilization is the actualization of each partner's tangible and intangible resources into alliance outputs based on joint and coordinated efforts between alliance partners. The knowledge and skills of each partner, which are internalized and embedded into alliance resources, are used to exploit market opportunities, carry out alliance strategies, and generate a relational rent, defined as "a supernormal profit jointly generated in an exchange relationship that cannot be generated by either firm in isolation and can only be created through the joint idiosyncratic contributions of the specific alliance partners" (Dyer and Singh 1998, p. 662). When an alliance is able to develop and execute specific market strategies, the alliance can pursue its intended market objectives in a stable manner (Noble and Mokwa 1999). Utilization, therefore, comprises the processes that efficiently exercise the collective resources created by the partners in the market to achieve alliance objectives. Utilization becomes one of the key indicators of alliance capabilities that help an alliance remain competitive in the market (Majumdar 1998). The above arguments made about utilization lead to the following hypothesis:

> H1b: The greater the *utilization* of the pooled resources in an international strategic alliance, the higher the *performance* of the alliance.

Market Environment Turbulence: Moderating Effects on the Relationship Between ACE and ISA Performance

When ISA partners operate an ISA, they may face a turbulent market environment. Turbulent market environments set boundary conditions on the ISA's performance by constraining the ISA's resources and competitive landscapes (Sarkar, Echambadi, and Harrison 2001; Slater and Narver 1994). These environments can disrupt or facilitate the flow of information, values, and processes between interfirm partners and put the partners either in more difficult or more cooperative decision-making situations, which can influence the optimal partner relationship (Achrol 1991; Johnson 1999). ACE is, thus, contingent upon the understanding of how these turbulent market environments affect an ISA because the ISA must align itself to its environment if it is to succeed (Blodgett 1991; Nath and Newell 1998). In order to understand how turbulent market environments influence the operation of an ISA, host government interference and technology turbulence are employed as measures of market environment turbulence and moderators which impact the relationship between ACE and ISA performance.

Host Government Interference (HGI)

HGI refers to the extent to which an ISA host country government intervenes in the operation of the ISA (Blodgett 1991; Roboson et al. 2002). A host country government can influence the operation of an ISA in several ways, such as, changing its regulations about foreign direct investment by adding new restrictions on the operation of foreign firms in certain industry sectors, or requiring a higher equity share for the

local partner firm in the ISA operation. The host country government can also demand the hiring of more local workers and the procurement of certain local components or products and insist upon a higher level of control over specific activities by the local partner firm in the ISA (Gomess-Casseres 1990; Mjoen and Tallman 1997; Yan 1998). HGI may postpone the effective operation of the ISA by interfering in the ways that cause ISA partners to modify the initial contractual agreements (e.g., renegotiation of equity share), redefine ISA objectives and strategies, and reconfigure the internal operational structure of the ISA. The processes of sharing, combining, exchanging, or deploying the resources provided by each partner to accomplish ISA objectives can also be delayed or reorganized to meet these government requirements.

Since these interferences are more likely to favor the local ISA partner firm, they can shift the relative bargaining power to the local firm. This shift may hamper the effective cooperation with the foreign ISA partner firm and can be a source of conflict between ISA partners (Yan 1998; Yan and Gray 1994). The process of complying with these interferences, therefore, not only requires considerable expenditure and time for ISA partners but also constrains the availability of ISA resources and limits the implementation of ISA strategies, which may cause instability in the ISA (Lorange 1996; Yan 1998). Based on the above arguments, the following hypotheses are suggested:

H2a: The greater the *host government interference* in an international strategic alliance, the weaker the relationship between the *integration* of activities related to pooling of resources and the *performance* of the alliance.

H2b: The greater the *host government interference* in an international strategic alliance, the weaker the relationship between the *utilization* of the pooled resources and the *performance* of the alliance.

Technology Turbulence

Technology turbulence refers to changes in technology in the market (Calantone, Garcia, and Dröge 2003; Kohli and Jaworski 1990). A turbulent technology market is one in which the market changes over time (i.e., dynamic), market conditions are volatile (i.e., not easy to predict), and firms have difficulty conducting orderly business because of changing technologies in the market in which an ISA operates (Chakravarthy 1997).

When technology in the market or industry is changing, these changes require alliance partners to cooperate in order to accommodate the changes in the operation of an alliance (Calantone et al. 2003). An alliance should monitor technology advances or innovations and react effectively to these changes to provide enhanced value to its customers. If not, the alliance can't remain competitive in the market (Sarkar et al. 2001[a]). Because an alliance which can deal with changing technologies can provide novel products and services to be competitive in the market, the monitoring of technology turbulence and adjusting to this turbulence is essential for the alliance to develop appropriate strategies by which alliance partners can effectively integrate and utilize their alliance resources to achieve alliance objectives. Technological changes, therefore, necessitate the coordination of alliance partners in creating closer and stronger links to cope with the changing technologies in the market (Jap 1999). These changes make it necessary for the alliance to effectively share, exchange, allocate, and deploy its resources and implement market strategies based on its pooled resources to successfully achieve alliance objectives.

H3a: The greater the *technology turbulence*, the stronger the relationship between the *integration* of activities related to pooling of resources and the *performance* of the international strategic alliance.

H3b: The greater the *technology turbulence*, the stronger the relationship between the *utilization* of the pooled resources and the *performance* of the international strategic alliance.

Building Alliance Coordination Effectiveness: The Role of Trust and Commitment

Trust and commitment have been studied as important variables influencing successful partner relationships (Anderson and Narus 1990; Dwyer, Schurr, and Oh 1987; Madhok 1995; Morgan and Hunt 1994; Sivasdas and Dwyer 2000; Wilson 1995). Since every issue or contingency that can arise in an ISA operation can't be addressed in contracts or agreements, trust and commitment become more important for maintaining a satisfactory alliance partner relationship (Cullen et al. 2000; Madhok 1995). Different organizational and national cultures, unique management philosophies and practices, and the importance of learning from ISA partners add to the significance of trust and commitment in ISA relationship management (Cullen et al. 2000; Luo 2002; Madhok 1995; Yan 1998). Trust and commitment, therefore, are addressed as two key factors influencing ACE in ISAs.

Trust and Alliance Coordination Effectiveness

Trust is the extent to which an alliance partner has confidence in its partner(s) (Aulakh et al. 1996; Morgan and Hunt 1994). Trust is one of the most important partnership factors that firms and strategic alliances should develop to remain competitive in the global marketplace (Cullen et al. 2000; Doney, Cannon, and Mullen

1998; Madhok 1995). Trust is a participant firm's belief that the partners can be relied upon because they act with integrity, honesty, reliability, and consistency in ways that generate positive outcomes (Anderson and Narus 1990; Whipple and Frankel 2000). Trust implies the belief that the partners will not engage in unexpected and negative actions. The participant firm believes that its partners do not take advantage of it or do not carry out their current and future obligations only for their own interests (Mohr and Spekman 1994). Trust is the participant's credibility in its partners that the partners have the intent, ability, and motivation to provide good marketing intelligence and will make their promised contributions to the ISA (Cullen et al. 2000; Maltz and Kohli 1996).

There is always a possibility in alliances that each partner puts its own goals over other partners' goals, which leads to opportunistic behavior of the partner (Aulakh et al. 1996; Madhok 1995). In a trusting ISA relationship, however, this opportunistic behavior is restrained because trust fosters a spirit of cooperation and facilitates a low level of hierarchical governance because trust can be a substitute for hierarchical control by developing a stock of goodwill and reducing monitoring costs between alliance partners (Barringer and Harrison 2000; Zaheer and Venkatraman 1995). The trust-based alliance, thus, allows for more interaction, enhances mutual concern for benefits, develops the continuity expectation of the ISA on a long-term basis, and cultivates more information exchanges between the partners (Aulakh et al. 1996).

Once trust is established, each partner can have faith in the other partner's strategic intentions and can better learn how to coordinate tasks (Madhavan and Grover 1998). Trust, thus, improves the "chemistry" between the partners through which they

can willingly rely on each other due to the increased level of confidence between them (Moorman, Zaltman, and Deshphande 1992; Rodríguez 2002). This reliance enhances the incentive to promote a more cooperative atmosphere between the partners, which works as an extraordinary lubricant to improve alliance management (Gulati 1998).

The need for ISAs to remain competitive in the global marketplace may cause conflict between partners due to cultural differences, inherent opportunistic behavior tendency, and market situation changes. Conflict between the partners hinders mutual cooperation, producing intolerance and reluctance to exchange market knowledge. Trust between ISA partners, however, reduces opportunism, fosters partner tolerance, facilitates knowledge exchanges, and encourages a cooperative atmosphere (Luo 2002). Trust, thus, makes it easier for the partners to harness knowledge and skills contributed by each partner, which helps to increase the use of the resources to achieve the strategic objectives of the ISA (Nonaka 1994). Drawing on the above arguments, it can be expected that if trust exists between alliance partners, it is highly possible that recognition and identification of valuable and necessary partner resources would be facilitated, allowing them to more easily create resources for successful alliance operation and goal achievement. Trust can foster an "open" alliance in which each partner can easily access to and absorb valuable resources, skills, and knowledge, which makes the alliance better able to create a collective resource pool available for the partners and the resources can be optimally used to accomplish the objectives of the alliance.

H4a: The higher the *trust* in an international strategic alliance, the greater the *integration* of activities related to pooling of resources in the alliance.

H4b: The higher the *trust* in an international strategic alliance, the greater the *utilization* of the pooled resources in the alliance.

Antecedents of Trust

Reciprocity, transparency, communication (frequency and efficacy), and cultural sensitivity are presented as antecedents influencing trust in ISAs. Since these variables are important in maintaining interorganizational relationships (Griffith and Harvey 2001; Johnson, Cullen, Sakano, and Takenouchi 1996; Hamel 1991; Hu and Korneliussen 1997; Mohr, Fisher, and Nevin 1996), they are proposed to affect the development of trust between the partners in an ISA.

Reciprocity. The first antecedent of trust is reciprocity, which refers to "a mutually contingent exchange of benefits between two or more units" (Gouldner 1960, p. 164). Reciprocity is based on a common understanding in an exchange relationship that each has rights as a beneficiary to get benefits from its partners and obligations as a benefactor to pay back the benefits to the partners (Hu and Korneliussen 1997). Reciprocity is the basic rule of behavior in social exchange situations, mutually reinforcing each partner's actions to build a successful exchange relationship (Oliver 1990; Parkhe 1993; Wade-Benzoni 2002). Reciprocity also positively influences a building of cooperative alliance relationships (Kogut 1989; Parke 1993; Rindfleisch and Moorman 2001). Reciprocity, however, is more calculative in nature (Luo 2002). Reciprocal actions are taken in response to actions by other firms in an exchange relationship (Frazier, Gill, and Kale 1989). The partner firm's level of effort in the ISA relationship is related to its perceived effort of its partners (Ruyter and Wetzels 2000). For example, manufacturers' use of coercive (vs. noncoercive) strategies is related

positively to the dealers' use of coercive (vs. noncoercive) strategies (Frazier et al. 1989).

The basic norm of reciprocity in social relationships requires that 1) people help those who have helped them and that 2) people should not injure those who have helped them (Gouldner 1960, p. 171). The basic requirement posited is that a firm, which received benefits from another firm, is morally and economically obligated to reciprocate to the other firm's previous actions and share other economic opportunities with that firm (Chung, Singh, and Lee 2000). Though to reciprocate generally means to return in kind, the reciprocal benefits provided by a beneficiary firm do not necessarily have to be commensurate or equitable with the benefits the firm received from other firms in an interorganizational relationship (Brett, Shairo, and Lytle 1998). In interorganizational relationships, the benefits that are offered in response to other firms' actions are generally not easy to quantify because the tacit, idiosyncratic, and complementary nature of resources do not provide for exact value comparisons of the resources exchanged (Nonaka 1994). The perceived fairness of resource and skill exchanges between ISA partners, therefore, would be a core component of reciprocity in the ISA relationship (Hu and Korneliussen 1997).

Since reciprocity emphasizes cooperation rather than power, control, and domination for successful interorganizational exchanges (Oliver 1990), each partner can have a deep sense of involvement in which a feeling of "solidarity," defined as a bilateral expectation that a high value is placed on ISA relationship maintenance, is created and more interactions between the partners can be expected (Heide and John

1992, p. 36; Linton 2000). The reciprocal atmosphere reduces monitoring costs, allows partners to easily detect and remedy free-riding problems, and hinders manipulative actions by partners (Brett et al. 1998). Reciprocity also carries out the function of rewarding a partner in the case of altruistic behavior and penalizing the partner when it is "defecting" from mutual agreements, mutual support, balance, and perceived fairness (Kogut 1988). The defecting partner not only loses the confidence of partner firms, but creates an "imbalanced reciprocity" situation in which opportunistic behaviors occur and the potential for retaliation is heightened (Chung et al. 2000; Kashlak, Chandran, and Benedetto 1998; Kogut 1988).

Reciprocity provides an incentive for ISA partners to cooperate, resulting in additional chances for creating value-generating activities and laying a foundation upon which to build a stable and harmonious partner relationship (Hu and Korneliussen 1997; Kogut 1988). The tit-for-tat process of reciprocal exchanges in ISAs is, therefore, an important lubricant for inducing a better understanding of the partners and a willingness for them to collaborate and foster a trusting partner relationship. Greater levels of reciprocal knowledge exchanges between ISA partners can thus improve integrity, reliability, and faith in the alliance, gaining confidence of the partners. Reciprocity, therefore, provides the basis for a trust-building process in interorganizational relationships. Drawing on the arguments made about reciprocity, the following hypothesis is suggested:

> H5: The greater the *reciprocity* in an international strategic alliance, the higher the *trust* in the alliance.

Transparency. The second antecedent of trust is transparency, which is defined as to the extent to which the resource exchange between alliance partners is open (Hamel 1991). Transparency is an exchange process between alliance partners by which decisions, behaviors, and intentions of the partners are made readily visible, clear, and comprehensible to each other (Hamel 1991). A transparent partner relationship suggests that necessary information, know-how, and ideas are exchanged between the partners and delivered to them without guile, distortion, obfuscation, or manipulation (Hamel 1991; Moenaert, Caeldries, Lievens, and Wauters 2000). The transparent relationship also indicates that each partner keeps the other informed about events or changes that can impact the other party or not use the information solely for its own benefit (Heide and John 1992). The transparent relationship, however, does not mean that each partner should entirely open its resources to the partners. Each partner sometimes should say 'no' to a request from its partners for access to core resources to protect these resources (Hamel 1991). The transparent process indicates that relevant and credible knowledge, skills, and information that are necessary for the partner should be clearly and understandably delivered to it, allowing it to easily absorb and use the resources in order to achieve ISA objectives. Any activities and responses of the partner in an alliance also should be readily understood by its partners so as not to cause any unnecessary doubts about the partner's behavior so that each partner enhances the understanding of each other's strategic intentions (Cohen and Levinthal 1990). Since much of knowledge, skills, or information from the partner is often tacit and deeply embedded in the specific partner firm (e.g., marketing know-how, local knowledge, or negotiation skills with local

government), it hampers smooth transitions between alliance partners (Simonin 1999). A transparent relationship between the partners, thus, becomes important in understanding and absorbing these resources to make good and informed decisions (Janson 2002).

When a high level of transparency exists between alliance partners, it may potentially reduce transaction costs, facilitate diffusion of ideas, make the transfer of knowledge between the partners easier, and efficiently allocate resources between them (Eggert and Helm 2003; Hamel 1991; Jenkins and Floyd 2001). Transparency forges new bonds between the alliance partners in which opportunistic behaviors of the partners are restrained, which can increase the possibility of learning from the partner (Lamming, Caldwell, Harrison, and Phillips 2001). Transparency, therefore, helps alliance participant firms reduce "uncertainty" about the partner firm and creates a "relational fit" between the partners (Eggert and Helm 2003; Hamel 1991). Accordingly, a transparent relationship between alliance partners builds faith and goodwill in the partners' actions.

On the other hand, a lack of transparency can cause fissures in an interorganization in which interaction between the partners takes time and each partner may begin to have suspicions about whether its partner has "a hidden agenda" (Zhao, Kim, and Du 2003). A low level of transparency between alliance partners, thus, creates an atmosphere in which each partner may not clearly understand the intents and behaviors of its partners, which does not foster a trustful solidarity between the partners (Hamel 1991; Heide and John 1992). As a result, the lack of transparency does not

establish confidence in alliance partners. Drawing on the above arguments, the following is hypothesized about the relationship between transparency and trust in ISAs.

H6: The greater the *transparency* in an international strategic alliance, the higher the *trust* in the alliance.

Communication

Communication has been recognized as a facilitating and compelling factor in interorganizational relationship success because communicated knowledge can be a source of competitive advantage for the interorganization (Anderson and Narus 1990; Gassenheimer, Baucus, and Baucus 1996; Tucker, Meyer, and Westerman 1996; Walker and Reukert 1987). Generation, acquisition, sharing, dissemination of market information, and timely response to information through communication, bring about organizational learning (Baker and Sinkula 1999; Kohli and Jaworski 1990; Narver and Slater 1990). Communication plays an important role in facilitating the development of interorganizational partner relationships and works as the glue to hold together channel members (Mohr and Nevin 1990; Mohr et al. 1996).

Communication between alliance partners facilitates the exchange and sharing of necessary information, guards against opportunism, helps to solve conflict between the partners, and creates a positive relationship (Mohr and Spekman 1994; Sarkar et al. 2001[b]). Communication is an alliance asset that enables alliance partners to learn from each other and coordinate their tasks, helping the alliance develop and maintain a viable relationship between the partners. Since many ISA failures are a result of cultural and organizational misunderstandings, different views on control, and lack of efficient knowledge exchange mechanisms (Hu and Chen 1996; Yavaş, Eroğlu, and Eroğlu

1994), the development of effective intercultural communication skills is essential in enabling ISA partners to deal with these problems and develop a satisfactory partner relationship (Griffith and Harvey 2001). The development of such communication skills may facilitate the development of relevant, timely, and credible information and knowledge exchanges between ISA partners (Bandyopadhyay, Robicheaux, and Hill 1994; Griffith and Harvey 2001; Yavaş et al. 1994).

To understand how specific communication dimensions impact trust in an ISA context, frequency and efficacy dimensions are introduced. The impact of specific sub-dimensions, such as, formal/informal, participative, and bi-directional communication has been introduced in channel relationships (e.g., manufactures and distributors: Anderson and Narus 1990; Mohr and Spekman 1994), marketing and engineering relationships (Fisher, Maltz, and Jaworski 1997), retailing (Mohr and Sohi 1995), and franchise relationships (Gassenheimer et al. 1996). These subdimensions are divided into two dimensions--frequency and efficacy--in order to observe how they affect trust in ISAs.

Communication Frequency. The number of formal and informal contacts between alliance partners is communication frequency, which emphasizes the quantity of communication (Anderson and Narus 1990; Fisher et al. 1997; Maltz and Kohli 1996; Mohr and Nevin 1990; Parke 1993). Formal communication, defined as the extent to which communications flow through written and formal rules and standardized procedures (Walker and Ruekert 1987), reduces role conflict and ambiguity of channel members (Mohr and Nevin 1990), guards against alliance partner opportunism

(Dahlstrom and Nygaard 1999), and positively influences cross-functional cooperation and group consensus (Menon, Bharadwaj, Adidam, and Edison 1999). Formal communication also inhibits distrust between channel members by reducing withholding and distortion of necessary information (Mohr and Sohi 1995).

Informal communication refers to more personalized and spontaneous communication between alliance partners, such as, “hallway talk”", “word-of-mouth”, or any ad hoc communication (Mohr et al. 1996). Informal communication within an interorganization provides more opportunities for each partner to adjust to the needs of its partners and allows the organization to more quickly adapt to new market opportunities (Heide and Miner 1992; Walker and Ruekert 1987). Informal communication also enhances openness of the organization, which reduces the possibility of opportunistic behavior of partners, clarifies the roles of each partner, and provides more opportunities for them to understand each other (Maltz and Kohli 1996).

In summary, a greater number of contacts through formal and informal communication can result in a higher level of bonding between alliance partners. This higher bonding can enhance the credibility of information exchanged and facilitate the exchange of shared objectives between the partners (Tucker et al. 1996). Frequent communication between alliance partners can, thus, increase the level of understanding, facilitate shared experience, foster a more cooperative atmosphere, and promote future interactions between them (Heide and Miner 1992; Tucker et al. 1996).

However, too much contact can degrade the quality of communication or be counterproductive because of information overload problem and confusion about the

credibility of information and knowledge (Maltz 2000; Maltz and Kohli 1996). Frequent communication, thus, may not get enough attention from alliance partners because too much information between the partners may reduce the reliability of the exchanged knowledge and information. Frequent communication, therefore, may not provide a truly cooperative atmosphere for alliance partners. Frequent formal and informal communication is therefore a necessary, but not a sufficient condition for promoting trust in an ISA (Fisher et al. 1997).

The above two arguments regarding frequency of communication can be contradictory with regard to its effects on trust in an alliance. However, the situations which ISAs experience throughout the operation of an ISA, such as, different cultural and organizational backgrounds, lack of market knowledge, market situation changes, and the uncertainty of ISA success make the positive effects of frequent communication likely to override the negative effects of frequent communication. The environment in which ISAs operate may require more frequent formal and informal communication between the partners to learn more about each other and respond to changing ISA circumstances. Therefore, the following hypotheses are suggested:

H7a: The greater the *formal communication* in an international strategic alliance, the higher the *trust* in the alliance.

H7b: The greater the *informal communication* in an international strategic alliance, the higher the *trust* in the alliance.

Communication Efficacy. Two-way (i.e., bi-directional) and participative information exchange between alliance partners are communication efficacy (Gassenheimer et al. 1996; Fisher et al. 1997; Mohr and Spekman 1994). Two-way

communication is the extent to which an alliance partner gives instantaneous feedback and input to its partners (Anderson, Lodish, and Weitz 1987; Fisher et al. 1997). Since misunderstandings due to language barriers, different cultures, and unique organizational practices may hinder appropriate exchanges of market information or ideas between ISA partners, the feedback or input, both positive and negative, through bi-directional communication can give the partners an opportunity to clarify communication exchanges, verify the assumptions of decisions, and provide the partner perception of its partner's performance (Anderson et al. 1987; Fisher et al. 1997). Two-way communication also provides more opportunities for sharing accurate and credible information between manufacturers and distributors and increasing communication satisfaction between interorganizational partners (Mohr and Spekman 1994; Mohr and Sohi 1995).

Another dimension of communication efficacy is "participative communication," defined as the extent to which an alliance partner engages in a joint decision-making process (Mohr and Spekman 1994). Participative communication allows alliance partners to join in goal setting and adjustment for relevant and timely information exchanges. These exchanges help the partners clarify partnership objectives and mutual operational plans, as well as mitigate conflict and opportunism in alliance relationships (Gassenheimer et al. 1996; Mohr and Spekman 1994). Since the partners can participate in co-operation of the alliance, the feeling of shared responsibility and task comprehensibility can be increased. Through participation in ISA's market decision-making processes, each partner can have a feeling of involvement, which

strongly motivates the partners to achieve alliance objectives, and provide "volitional compliance" for a cooperative alliance partnership (Anderson, Lodish, and Weitz 1987; Mohr et al. 1996, p.103).

Drawing upon the arguments made about communication, we can conclude that a focus only on the frequent formal and informal communication dimensions may limit the understanding of the diverse communication facets in an alliance relationship (Fisher et al. 1997). Efficient communication through two-way and participation between the partners provides opportunities to enhance alliance partner relationships. It can be, therefore, reasonably assumed that two-way and participative communication foster an atmosphere or build a foundation where alliance partners can depend more on each other so that their mutual understanding increases and a trusting alliance partner relationship is established (Siguaw, Baker, and Simpson 2003).

H8a: The greater the *two-way communication* in an international strategic alliance, the higher the *trust* in the alliance.

H8b: The greater the *participative communication* in an international strategic alliance, the higher the *trust* in the alliance.

Cultural Sensitivity. The extent to which ISA partners adapt to the cultural differences between them in the ISA is defined as cultural sensitivity (Johnson et al. 1996; Skarmeas, Katsikeas, and Schlegelmilch 2002). Cultural sensitivity requires the development of awareness, understanding, and appreciation of cultural differences between ISA partners, and the accommodation of the differences into harmonious partner relationships (Harich and LaBahn 1998). Since each ISA partner brings its own distinctive business and social practices (e.g., etiquette or procedures) to the ISA and

cultural distance between ISA partners creates additional difficulties and challenges for ISA managers in developing their relationships, it is important for ISA partners to develop cultural sensitivity to achieve a trusting relationship. For example, a lack of cultural sensitivity between ISA partners easily leads to the feeling of a lack of common ground or expectations between the partners, which can cause misunderstandings, suspicion, and conflict in the roles, behaviors and work between them (Skarmeas et al. 2002). Misunderstanding, suspicion, and conflict also foster opportunistic tendencies for the partners and cause impediments to the process of knowledge transfer between them (Johnson et al. 1996; Simonin 1999). Without cultural sensitivity, therefore, ISA partners may not easily develop smooth interpersonal relationships, which hinders the creation of positive interactions between them (Lin and Germain 1998).

When ISA partners have cultural sensitivity, however, they can quickly adapt to "a third culture" of an ISA in which unique cultures are mingled with the host country's different cultural environment (Casnir 1999). Cultural sensitivity allows the partners to learn the cultural differences between them quickly in order to facilitate the development of satisfying relationships, which restrains opportunistic behaviors between ISA partners (Harich and LaBahn 1998; Skarmeas et al. 2002). Cultural understanding and adjustment to different cultures in an ISA relationship indicates that the partner cares about its partners, the congruence in organizational philosophies and values between the partners is facilitated, and managerial discrepancies between the partners are easily handled (Sarkar et al. 2001[b]). Cultural sensitivity of ISA partners, therefore, allows for a cooperative partnership in which the partners develop trust between them (Johnson et al.

1996; Sarkar et al. 2001[b]). The arguments made about cultural sensitivity lead to the following hypothesis:

> H9: The greater the *cultural sensitivity* in an international strategic alliance, the higher the *trust* in the alliance.

Commitment and Alliance Coordination Effectiveness

Commitment. "An implicit and explicit pledge of relational continuity between exchange partners" is defined as commitment (Dywer et al. 1987, p.19). Commitment is one of the key variables related to successful relationship marketing (Moorman et al. 1992; Morgan and Hunt 1994; Siguaw et al. 2003). Commitment implies an enduring desire of interorganizational partners to achieve shared goals through joint efforts (Wilson 1995). Commitment is based on the partners' beliefs that an on-going exchange relationship with one another is worth working on, so the partners try to maximize their efforts to ensure that the relationship endures indefinitely (Morgan and Hunt 1994, p.23). Committed partners rectify problems, reduce conflict, and forego self-interest to enhance a valuable long-term partnership (Anderson and Weitz 1992; Griffith, Hu, and Ryans, Jr. 2000; Moorman et al. 1992). Commitment assumes that alliance partners will invest credible inputs to produce mutually desirable outcomes (Gundlach, Achrol, and Mentzer 1995) and that the partners will make short-term sacrifices to obtain a long-term and stable relationship (Anderson and Weitz 1992). Commitment also presumes that ISA partners can discern the benefits of the exchange relationship and that they expect consistent and continued investments from the partners to maintain the successful relationship (Dwyer et al. 1987).

Commitment fosters an environment in which cooperation and social bonding between ISA partners are enhanced, which brings more interactions and concerted actions that help to align the partners' expectations and goals (Rodríguez 2002). Commitment also helps the partners in an exchange relationship more easily reach a consensus in the decision-making processes because of reduced uncertainty about the decision process itself (Menon et al. 1999). A high level of commitment between alliance partners indicates that the partners value the alliance and are also willing to make considerable efforts toward desirable accommodations in which dedication to a partnership is heightened (Dyer and Singh 1998; Luo 2002).

Based on the above arguments, it is likely that commitment contributed by alliance partners nurtures an environment so that alliance partners are willing to invest requisite resources in an alliance to maximize the combined effects of the resources. When a committed atmosphere exists between alliance partners, the continuity expectation of the relationship between the partners is increased so that each partner willingly invests more resources and efforts into the alliance and tries to maximize the use of resources available for them. The above arguments made about commitment suggest the following hypothesis:

H10a: The higher the *commitment* in an international strategic alliance, the greater the *integration* of activities related to pooling of resources in the alliance.

H10b: The higher the *commitment* in an international strategic alliance, the greater the *utilization* of the pooled resources in the alliance.

Trust and Commitment

A trusting interorganizational relationship results in fewer safeguards needed to monitor partners, increases their mutual attachment, and reduces opportunistic behavior of the partners (Andaleeb 1996). Increased mutual attachment and reduced opportunistic behavior encourage alliance partners to put forth a grater level of effort and investment to achieve a better exchange relationship (Lambe et al. 2000). Trust in the partners is expected to increase the likelihood that the partners will become committed to the relationship. For example, Moorman et al.(1992) demonstrates that marketing research user's trust in research knowledge providers positively increases the user's commitment to the user-provider relationship. Credibility, faith, and belief in exchange partners enhance the value of the buyer-seller relationship and the expectation of continuation of the relationship even when new conditions arise. The trust-based exchange relationship, in turn, leads the partners to commit themselves to such a relationship (Ganesan 1994).

Since interorganizational partners reach the commitment stage through significant emotional and economic resource investments, which induces a strong bond among the partners, they need time to truly commit and have confidence in the successful partnership development (Dwyer et al. 1987; Geyskens, Steenkamp, and Kumar 1999). The benefits of trust, such as belief in the continuation of the relationship and faith in the partner's actions, strengthen the desire for commitment to the relationship. Trust is a major determinant of commitment in relationship marketing (Achrol 1991). Geyskens et al.'s (1999) meta-analysis about marketing channel relationships demonstrates that trust fosters commitment. Andaleeb's(1996) retailing

marketing channel study shows that the buyer commits more to the supplier when the buyer has a higher level of trust in the supplier. Siguaw et al.'s (2003) relational exchange study shows that distributor trust in the supplier positively impacts distributor commitment to the channel relationship. Since commitment entails vulnerability, ISA firms will seek only trustworthy partners to whom they can commit (Sarkar et al. 1997). Commitment is, therefore, an outcome of trust in relationship marketing.

H11: The higher the *trust* in an international strategic alliance, the higher the *commitment* to the alliance.

Summary

This chapter addressed the proposed model of alliance coordination effectiveness (ACE), trust, exogenous factors (reciprocity, transparency, communication frequency and efficacy), commitment, ISA performance, and control variables (host government interference and technology turbulence). First, the effects of ACE on ISA performance are hypothesized. Second, the control variables are hypothesized to influence the relationship between ACE and ISA performance. Next, the exogenous factors are hypothesized to influence trust. Trust and commitment are hypothesized to impact ACE. Finally, trust is assumed to influence commitment. The next chapter will present the research design and the methodology to test the hypotheses.

CHAPTER IV

RESEARCH DESIGN AND METHODOLOGY

This chapter addresses the research methodology used to test the proposed model. The first section presents the research setting (i.e., the sample and the respondents). The second section discusses the questionnaire development process, the pre-testing procedure, and the survey (mail and web) procedure. The final section outlines the statistical analysis procedures adopted to test the proposed hypotheses.

Research Setting, Sample Frame, and Respondents

Research Setting

Both a mail and a web survey were employed to collect data and test the hypotheses proposed. The mail survey was used thanks to cooperation from the Center for International Business Studies at Texas A&M University. It was sent to members of the International Program Council at Texas A& M University. The web survey method was adopted because the development of computer technology allows researchers to collect data efficiently compared to the traditional mail survey (Dillman 2000). The web survey allows researchers to collect necessary data in a shorter period of time and to require less cost than does a mail survey (Dillman 2000). In designing the survey, several steps were taken to minimize potential systematic errors that could occur and to increase response rate.

Sample Frame

The survey population for this study was individuals who were/are involved in international businesses and alliance operations in the U.S. and other countries. The

mail addresses of the International Program Council at Texas A&M University were obtained from the Center for International Business Studies at Mays Business School, Texas A&M University. The email addresses of the target sample were acquired via an alliance organization, the Greater Houston Partnership (the Houston Chamber of Commerce), and the Greater Dallas Chamber (the Dallas Chamber of Commerce).

The target sample is considered appropriate because it consists of individuals who are/were involved in international business operations to achieve competitive advantages in global markets and thus are likely to have strategic alliance experience with foreign partners (Dyer et al. 2001). SIC-type codes are not used for the sample because of the international nature of the data inconsistencies and the unavailability of different classification systems in various countries (Dussauge et al. 2000). ISAs are categorized as equity (i.e., joint venture) and non-equity alliances (e.g., marketing agreement, R&D agreement, supply agreement, licensing, consortium, etc.) to find out whether there are any systematic differences in their partnership development and the achievement of performance between equity and non-equity ISAs. An ISA consists of a partner firm(s) from the U.S. and a firm(s) from other countries. The location of the alliance can either be the U.S. or outside the U.S.

Respondents

Several steps were taken to reduce the respondent's bias on the survey questionnaire. The respondent for this survey is a person who knows or experiences the operation of an ISA (Huber and Power 1985; Lambe et al. 2002). In order to answer survey questions regarding the development of alliance partnerships and performance

implications, specific knowledge and responsibilities on ISA operation are required (Huber and Power 1985; Kale, Singh, and Perlmutter 2000). The typical respondent, therefore, is likely to be a CEO/president, a general or regional manager who is in charge of international operation of his/her firm, or an ISA manager who is/was actually involved in the ISA operation. To further ensure 'a knowledgeable person' answered the survey, there is one survey item that asks the respondent how long he/she has been involved in the operation of the alliance. The respondent should have a considerable time to observe and evaluate how the partner relationship evolves and what outcomes an international strategic alliance produces. The respondent also should choose the most recent ISA to avoid selecting only one of the most successful ISAs within his/her company. The respondent bias on the survey can be minimized in these ways.

Since a significant correlation between the partner firm manager and ISA manager on ISA performance evaluation has been found (Geringer and Herbert 1991; Yan and Gray 1994), it is expected that there will no significant differences between the partner manager and ISA manager in their responses on the survey. However, this survey will have a potential limitation because it will only reflect the perspectives from U.S. firm managers. The responses from foreign partner firms and the comparison with the survey answers from U.S. firms will ideally provide a more accurate evaluation of the ISA, but time, cost, and difficulty in finding the foreign partner limited the adoption of such a method.

Questionnaire Development

This section describes how the survey instrument (mail and web) was developed. An overview of the questionnaire development process and the pretesting procedure are presented followed by the operationalization and measurement issues associated with the constructs.

This research required nine broad categories of constructs to be measured: reciprocity, transparency, communication frequency (formal and informal), communication efficacy (two-way and participative), cultural sensitivity, trust, commitment, alliance coordination effectiveness (ACE; integration and utilization), market environment turbulence (host government interference and technology turbulence), and ISA performance. The constructs were defined clearly so as not to cause any ambiguities. Whenever possible, existing scales or measures were employed. A large pool of items relevant to the constructs was generated from extant literature to capture the multi-item constructs. When the items were not sufficient to measure a construct, new items were developed and refined and the new items were added to the existing items to capture the domain of the construct. Care was given to tap the appropriate domain of the construct as closely as possible. Next, the number of items for each construct was reduced to a manageable set of items. A pretest was conducted on the reduced sets of items.

Measures[1]

Reciprocity. Since existing scales do not quite capture the essence of the transparency concept as defined for this research, four items were adopted and modified from extant literature. The emphasis of the reciprocity items was given as fair exchanges between alliance partners (Mohr and Spekman 1994), the willingness of the partner to return favors to its partner after it gets favors from its partner (Ruyter and Wetzels 2000), and a give-and-take relationship between ISA partners. A seven-point Likert scale was used to measure reciprocity anchored on (1) strongly disagree and (7) strongly agree.

Transparency. Though the concept of transparency has been mentioned as an important factor in alliances (Hamel 1991), no specific items, which could measure transparency for this study, have been developed. Thus, a total of four items were developed and adapted. Two items were adapted from Heide and John (1992) in which the items match the concept of transparency defined for this research. The two items emphasize the importance of informing each other about any developments and mutual expectations that any necessary information is not withheld between alliance partners. The other two items were developed from the relationship marketing and alliance literature to capture the definition of transparency. The focus of the two items is to measure whether the partner firm clearly understands the information provided by its partner(s) or intentions or behavior of its partner firm(s). A seven-point Likert scale anchored on (1) strongly disagree and (7) strongly agree was used to measure

[1] All measures can be found in Appendix A.

relationship transparency. Respondents were asked to respond to what extent the items characterize the relationship with their partner(s).

Communication. Two dimensions of communication (frequency and efficacy) are used to capture how communication affects a trusting relationship between ISA partners.

Frequency dimensions of communication have two aspects: formal and informal communication. The focus of frequency communication items was defined as how often communication occurs formally and informally between alliance partners. A total of six items was adapted from Sarkar et al. (1997) and Young-Ybarra and Wiersema (1999) and modified to fit the definition of formal/informal communication as defined for this research. Formal and information communication each has three items.

There are two subdimensions in efficacy communication, two-way (bi-directional) and participative communication. The three items for two-way communication were drawn and modified from Dyer and Song (1997) and Fisher et al. (1997). The two-way items measure whether alliance partners provide feedback about each partner's decisions and strategies, timely and effective responses to each other's communications, and encourage each other to express opinions. Three items for participative communication were drawn and modified from Mohr and Spekman (1994) and Anderson and Weitz (1992). The items for participative communication measure the extent to which each partner was involved in planning and goal setting and providing advice and counsel regarding alliance market strategies. A seven-point Likert scale

anchored on (1) strongly disagree and (7) strongly agree was used to measure the frequency and efficacy dimensions of communication.

Cultural Sensitivity. One item for cultural sensitivity was adapted from Johnson et al. (1996) and modified to fit this research. The other three items were developed to capture the domain of cultural sensitivity defined in this research. The items emphasize the extent to which each partner is sensitive to each other's culture and ways of doing business, tries to adapt to different ways of doing business with each partner, and appreciates different cultures existing between alliance partners. A seven-point Likert scale anchored on (1) strongly disagree and (7) strongly agree measures the domain of cultural sensitivity.

Trust. Since many researches have already developed items for trust, a large pool of trust items was collected. Based on this pool, four items, which are appropriate in an ISA context, were selected and modified for the purpose of this research. Two items were drawn and modified from Doney and Cannon (1997), and the remaining two items were adapted from Johnson et al. (1996). The selected items emphasize keeping promises, non-opportunistic behaviors, and trustworthiness of the partner firm. The items are anchored on a seven-point Likert scale from (1) strongly disagree to (7) strongly agree.

Commitment. Based on a large of pool of commitment items, four items were taken and modified for the purpose of this research, anchored as (1) strongly disagree and (7) strongly agree. Two items were adapted from Morgan and Hunt (1994), one item from Sarkar et al. (1997), and the remaining item was taken from Cullen, Johnson,

and Sakano (1995). The items focus on strong effort of the partner firm to maintain the alliance relationship and loyalty to each other. The items were measured on a seven-point Likert scale anchored on (1) strongly disagree and (7) strongly agree.

Alliance Coordination Effectiveness (*Integration and Utilization*). The definition of ACE includes *integration* and *utilization* of each partner's resources.

Since existing items for *integration* do not clearly capture the integration construct as defined in this research, relevant literature such as cross-functional literature, buyer-seller literature and alliance literature, which emphasize cooperation between inter organizational partners, were reviewed to develop relevant items for integration. The review process generated five integration items. The five items focus on share, exchange, cooperative transfer of resources, and facilitation of resources between alliance partners to create a pool of resources that alliance partners can employ in order to achieve alliance objectives. A seven-point Likert scale is adopted anchored on (1) strongly disagree to (7) strongly agree.

Like the generation of the integration items, interorganizational relationship literature such as the buyer-seller relationship, alliance relationship, or cross-functional literature was reviewed to develop and capture the domain of *utilization* defined for this research. The review process generated five items. The five items focus on coordinated activities between alliance partners, which include effective allocation of alliance resources, joint implementation of alliance market strategies, and coordinated decision-making between the partners to effectively use the alliance resources. The items used a seven-point Likert scale anchored on (1) strongly disagree to (7) strongly agree.

Market Environment Turbulence. Market environment turbulence consists of *host* government interference and technology turbulence. Because items to measure host government interference do not exist, four items to capture the domain of host `government interference were created. The four items developed measure the extent of host government intervention in the operation of the ISA, frequent policy changes, and favors for the local partner. The items were anchored on (1) strongly disagree to (7) strongly agree to measure the domain of host government interference.

Four items for technology turbulence were taken from Jaworski and Kohli (1993) and modified appropriately for this research. The four items focus on the technological developments and changes in the market which can impact the operations of ISAs. All the items for market turbulence were anchored on (1) strongly disagree and (7) strongly agree.

ISA Performance. ISA performance is measured by the extent to which each respondent believed its firm achieved its financial and non-financial objectives in the alliance. The respondent could choose financial and non-financial objectives that his/her firm would like to achieve in the ISA and then he/she would express his/her opinion regarding the extent to which the objectives were achieved. Three items for financial and non-financial objectives, respectively, measure the extent to which the respondents think his/her firm achieved their objectives. Financial performance measures were sales growth, market share, lower production cost, and profitability. Non-financial performance measures consisted of such objectives as acquisition of partner technology, use of partner distribution channels, acquisition and use of partner marketing skills,

acquisition and use of partner's knowledge of foreign markets, improvement of product design, improvement of product quality manufacturing process, providing better service for customers, overcoming foreign government barriers, and entering a foreign market. These alliance performance measures have been adopted by many alliance researchers (Lambe et al. 2002; Mjoen and Tallman 1997; Yan and Gray 1994). A seven-point Likert scale anchored on (1) strongly disagree and (7) strongly agree measured ISA performance.

Pretesting

Pretesting provides a means of reducing ambiguity and bias in the meaning of measures (Churchill 1979). To ensure that the items for each construct truly reflected the construct of interest, the survey was pretested with 50 individuals in companies who are or were involved in international business operations or international strategic alliances through a mail survey. Since it may be difficult for respondents to provide any specific comments on the items or instructions (e.g., clarity) in the web survey, a mail survey rather than a web survey was used.

The questionnaire, after been revised several times by the author with inputs from various marketing faculty, was developed to be as close to the final questionnaire as possible for the web survey. The participants represent a convenience sample but were expected to provide valid information about the survey because the respondents were individuals who are/were involved in the international business operations of their companies. There were a total of four responses. Based on the feedback from the respondents, changes were made to further refine the questionnaire. Some respondents

pointed out the lack of clarity in some items and some items that should be included as a result. Several items were refined and some items were added and dropped from the final survey instrument.

Survey Procedures

Based on the pretesting results, the final questionnaire was prepared for Texas A&M University International Program Council and for individuals obtained from the Greater Partnership Houston (the Houston Chamber of Commerce), the Dallas Chamber of Commerce, and one alliance association. A mail survey was developed for the Texas A&M University International Program Council members and a web survey was developed for the other individuals. The content of the mail and web surveys (i e., the questionnaire items) were the same. The cover letter used included the title of the study, the logo of Texas A&M business school, a brief description of the study, and a description of incentives (i.e., sharing a summary of the findings and a $2 donation to either the American Cancer Society or UNICEF: United Nations Children's Fund). However, there was an additional cover letter from the Director of the Center for International Business Studies for the International Program Council members, which was used to increase the response rate from members. The Council members were not provided the $ 2 donation incentive.

Both the mail and the web survey collected data through a self-administered, cross-sectional questionnaire from individuals involved in an ISA operation. For the mail survey, the first mailing was sent to fifty International Program Council members at Texas A&M University. Three weeks after the first mailing, a reminder letter, along

with a copy of a cover letter from the Director of the Center for International Business Studies at Texas A&M University and a copy of the questionnaire, was sent to those who had not yet responded at that time. In the case of the web survey, three additional steps were taken to ensure that 1) each individual could open the web questionnaire, 2) the same respondent would not respond to the survey multiple times, and 3) the data input was automatically transferred to an Excel spread sheet of the author.

To ensure that each individual could open the survey, two links to the web survey questionnaire, "Survey Begins Here" and the web address of the survey, were added at the end of the cover letter. By clicking either "Survey Begins Here" or the web address for the questionnaire, the respondent could be linked to the actual web survey. The web address for the survey was added because some hyperlinks do not open in different computer servers. Since multiple responses by the same person can distort the integrity of data, Internet Protocol (IP) addresses of respondents were checked and, if the same address was found, the extra response was deleted (Cobanoglu,Warde,and Moreo 2001). The questionnaire was designed to automatically transfer each data input from the respondent to the Excel spread sheet, which makes it easier to collect and analyze the data.

Two wave mailings were sent to the fifty Texas A&M International Program Council members. The final questionnaire, a cover letter from the Director of the Center for International Business Studies, a cover letter from the author, and an incentive (i.e., sharing of the study's findings) were included in each mailing. After receiving

responses from the first mailing, the second mailing was sent to those who had not responded at that time.

In the case of the web survey, a four-wave mailing was adopted, modified from the "total design method"(Dillman 1978) and the Internet survey method (Dillman 2000). The first mailing with a pre-notice was sent to individuals identified as being involved in international business and a member of an alliance organization. The cover letter included the title of the study, confidentiality statement, the logo of Texas A&M's business school, a brief description of the study's purpose, and incentives (i.e., sharing of the summary of the findings and a $2 donation to either the American Cancer Society or United Nations Children's Fund) to elicit participation. Two days later, a cover letter with the two links to the survey was sent to individuals (the second mailing) because respondents tend to have a vivid memory about the pre-notice if the second mailing is sent within two or three days(Dillman 2000). The third and fourth mailing (a week after each mailing) was sent only to those individuals who had not yet responded. The third and fourth mailing excluded those individuals who expressed that they were not interested in completing the survey or that their firm did not have any ISA operation.

In order to assess whether there was any non-response bias, two non-response bias methods were adopted. The first is the comparison between the early and late responses recommended by Armstrong and Overton (1977). The respondents were divided into early and late respondents depending on the dates the response are received. T-tests for main constructs were performed between early and late respondents to determine if there was any non-response bias. The second compared the respondents

from the original survey and a short version of the survey. T-tests between the versions of the survey were conducted to determine if there was any non-response bias.

Data Analysis Procedures: Hypothesis Testing

This section describes the data analysis procedures that were used to test the hypotheses proposed in the study. To find the most appropriate measures of items for each construct, exploratory factor analysis was first used and then confirmatory factor analysis was employed. After confirmatory factor analysis, most of the hypotheses except the moderating effects of host government interference and market turbulence were tested using structural equation modeling (SEM). Structural equation modeling using LIREL 8 (Jöreskog and Sorböm 1996) was adopted because SEM combines both multiple regression and factor analysis, which allows the researcher to estimate a series of separate, but interdependent, multiple regressions simultaneously while providing statistical efficiency (Hair, Anderon, Tatham, and Black 1998). SEM, therefore, would be an ideal technique to test main hypotheses given the complex relationships between the constructs.

Model Fit

Satisfactory model fits were measured by chi-square tests, the root mean square error of approximation (RMSEA), the non-normed fit index (NNFI), the comparative fit index (CFI), and the standardized root mean square residual (SRMR). The chi-square tests should be non-significant because the non-significant tests indicate that differences of the observed (sample) and estimated covariance matrices are non-significant. However, reliance on the chi-square test as the sole measure of a model fit is not

recommended because the test is sensitive to sample size such that small deviations from a true model can reject the hypothesized model in large samples and large deviations of a hypothesized model from a true model may not be detected (Bagozzi and Edwards 1998). Other indices such as the RMSEA, the NNFI, the CFI, and the SRMR were also used to measure model fit.

The RMSEA is an estimate of the discrepancy between the observed and estimated covariance matrices in the population (Hair et al. 1998). The SRMR is a standardized summary of the average covariance residuals, which are the differences between the observed and estimated covariances (Kline 1998). The NFI (normed fit index) indicates the increment in fit of the proposed model relative to the null model (i.e., one in which observed variables are uncorrelated). The NNFI considers a correlation for model complexity (Kline 1998). The CFI is interpreted in the same way as the NNFI and represents the relative improvement in fit of the hypothesized model over the null model. The CFI provides an unbiased estimate of its corresponding population value and is less sensitive to sample size. The CFI is an indication of how much variation in measures is accounted for from a practical standpoint. For example, values less than .9 implies that significant amounts of variance remain to be unexplained and values more .9 suggests that further relaxation of parameter constraints is not warranted and might lead to overfitting (Bagozzi and Edwards 1998, p. 62). Though there are no absolute criteria which indicate good indices, non-significant chi-squares, SRMR and RMSEA values less than .08, and NNFI and CFI values greater than .9 are generally considered good fit indices (Bergami and Bagozzi 2000).

Interaction Effects of Market Environment Turbulence

The moderating effects of host government interference and technology turbulence were investigated by moderated regression analysis because the number of sample size (N=162) is not large enough to use multigroup analysis given the complex model of the research (Hair et al. 1998). The interaction effects of predictor variables on ISA performance were investigated by mean-centering predictors.

Summary

This chapter describes the development of the mail and web surveys, measures for the surveys, and data analysis procedures. The sample frame was International Program Council members for the mail survey and individuals who are/were involved in the operations of ISAs for the web survey. The mail and the web survey followed and modified Dillman's(1978) total design method and Dillman's(2000) Internet survey method. It was indicated that the hypotheses would be tested using SEM and multiple regression analysis. The next chapter will address the results from the data collection and analysis procedures and the measurement model assessment before presenting the results by the structural model testing.

CHAPTER V

DESCRIPTIVE STATISTICS AND MEASUREMENT MODEL ASSESSEMENT

This chapter describes the results from the data collection and analysis procedures. First, the response rate, the non-response bias, and the characteristics of the sample are presented. Second, the measurement model is evaluated in which exploratory and confirmatory factor analysis results are discussed.

Response Rate and Non-response Bias

There were four different groups which were used to collect data for the analysis. The first group was a mail survey group. The remaining three groups were from a web survey. The individuals of the first two web survey groups were those who are/were involved in international business operations in their firms. The third group of individuals in the web survey was from an alliance organization. The email addresses in the three web survey groups were obtained from the Chamber of Commerce in Houston and Dallas, and the email addresses of the association members were available to the author because the author is a member of the association.

Overall, a total of 178 surveys were returned for a response rate of 4.4% (178/4064). Group 1, comprised of the fifty International Program Council members at Texas A&M University, returned twenty five replies. Group 2 consisted of 1,900 individuals and a total of fifty six replies from this group were received. A total of forty one responses was received from Group 3 with 1,107 individuals, and a total of fifty six responses was received from Group 4 with 1,007 organizational members. All of the mail and email responses were reviewed to assess their appropriateness. Six respondents

from the mail survey explained that they did not have ISA experience or their experience was too old. Their responses were excluded from the analysis. Ten of the email responses were not usable because of missing data and were excluded from the subsequent data analysis. Many email surveys did not reach respondents because of incorrect email addresses, non-use of the current email address, or technical problems. Some expressed that they were not interested in answering the questionnaire or their experience was not appropriate for answering the survey (see Table 2 for specific numbers and reasons which were not included in actual responses). Some responses did not contain data such as sales volume or percentage of international sales volume. However, since these data were not critical for testing the hypotheses proposed in this study, they were included in the analysis. After removing the sixteen responses and other non-responses (i.e., non-delivery, non-appropriate, no-interest, or removal request), the overall final response rate for the overall surveys (the mail and the web survey combined) was 4.8% (162/3354). The mail survey response rate was 43.2% (19/44) and the overall web survey response was 4.3 % (143/3310).

ANOVA tests were used to determine if there were any group differences in terms of their responses. The means of the focal constructs in the four groups were compared and it was found that there were no significant differences in their responses (see Table 3 for specific tests for mean differences between the groups).

Since the response rate was low, it is important to test for non-response bias. If non-respondents are significantly different from respondents, the generalization of the

Table 2
Sample Response Rates

	Group1 (mail)	Group 2 (web) (Dallas)	Group3 (web) (Houston)	Group4 (web) (Alliance Org.)
# of sample	50	1,900	1,107	1,007
# of responses	25	56	41	56
# of error(non-deliverable)	0	172	88	193
# of not appropriate(no-ISA, too old experience, corporate policy)	6	87	30	30
# of no-interest or remove	0	45	24	25
# of non-usable Responses	0	5	3	2
# of usable responses	19	51	38	54
Final usable response rate (%)	43.2%	3.2%	3.95%	14.1%

findings from the respondent sample to the general population may be limited. Non-response bias, the extent to which respondents are different from non-respondents, was measured using 1) a comparison of the responses from early respondents with those from late respondents (Armstrong and Overton 1977) and 2) a comparison of the responses based on the original questionnaire with the responses based on a condensed version of the questionnaire (Jones III 1997).

For the comparison of early and late respondents, the sample was divided into early (approximately 75% of the sample, N=121) and late respondents (approximately 25% of the sample, N=41) depending on the time when their responses were received. Using t-tests, the comparisons of the early and late respondents showed that non-

response bias was not a concern. The mean differences for the focal factors between early and late respondents were insignificant (see Table 4).

Table 3
Group Mean Differences

Factor	F	Significance*
Reciprocity	.312	.817
Transparency	.350	.789
Communication Frequency	1.208	.309
Communication Efficacy	.960	.413
Cultural Sensitivity	.365	.778
Trust	.253	.859
Commitment	.393	.758
Integration	.355	.786
Utilization	.611	.609
Financial Performance	1.548	.204
Non-financial Performance	1.288	.280

*$p<.05$

Another way of measuring non-response bias was to compare the means of the original responses (N=162) and those of the responses based on a condensed version of the questionnaire with selected items for the focal constructs. A condensed version of the questionnaire with the selected items was sent to those who did not respond to the original survey. A total of forty people responded to the condensed version of the

questionnaire. T-test results comparing the forty respondents to the original respondents (N=162) indicated that there were no differences in their mean differences, which verifies again that non-response bias was not a concern (see Table 5).

Table 4
Non-response Bias Between Early and Late Respondents

Factor	t	df	Sig.(2-tailed)[1]	Mean Difference
Reciprocity	.228	160	.820	-.050
Transparency	-.554	160	.580	-.129
Communication Frequency	.607	160	.545	.125
Communication Efficacy	-.137	160	.891	-.033
Cultural Sensitivity	-.587	160	.558	-.146
Trust	-.508	160	.612	-.132
Commitment	-.121	160	.904	-.031
Integration	.062	160	.951	-.015
Utilization	.731	160	.466	.176
Financial Performance	-.338	160	.736	-.092
Non-financial Performance	.400	160	.690	.103

[1]$p<.05$
Note: Early respondents in the web survey were those who responded up to the third mailing of the web survey. Late respondents were the remaining 25% of the respondents who responded to the last (fourth) mailing. Early respondents in the mail survey were considered to be the first 75% of the respondents. Late respondents in the mail survey were the remaining 25% of the respondents.

Sample Characteristics

Respondents were asked to provide information about the type of ISA they are/were involved in (either equity or non-equity ISA), their current position, company

Table 5
Mean Differences Between the Original Survey Respondents and the Condensed Version Survey Respondents

Factor	N	df	t	Significance (2-tailed)*
REC., TRSP., CF., CE	162	200 40	1.224	.223
CS., TR., CM., IT., UT	162	200 40	.118	.907

Note: REC=reciprocity, TRSP=transparency, CF=communication frequency, CE=communication efficacy, CS=cultural sensitivity, TR=trust, CM=commitment IT= integration, UT=utilization
*p<.05

sales, percentage of sales from abroad, years of the ISA operation, and years of involvement in the ISA operation. Though a total of 162 usable responses were received, some of the respondents did not provide information about some of these questions (see Table 6).

One hundred twenty four (approximately 76.5%) respondents indicated their firm is/was involved in a non-equity ISA. Of those that provided the information about their position (N=136), one hundred respondents (approximately 73.5%) reported that their position was president, CEO, vice president, or director. Twenty six respondents (approximately 19.1%) were alliance managers and the rest, ten (approximately 7.4%) were sourcing managers, R&D managers, etc.

Though confidentiality was promised, many respondents were reluctant to disclose their company's sales volume. Only fifty five respondents reported this figure. The average sales volume was $847 million. One hundred fifty one respondents average provided the operation period (years) of the ISA they chose for the questionnaire. The years of the ISA operation was 3.72 years. Fifty of the 151 ISAs (approximately

Table 6
Sample Characteristics

Type of ISA	Position (N=136)	Total Sales ($) (N=55)	Percentage of Sales from Abroad (N=101)	Years of ISA Operation (N=151)	Years of Involvement in the ISA (N=148)
Equity (38)[1]	Upper Management (75) (eg., CEO, president)	Over 10 billion (16)	Over 50% (51)	Over 5 years (50)	Over 5 years (18)
Non-equity (124)[2]	Director (25) (e.g., alliance director)	100 million --10 billion (23)	Less than 50% (50)	4-5 years (27)	4-5 years (24)
	Middle Manager (26) (e.g., alliance manager)			1-3 years (74)	.6-3 years (106)
	Other (10) (e.g., R&D manager)	Less than 100 million (16)			
Average		**847 million**	**47.20%**	**3.72 years**	**2.68 years**

Note: Total sample size is 162.
[1] The number in parentheses indicates the number of respondents.
[2] Type of the non-equity ISA and the number: Licensing (21), Joint Marketing (41), R&D (11), Supply Agreement (25), Consortium(9), and others (17).

one third) have been operating for more than five years, and the other two-thirds have been operating less than five years. The average years of involvement of the respondents in the operation of the ISA (N=148) was approximately 2.7 years. Thirty one respondents (approximately 20.9%) are/were involved more than five years. The majority of respondents (N=117, approximately 79.1%) are/were involved for less than 5 years.

Given the years of involvement of the respondents in the ISA operation and their position in their firms, it can be concluded that these respondents are in a position to be able to respond to the survey questionnaire so that they could evaluate the partnership development and the performance of their firm in the ISA.

Exploratory Factor Analysis (EFA) and Reliability

Before testing the hypotheses using structural equation modeling (SEM), the measurement model was evaluated to examine whether the factors (latent variables) were reliable and valid (i.e., reliabilities and validities of each factor were assessed). EFA was used on the items for each scale. EFA was employed to reduce the number of items that could be subjected to confirmatory factor analysis (CFA) or to determine any underlying dimension of factors. Maximum Likelihood Estimation with promax rotation was done with SPSS to capture whether each factor (latent variable) had appropriate loadings. Eigen values greater than one were used to determine the number of factors extracted. All factors (latent variables) were divided into three groups to perform EFA and subsequently CFA because of the large number of items. The three groups are exogenous factors (i.e., reciprocity, transparency, two-way communication, formal and

informal communication, participative communication, and cultural sensitivity), endogenous factors (i.e., trust, commitment, integration, utilization, and financial and non-financial performance), and control variables (i.e., host government interference and technology turbulence).

Table 7 shows the EFA results for exogenous factors. A five-factor solution with appropriate loadings was obtained for the seven antecedents of trust. Reciprocity, transparency, and two-way communication load highly on the same factor. Formal and informal communication load on a different factor though they are under the same factor, "communication frequency", in the model.

The reliabilities (i.e., the extent to which a scale produces internally consistent measures for multi-item scales) were measured via Cronbach's coefficient alpha, which is commonly used in social science studies (Kerlinger and Lee 2000). The reliabilities and number of items for each exogenous factor are reported in Table 8. All reliabilities are greater than .70, which is a common threshold criterion to measure internal consistency of items (Kerlinger and Lee 2000).

The second group consists of the endogenous factors: trust, commitment, alliance coordination effectiveness (integration and utilization), and the two performance dimensions (financial and non-financial). Table 9 shows a four-factor solution with appropriate loadings. Trust and commitment load highly on the same factor. Likewise, financial and non-financial performance measures loaded on the same factor. The reliabilities and number of items for each endogenous factor are shown in Table 10. All reliabilities exceed .70.

Table 7
Exploratory Factor Analysis for Exogenous Factors (the Antecedents of Trust)[1]

	Factor				
	1	2	3	4	5
Reciprocity1	.472				
Reciprocity2	.855				
Reciprocity3	.515				
Reciprocity4	.790				
Transparency1	.827				
Transparency2	.599				
Transparency3	.627		.397		
Transparency4	.454				
Two-way Communcation1	.364				
Two-way Communcation2	.545				
Two-way Communciation3	.409				
Formal Communciation1			.683		
Formal Communciation2			.872		
Formal Communication3			.461		
Informal Communciation1				.575	
Informal Communciation2				.625	
Informal Communication3				1.143	
Participative Communication1					.892
Participative Communication2					.832
Participative Communciation3					.554
Cultural Sensivity1		.789			
Cultural Sensivity2		.836			
Cultural Sensivity3		.844			
Cultural Sensivity4		.684			

[1] Extraction Method: Maximum Likelihood.
Rotation Method: Promax with Kaiser Normalization.
Note: Factor loadings less than .25 are not shown for interpretability.

Table 8
Reliability for Exogenous Factors

Factor	Coefficient Alpha	Number of Items
Reciprocity	.75	4
Transparency	.86	4
Formal Communication	.73	3
Informal Communication	.83	3
Two-way Communication	.84	3
Participative Communication	.84	3
Cultural Sensitivity	.91	4

Table 9
Exploratory Factor Analysis for Endogenous Factors[1]

	Factor			
	1	2	3	4
Trust1	.522			
Trust2	.823			
Trust3	.985			
Trust4	1.036			
Commitment1	.801			
Commitment2	.564	.424		
Commitment3	.663			
Commitment4	.694			
Utilization1			.839	
Utilization2			.747	
Utilization3			.952	
Utilization4			.751	
Utilization5			.712	
Integration1				.886
Integration2				.931
Financial Performance1		.700		
Financial Performance2		.602		
Financial Performance3		.521		
Non-financial Performance1		.983		
Non-financial Performance2		.977		
Non-financial Performance3		.887		

[1] Extraction Method: Maximum Likelihood.
Rotation Method: Promax with Kaiser Normalization.
Note: Factor loadings less than .25 are not shown for interpretability.

The last group is control variables, that is, host government interference and technology turbulence. These two variables are components of market environment turbulence. Table 11 reports the results for the control variables by using EFA. Table 12 shows the reliabilities and number of items for each variable. The reliabilities are over .70.

Table 10
Reliability for Endogenous Factors

Factor	Coefficient Alpha	Number of Items
Trust	.91	4
Commitment	.91	4
Integration	.96	2
Utilization	.94	5
Financial Performance	.89	3
Non-financial Performance	.95	3

Table 11
Exploratory Factor Analysis for Control Variables[1]

	Factor	
	1	2
Host Government Interference1		.723
Host Government Interference2		.961
Host Government Interference3		.898
Host Government Interference4		.487
Technology Turbulence1	.693	
Technology Turbulence2	.880	
Technology Turbulence3	.892	
Technology Turbulence4	.833	

[1] Extraction Method: Maximum Likelihood
Rotation Method: Promax with Kaiser Normalization.
Note: Factor loadings less than .25 are not shown for interpretability.

Table 12
Reliability for Control Variables

Factor	Coefficient Alpha	Number of Items
Host Government Interference	.85	4
Technology Turbulence	.89	4

Partial Disaggregation

For tests of the SEMs, individual items were used to operationalize constructs. Each factor (latent variables) was operationalized with indicators comprised of subsets of items in which each indicator is constructed as the sum (or average) of two or more items. This process is known as a 'partial disaggregation' approach to SEM (Bagozzi and Edwards 1998). This approach has the advantages of reducing the number of parameters in a model and tends to decrease measurement error (Bagozzi and Edwards 1998). Therefore, the model can run with smaller sample sizes and generally produces better fits (Bergami and Bagozzi 2000). Because the model specified for this research would require a much larger sample size than 162 for estimating all the parameters at the individual item level and does not meet the minimum ratio of sample size to the number of free parameters (5:1) as specified in Bagozzi and Yi (1988), the partial disaggregation model was employed.

Following the partial disaggregation approach, each factor (latent variable) was made up of two indicators where each consisted of the average of two or three items intended to measure each factor. When there are four (five) items for a latent variable, the first and third (and fifth) items (e.g., item 1 and 3 or item 1, item 3, and item 5) were averaged for one indicator and the other two even numbered items were averaged for the

other indicator (one even numbered item was used as an indicator in case there were only three items). Table 13 shows the correlations, means, and standard deviations of the items used for the CFA with this approach. The table on page 97 compares the model fit indices with the partial disaggregation approach versus the model fit indices without the approach[2]. The indices generally improved when the partial disaggregation approach was used.

However, Bagozzi and Edwards (1998) indicate that the partial disaggregation approach should be used only under certain conditions. If the hypothesized items for a factor either share more variation with items from other factors or fail to load highly and uniformly on the proper factor, any combination of items can be misleading. This requires a careful development of items and the individual item level support by using EFAs, which was done in this study.

Confirmatory Factor Analysis With the Partial Disaggregation Approach

Since EFA is a preliminary technique and does not provide an explicit test for factor unidimensionality (Anderson and Gerbing 1988), factors with indicators formed by the partial disaggregation approach were subjected to CFA to ensure whether each factor exhibits convergent and discriminant validity. Convergent validity is defined as the agreement among measures of the same factor. Convergent validity is established when a CFA model fits satisfactorily and all factor loadings are significantly and preferably "high" (Bagozzi, Yi, and Phillips 1991)(Note: A single-factor model for all individual

[2] See Appendix 2 for the correlations, means, standard deviations, and standard errors before the partial disaggregation approach was applied.

Tab1e 13

Correlations, Means, and Standard Deviations Among Indicators With the Partial Disaggregation Approach

	RC13	RC24	TS13	TS24	CF13	CF2	CI13	CI2	CW13	CW2	CP13	CP2	CS13	CS24
RC13	1													
RC24	0.543	1												
TS13	0.374	0.608	1											
TS24	0.426	0.626	0.781	1										
CFF13	0.168	0.154	0.455	0.389	1									
CF2	0.190	0.088	0.279	0.279	0.473	1								
CI13	0.259	0.415	0.528	0.528	0.336	0.157	1							
CI2	0.286	0.320	0.470	0.445	0.294	0.495	0.629	1						
CW13	0.390	0.574	0.602	0.688	0.393	0.305	0.566	0.503	1					
CW2	0.386	0.495	0.683	0.651	0.337	0.307	0.534	0.513	0.704	1				
CP13	0.310	0.431	0.553	0.587	0.547	0.380	0.477	0.430	0.657	0.533	1			
CP2	0.241	0.372	0.526	0.539	0.540	0.387	0.430	0.389	0.561	0.456	0.857	1		
CS13	0.389	0.540	0.610	0.724	0.362	0.230	0.438	0.411	0.640	0.542	0.587	0.507	1	
CS24	0.479	0.587	0.644	0.715	0.326	0.272	0.425	0.423	0.593	0.615	0.519	0.437	0.850	1
TR13	0.382	0.613	0.698	0.731	0.317	0.283	0.423	0.360	0.614	0.602	0.516	0.455	0.648	0.701
TR24	0.403	0.622	0.705	0.780	0.301	0.224	0.486	0.409	0.601	0.595	0.539	0.474	0.657	0.674
CT13	0.435	0.600	0.603	0.703	0.364	0.221	0.484	0.336	0.651	0.574	0.608	0.579	0.638	0.634
CT24	0.427	0.611	0.653	0.755	0.408	0.304	0.467	0.436	0.676	0.604	0.626	0.545	0.701	0.706
IT1	0.244	0.438	0.489	0.425	0.369	0.201	0.382	0.306	0.413	0.353	0.511	0.437	0.405	0.389
IT2	0.273	0.486	0.549	0.500	0.401	0.246	0.450	0.350	0.483	0.393	0.572	0.528	0.474	0.464
UT135	0.349	0.544	0.695	0.693	0.511	0.349	0.424	0.387	0.591	0.532	0.711	0.631	0.681	0.691
UT24	0.288	0.474	0.637	0.648	0.504	0.336	0.427	0.358	0.585	0.482	0.692	0.620	0.635	0.625
FP13	0.320	0.420	0.487	0.473	0.286	0.206	0.354	0.264	0.436	0.432	0.323	0.272	0.408	0.393
FP2	0.178	0.341	0.431	0.423	0.277	0.245	0.278	0.200	0.398	0.388	0.353	0.287	0.337	0.341
NP13	0.320	0.382	0.452	0.437	0.245	0.177	0.356	0.378	0.382	0.382	0.347	0.326	0.390	0.424
NP2	0.243	0.421	0.474	0.467	0.307	0.200	0.352	0.314	0.420	0.406	0.411	0.350	0.427	0.482
HI13	0.032	-0.067	-0.105	-0.115	-0.049	-0.131	-0.018	-0.052	0.073	0.011	-0.019	-0.020	0.016	0.001
HI24	0.059	-0.012	-0.035	-0.171	-0.014	-0.054	-0.060	-0.063	0.103	-0.052	-0.017	-0.051	-0.035	-0.021
TT13	0.115	0.002	-0.040	0.008	0.012	0.025	0.078	-0.001	0.087	0.084	0.105	0.132	0.067	0.008
TT24	0.184	0.069	0.026	0.063	0.052	0.094	0.111	0.056	0.038	0.098	0.161	0.201	0.144	0.077
MN	4.840	4.979	4.904	5.086	4.537	4.611	5.133	5.124	4.759	4.667	4.676	4.833	4.880	4.472
SD	1.372	1.392	1.350	1.368	1.430	1.836	1.453	1.667	1.362	1.487	1.511	1.605	1.381	1.441

Note: RC= reciprocity, TS= transparency, CF= formal communication, CI=informal communication, CW= two-way communication, CP= participative communication, CS=cultural sensitivity, TR=trust, CT=commitment, IT= integration, UT= utilization, FP= financial performance, NP= non-financial performance HI=host government interference, TT=technology turbulence, MN=mean, SD: standard deviation

Table13 (continued)

	TR13	TR24	CT13	CT24	IT1	IT2	UT135	UT24	FP13	FP2	NP13	NP2	HI13	HI24	TT13	TT24
RC13																
RC24																
TS13																
TS24																
CF13																
CF2																
CI13																
CF2																
CW13																
CW2																
CP13																
CP2																
CS13																
CS24																
TR13	1															
TR24	0.863	1														
CT13	0.779	0.787	1													
CT24	0.786	0.779	0.862	1												
IT1	0.500	0.462	0.467	0.459	1											
IT2	0.537	0.511	0.526	0.527	0.924	1										
UT135	0.688	0.638	0.640	0.733	0.570	0.638	1									
UT24	0.648	0.591	0.622	0.688	0.617	0.696	0.871	1								
FP13	0.475	0.431	0.414	0.449	0.330	0.374	0.430	0.409	1							
FP2	0.386	0.332	0.313	0.358	0.181	0.230	0.418	0.342	0.764	1						
NP13	0.445	0.424	0.406	0.441	0.385	0.390	0.426	0.419	0.659	0.550	1					
NP2	0.456	0.432	0.444	0.462	0.330	0.350	0.485	0.496	0.633	0.641	0.856	1				
HI13	-0.074	-0.125	0.005	-0.008	0.051	0.013	-0.003	-0.001	0.141	0.124	0.044	0.046	1			
HI24	-0.092	-0.124	-0.032	-0.016	0.032	0.000	0.013	0.059	0.083	0.063	0.098	0.091	0.770	1		
TT13	-0.115	-0.005	0.038	-0.052	-0.015	0.008	0.061	0.008	-0.013	-0.027	0.047	0.044	-0.026	-0.058	1	
TT24	0.038	0.121	0.178	0.063	0.057	0.095	0.124	0.091	0.043	-0.033	0.085	0.033	-0.058	-0.070	0.823	1
MN	4.370	4.920	4.969	4.765	4.630	4.488	4.304	4.494	4.355	3.994	4.694	4.528	2.356	2.830	4.854	4.863
SD	1.523	1.455	1.400	1.503	1.540	1.577	1.359	1.398	1.581	1.602	1.441	1.523	1.515	1.481	1.526	1.558

Note: RC= reciprocity, TS= transparency, CF= formal communication, CI=informal communication, CW= two-way communication, CP= participative communication, CS=cultural sensitivity, TR=trust, CT=commitment, IT= integration, UT= utilization, FP= financial performance, NP= non-financial performance, HI=host government interference, TT=technology turbulence, MN=mean, SD=standard deviation

items hypothesized to measure the factor before the partial disaggregation approach was employed was used to measure all the factor loadings. See Appendix B). Discriminant validity refers to the distinctiveness of the factors measured by different sets of indicators (Kline 1998, p. 60). A perfect correlation between factors would indicate that the factors are not discriminable. Discriminant validity among factors exists when the construct correlation is less than 1.00 by an amount greater than twice its respective standard error (Bagozzi et al. 1991; Bagozzi and Warshaw 1990).

Exogenous factors, endogenous factors, and control variables were subjected to a CFA. First, a seven-factor model CFA with exogenous factors was conducted. The CFA results demonstrate a significant chi-square statistic of 127.91 (df=56, p=.00) but exhibit reasonable model fit indices: the RMSEA=.086, the NNFI=.97, the CFI=.98, and the SRMR=.04. Table 14 demonstrates the degree of discriminant validity among exogenous factors. Though the EFA results exhibit that reciprocity, transparency, and two-way communication highly loaded on the same factor, the CFA results demonstrate that each is a unique factor as shown in Table 14.

Endogenous factors (i.e., trust, commitment, integration, utilization, financial performance, and non-financial performance) and control variables (i.e., host government interference and technology turbulence) were also subjected to a CFA. Trust and commitment have been widely used as distinctive factors in the alliance and marketing literature (Morgan and Hunt 1994; Rodríguez 2002; Wilson 1995). However, because the EFA results indicated that trust and commitment loaded highly on the same factor, a two-factor model CFA with trust and commitment was done to make sure

Table 14
Correlations, Standard Errors and T-Values Among Exogenous Factors[1]

	REC	TRSP	CTW	CF	CIF	CP	CS
REC	1.00						
TRSP	0.77	1.00					
	(0.06)						
	13.5						
CTW	0.71	0.87	1.00				
	(0.06)	(0.04)					
	11.25	24.25					
CF	0.22	0.57	0.56	1.00			
	(0.10)	(0.08)	(0.08)				
	2.22	7.08	6.67				
CIF	0.52	0.70	0.79	0.52	1.00		
	(0.08)	(0.06)	(0.05)	(0.09)			
	6.53	11.78	14.67	5.81			
CP	0.49	0.67	0.73	0.70	0.59	1.00	
	(0.07)	(0.05)	(0.05)	(0.07)	(0.07)		
	6.72	12.79	15.03	10.38	8.92		
CS	0.69	0.83	0.77	0.46	0.58	0.61	1.00
	(0.06)	(0.03)	(0.05)	(0.08)	(0.07)	(0.06)	
	11.37	24.2	17.04	5.48	8.44	10.92	

Note: REC=reciprocity, TRSP=transparency, CTW= two-way communication
CF=formal communication, CIF=informal communication,
CP=participative communication, CS=cultural sensitivity

[1] Numbers in parentheses are standard errors.

that they are separate factors. The CFA results in Table 15 show that trust and commitment correlate highly but exhibit different factors. The chi-square statistics by the CFA is 71.84(df=1, p=.00). The goodness of fit statistics show the RMSEA=.00, the NNFI=1.00, the CFI=1.00, and the SRMR=.024, which are acceptable fit indices (see the table on page 97 for the fit indices).

Table 15
Correlation, Standard Error, and T-Value Among Trust and Commitment[1]

	Trust	Commitment
Trust	1.00	
Commitment	0.91	1.00
	(0.02)	
	41.76	

[1]Number in parenthesis indicates standard error

A two-factor model CFA for integration and utilization was done to ascertain whether the two ACE components are distinctive factors. The CFA with integration and utilization was conducted twice because the first CFA with full integration and utilization indicators (i.e., five indicators for each) resulted in poor goodness of fit indices: the chi- square statistic =369.54(df=34, p=.00), the RMSEA=.25, the NNFI=.88, the CFI =.91, and the SRMR= .15, though integration and utilization show discriminant validity (i.e., the correlation=.74, the standard error=.04, and the t-value=18.33).

After the first CFA, three indicators of integration (integration 3, integration 4, and integration 5) were deleted because integration 4 and integration 5 loaded highly on utilization (.680 and .818, respectively) and integration 3 loaded on two factors (.447 for factor 1 and .303 for factor 2) by use of the EFA. Given that measures of integration loaded highly on the utilization factor and integration 1 loaded on two factors, the three indicators in question were removed from further analysis. Two indicators of integration (integration 1 and integration 2) and the two partial disaggregated utilization indicators (i.e., the aggregation of utilization 1, 3, and 5 and the aggregation of utilization 2 and 4) were therefore subjected to a CFA. The CFA results in Table 16 show that the measures

achieve discriminant validity (the correlation =. 70, the standard error =. 04, and the t-value=15.60) between integration and utilization. The table on page 97 reports acceptable fit indices: the chi-square=.087 (df=1, p=.77), the RMSEA= .00, the NNFI=1.00, the CFI=1.00, and the SRMR=.015.

Table 16
Correlation, Standard Error, and T-Value Among Integration and Utilization[1]

	Integration	Utilization
Integration	1.00	
Utilization	0.70	1.00
	(0.04)	
	15.60	

[1]Number in parenthesis indicates standard error

Financial and non-financial performance factors were also subjected to a CFA with a two-factor model. Much of the ISA literature has addressed the two different performance measurement criteria (Cullen et al. 2000; Ding 1997; Mjoen and Tallman1997; Roboson et al. 2002; Sarkar et al. 2001[b]). However, since the two performance criteria loaded highly on the same factor by use of the EFA, the purpose of doing a CFA was to verify whether they truly indicate the same factor. The CFA results are shown in Table 17. The CFA reports that the two performance measures are distinct measures (i.e., discriminant validity is achieved) and show generally acceptable fit indices, except for the RMSEA and NNFI: the chi-square=17.64(df=1, p=.00), the RMSEA=.31, the NNFI= .78, the CFI=.96, and the SRMR=.02 (see the table on page 97 for the fit indices).

Table 17
Correlation, Standard Error, and T-Value Among Performance Factors[1]

	Financial Performance	Non-financial Performance
Financial Performance	1.00	
Non-financial Performance	0.77	1.00
	(0.04)	
	17.93	

[1]Number in parenthesis indicates standard error

A two-factor model CFA for control variables, host government interference and technology turbulence, was conducted. Table 18 reports the correlation, standard error, and t-value for the control variables, which indicate that the two variables are distinct variables. The goodness of fit indices for the control variables exhibit generally acceptable fit indices: a significant chi-square statistic of .58(df=1, p=.45), the RMSEA=.00, the NNFI=1.00, the CFI=1.00, and the SRMR=.007(see Table 19 for the fit indices).

Table 18
Correlation, Standard Error, and T-Value Among Control Variables[1]

	Host Government Interference	Technology Turbulence
Host Government Interference	1.00	
Technology Turbulence	-0.07	1.00
	(0.09)	
	-0.74	

[1] Number in parenthesis indicates standard error

Table 19
The Goodness of Fit Indices Without/With the Partial Disaggregation Approach[1]

Factors	df	chi-square	p-value	RMSEA	NNFI	CFI	SRMR
EXOGENOUS	231/56	482.57/127.91	0.00/0.00	0.078/0.086	0.96/0.97	0.97/0.98	0.06/0.04
TR & CMIT	19/1	71.84/0.48	0.00/0.49	0.12/0.00	0.96/1	0.97/1	.038/0.024
IT & UT	13/1	27.63/0.087	0.012/0.77	0.084/0.00	0.99/1	0.99/1	0.029/0.0015
FOP & NFOP	8/1	49.99/17.64	0.00/0.00	0.17/0.31	0.93/0.78	0.96/0.96	0.031/0.02
HGI & TET	19/1	33.01/.58	0.024/0.45	0.072/0.00	0.96/1	0.98/1	0.036/.007

Note: EXOGENOUS: reciprocity, transparency, formal and information communication, participative and two-way communication, and cultural sensitivity, TR=trust, CMIT=commitment, IT=integration, UT=utilization, FOP=financial performance, NFOP=non-financial performance, HGI=host government interference, TET=technology turbulence

[1] Numbers before / indicate indices without the partial disaggregation approach.
Numbers after / indicate indices with the partial disaggregation approach.

Summary

This chapter addressed the findings from the data analysis about the sample and the measurement model. Exploratory factor analysis and confirmatory factor analysis were used to find out whether each indicator truly represented each factor. A partial disaggregation approach was used to reduce the parameter constraint for the structural model tests. The next chapter will discuss the procedures for testing the hypotheses and the results.

CHAPTER VI

TESTS OF MODELS AND HYPOTHESES

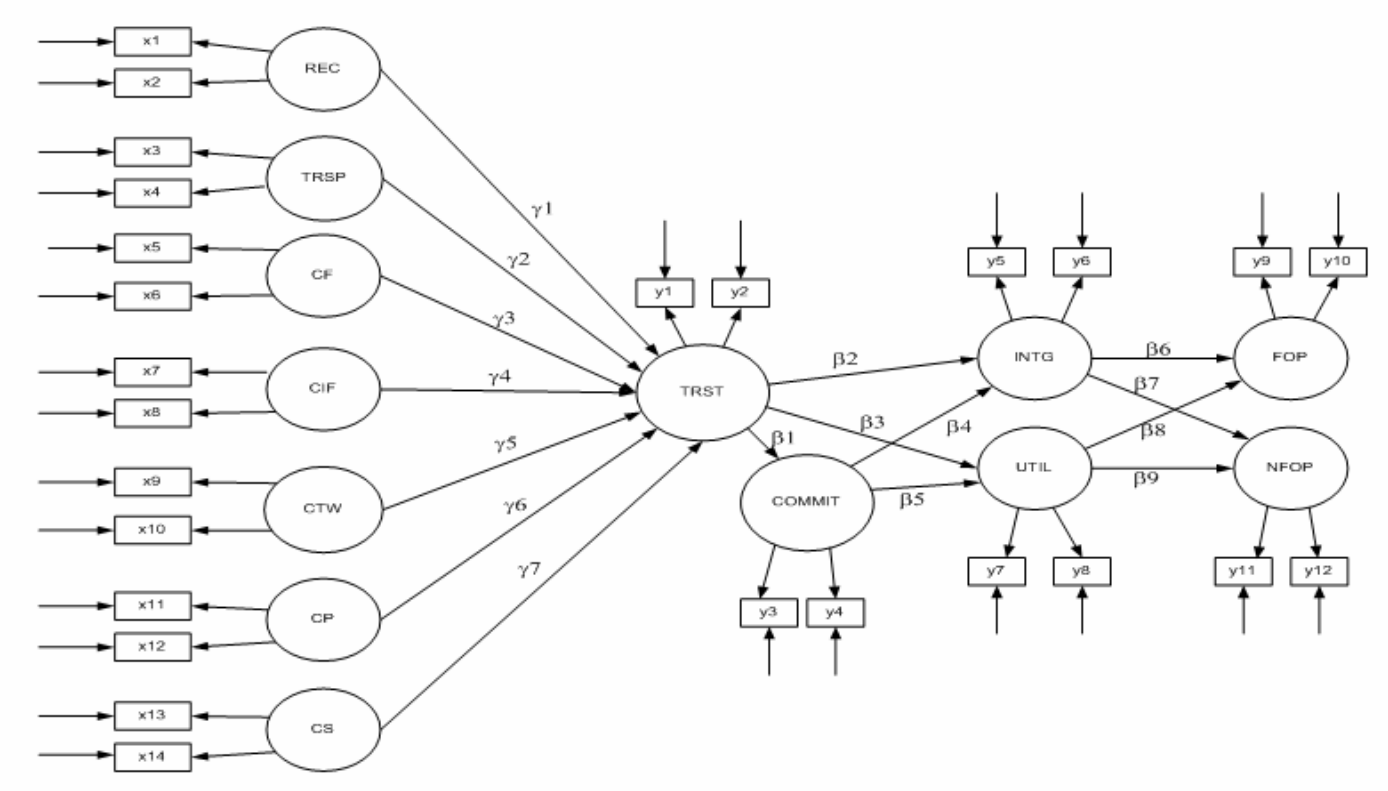
In this chapter, the structural model with the hypotheses was analyzed using LISREL 8.54 with the partial disaggregated indicators specified in Table 13. The model with the proposed hypotheses was presented in Chapter III. The moderating effects of market environment turbulence (i.e., host government interference and technology turbulence) on the relationship between ACE and ISA performance were investigated by multiple regression analysis.

The Structural Model: Tests of Models

The Proposed and First Revised Model

The structural model with the proposed hypotheses in Figure 2 was analyzed by using the measurement model in which the partial disaggregation approach was employed (see Table 13)(Note: this structural model is called the proposed model). Table 20 illustrates the results of the LISREL analysis. Though the analysis results show acceptable fit indices, only six out of sixteen hypotheses were significant ($|t|>2$), which is contrary to expectations given in the alliance and relationship literature as addressed in Chapter II and III. In the next model, a second order factor which underlies reciprocity, transparency, and two-way communication was introduced to further investigate the hypotheses because the three factors loaded highly on the same factor by use of the EFA. The proposed model was revised as shown in Figure 3. This model is called the first revised model. In this model, a second order factor, partial alliance partnership interaction (PAPI) with reciprocity, transparency, and two-way

Figure 2
Tests of the Proposed Model



Note1: REC=reciprocity, TRSP=transparency, CF=formal communication, CIF=informal communication, CTW=two-way communication, CP=participative communication, CS=cultural sensitivity, TRST=trust, COMMIT=commitment, INTEG=integration, UTIL=utilization, FOP=financial performance, NFOP=non-financial performance

Note 2: Correlated error terms for INTG and UTIL and for FOP and NFOP omitted for simplicity.

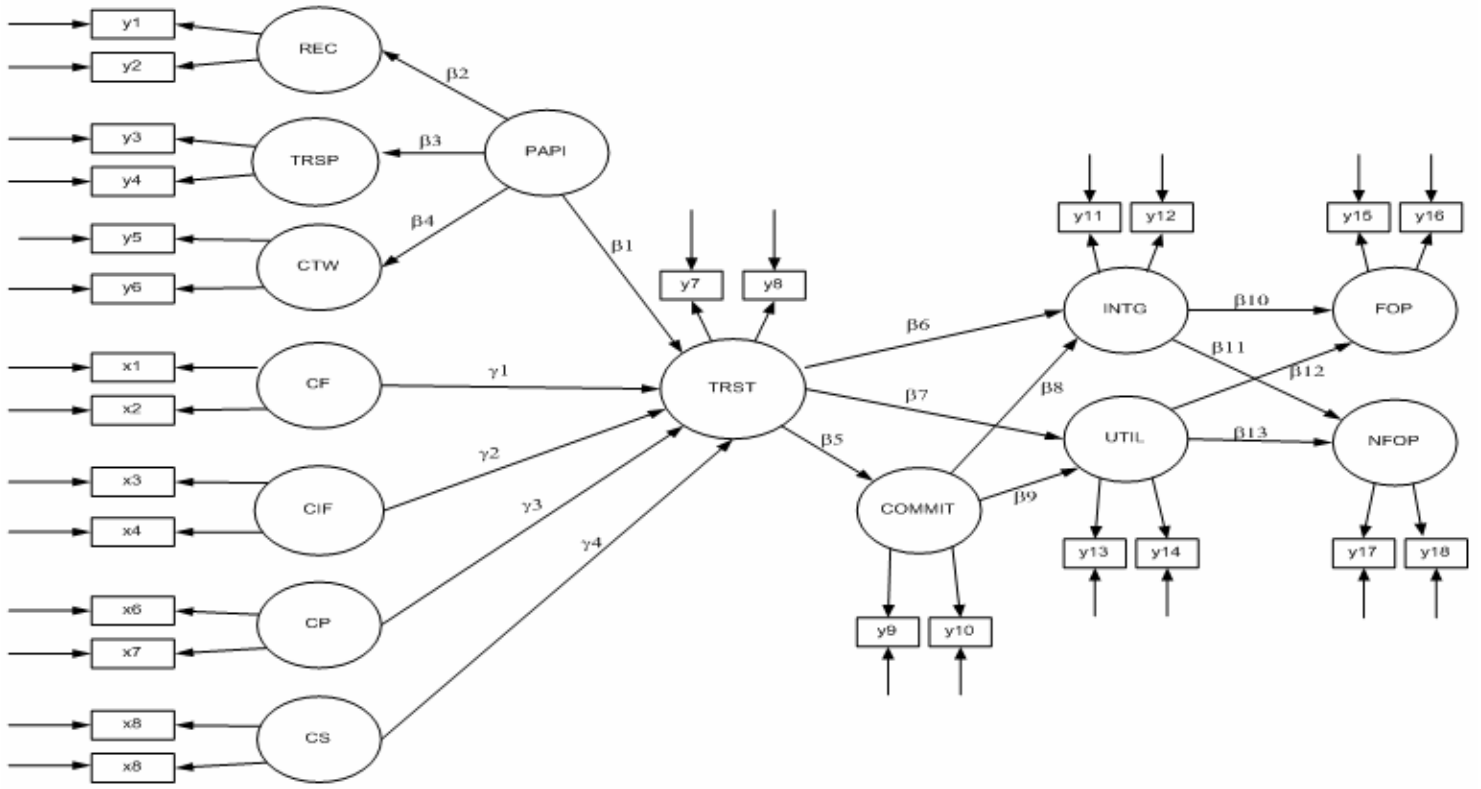
Table 20
Test Results of the Proposed Model

Path	Standardized Estimate	T-Value
Gamma		
Reciprocity → Trust	.100	.968
Transparency → Trust	.672	3.391
Formal Communication → Trust	-.033	-.032
Informal Communication → Trust	-.075	-0.740
Two-way Communication → Trust	.014	.077
Participative Communication → Trust	.127	1.378
Cultural Sensitivity → Trust	.169	1.726
Beta	**Standardized Estimate**	**T-Value**
Trust → Commitment	.932	15.660
Trust → Integration	.577	2.290
Trust → Utilization	.622	2.977
Commitment → Integration	.018	.074
Commitment → Utilization	.210	1.015
Integration → Financial Performance	-.006	-.054
Integration → Non-financial Performance	-.026	-.262
Utilization → Financial Performance	.517	4.618
Utilization → Non-financial Performance	.571	5.338
Chi-square=496.643(df=260, p=.00)		
RMSEA=.07, NNFI=.98, CFI=.99, SRMR=.07		

communication as first order factors, was introduced. It is thus assumed that there is a higher order factor that underlies the three first order factors. Formal, informal, and participative communication, and cultural sensitivity were considered unique factors as indicated by the EFA and CFA analysis. Integration and utilization were also considered separate factors by the CFA analysis as they were in the proposed model. Table 21 reports the results of the first revised model by the LISREL analysis. The goodness of fit statistics produce generally reasonable results: the chi-square =535. 206(df=271, p=.00), the RMSEA=.07, the NNFI= .98, the CFI of .98, and the SRMR=.09).

The effect of PAPI on trust is shown by β1. The relative contributions of reciprocity, transparency, and two-way communication as subdimensions of PAPI are indicated by the standardized parameter estimates, β2, β3, and β4, respectively. Among the three second order factors, transparency has higher contribution to trust than two-way communication and reciprocity (two-way communication contributes more to trust than reciprocity to trust; see standardized estimates in Table 21). However, other exogenous factors (formal, informal, and participative communication, and cultural sensitivity) still do not show significant effects on trust as they did not in the proposed model. Trust significantly affects commitment, integration, and utilization as it did n the proposed model. However, commitment shows the same non-significant effects on integration and utilization contrary to the proposed model. Integration still does not significantly affect financial and non-financial performance. Utilization has significant effects on financial and non-financial performance.

Figure 3
Tests of the First Revised Model



Note1: PAPI=partial alliance partnership interaction, REC=reciprocity, TRSP=transparency, CF=formal communication, CIF=informal communication, CTW=two-way communication, CP=participative communication, CS=cultural sensitivity, TRST=trust, COMMIT=commitment, INTEG=integration, UTIL=utilization, FOP=financial performance, NFOP=non-financial performance

Note 2: Correlations among exogenous factors, PAPI, CF, CIF, CP, and CS omitted for simplicity.

Note 3: Correlated error terms for INTG and UTIL and for FOP and NFOP also omitted for simplicity.

Table 21
Test Results of the First Revised Model

Path	Standardized Estimate	T-Value
Gamma		
Formal Communication → Trust	-.004	-.051
Informal Communication → Trust	.216	-1.919
Participative Communication → Trust	.025	.274
Cultural Sensitivity → Trust	.017	.119
Beta	**Standardized Estimate**	**T-Value**
PAPI → Trust	1.076	4.976
PAPI → Reciprocity	.865	6.296
PAPI → Transparency	.968	13.998
PAPI → Two-way Communication	.928	13.154
Trust → Commitment	.942	17.065
Trust → Integration	.580	2.174
Trust → Utilization	.619	2.854
Commitment → Integration	.040	0.151
Commitment → Utilization	.228	1.055
Integration → Financial Performance	-.005	-.052
Integration → Non-financial Performance	-.026	-.263
Utilization → Financial Performance	.536	4.741
Utilization → Non-financial Performance	.591	5.485

Chi-square=532.206(df=271, p=.00)
RMSEA=.07, NNFI=.98, CFI=.98, SRMR=.09

Note: PAPI=partial alliance partnership alliance

The Second Revised Model

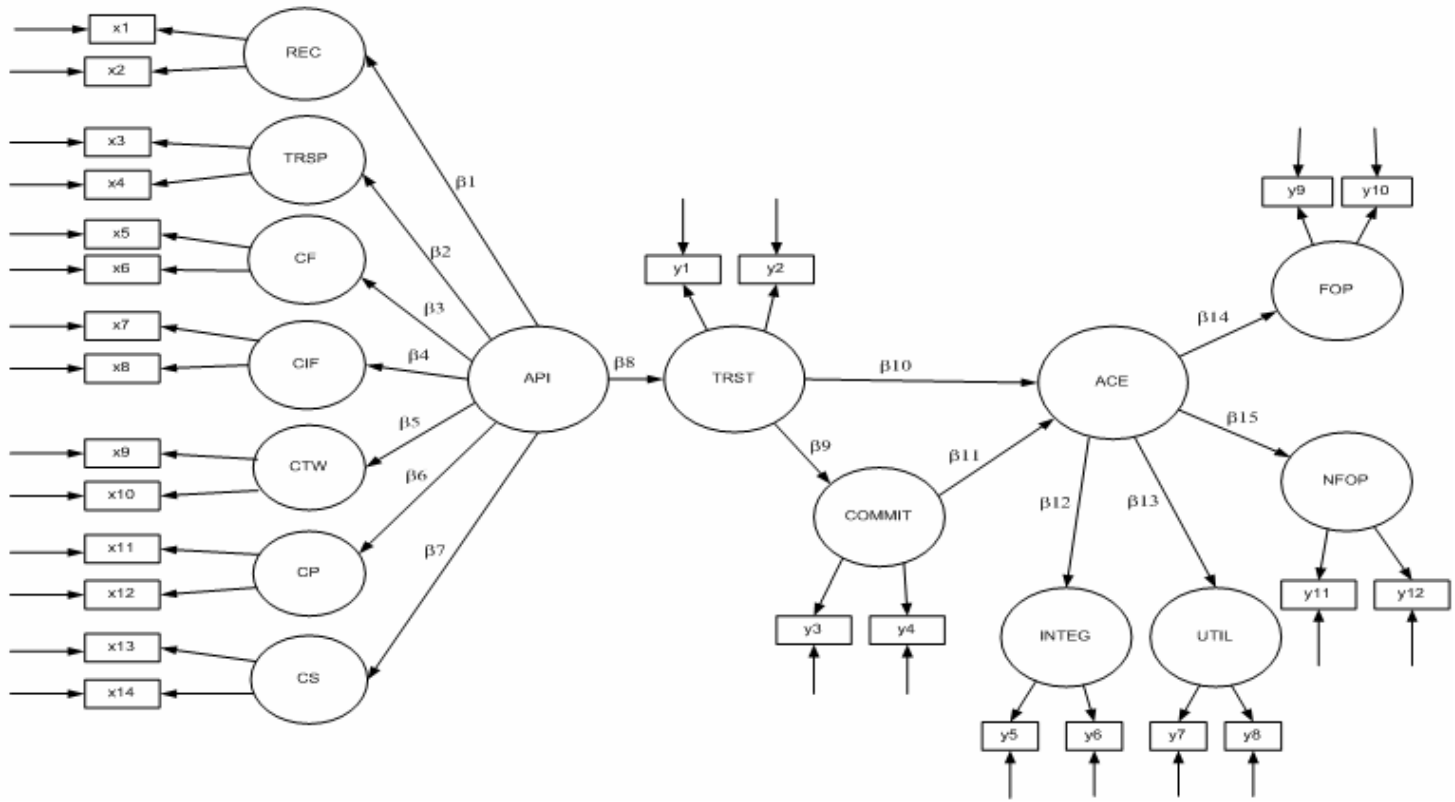
Several points regarding the results of the first revised model analysis are noteworthy. First is the introduction of alliance partnership interaction, API, as the higher order factor that underlies all exogenous factors. PAPI was proposed as the second order factor only for reciprocity, transparency, and two-way communication in the first revised model. The argument that the higher second order factor, API, should include all the exogenous factors as first order factors is based on 1) the high correlations between the exogenous factors (see Table 14), 2) the high correlations of each exogenous factor with trust (see Table 13), and 3) theoretical foundations which may underlie API. The correlations between all the exogenous factors are high such that it is possible that the high correlations (i.e., the multicollinearity between the factors) may hamper the actual effects of formal, informal, and participative communication, and cultural sensitivity on trust, contrary to expectations. The high correlations of each exogenous factor with trust also indicate that all the factors may have one underlying factor, a higher secondary order factor, for them. The alliance and relationship literature also suggest that formal, informal, and participative communication and cultural sensitivity are also important qualities which are necessary between the involved parties or alliance partners to bring positive relationships to them (Anderson and Narus 1990; Fisher et al. 1997; Johnson et al. 1996; Mohr and Spekman 1994; Sarkar et al. 2001[b]). It is, therefore, reasonable to include all of the exogenous factors as the first order factors of a second order factor, API. The second order factor, API, thus, underlies all of the exogenous factors.

The second point that can be made regarding the first revised model results is the introduction of another second order factor that can contain integration and utilization. The CFA analysis indicated that integration and utilization are distinctive factors, but they can be components of the higher order factor, alliance coordination effectiveness (ACE), which allows alliance partners to effectively manage their resources to achieve alliance objectives. Since ACE involves effective cooperation between alliance partners to achieve their objectives (Sivadas and Dwyer 2000), it can underlie integration and utilization. The high correlation between integration and utilization (.70) also indicates that there is an underlying dimension for integration and utilization. Therefore, it can be concluded that integration and utilization correlate highly but as separate factors, which are subdimensions of ACE.

API, thus, has all the exogenous factors as its first order factors. ACE also has integration and utilization as its first order factors. The first revised model has been revised as shown in Figure 4 (this model is called the second revised model). The results of the LISREL analysis based on the second revised model are reported in Table 22. The goodness of fit statistics exhibit generally acceptable fit results except for the SRMR: the chi-square=599. 599(df=285, p=.00), the RMSEA=.07, the NNFI= .97, the CFI=.98, and the SRMR=.115.

In the second revised model, API significantly influences trust as indicated by β8. The relative contributions of the second order factors are indicated by the standardized parameter estimates, β1, β2, β3, β4, β5, β6, and β7. Among these subdimensions of API, transparency (β1), two-way communication (β5), and cultural

Figure 4
Tests of the Second Revised Model



Note1: API=alliance partnership interaction, REC=Reciprocity, TRSP=transparency, CTW=two-way communication, CF=formal communication, CIF-=informal communication, CP=participative communication, CS=cultural sensitivity, TRST=trust, COMMIT: commitment, INTEG=integration, UTIL=utilization, ACE=alliance coordination effectiveness, FOP=financial performance, NFOP=non-financial performance

Note 2: Correlated error term for FOP and NFOP omitted for simplicity.

Table 22
Test Results of the Second Revised Model

Path	Standardized Estimate	T-Value
Beta[1]		
API → Reciprocity	.864	6.276
API → Transparency	.965	13.836
API → Formal Communication	.610	6.625
API → Informal Communication	.749	9.837
API → Two-way Communication	.942	12.214
API → Participative Communication	.745	11.152
API → Cultural Sensitivity	.879	13.182
API → Trust	.932	14.699
Trust → Commitment	.940	17.293
Trust → ACE	.500	2.014
Commitment → ACE	.262	1.066
ACE → Integration	.830	9.361
ACE → Utilization	.978	14.299
ACE → Financial Performance	.561	7.014
ACE → Non-financial Performance	.605	7.798

Chi-square=599.599 (df=285, p=.00)

RMSEA=.07, NNFI=.97, CFI=.97, SRMR=.115

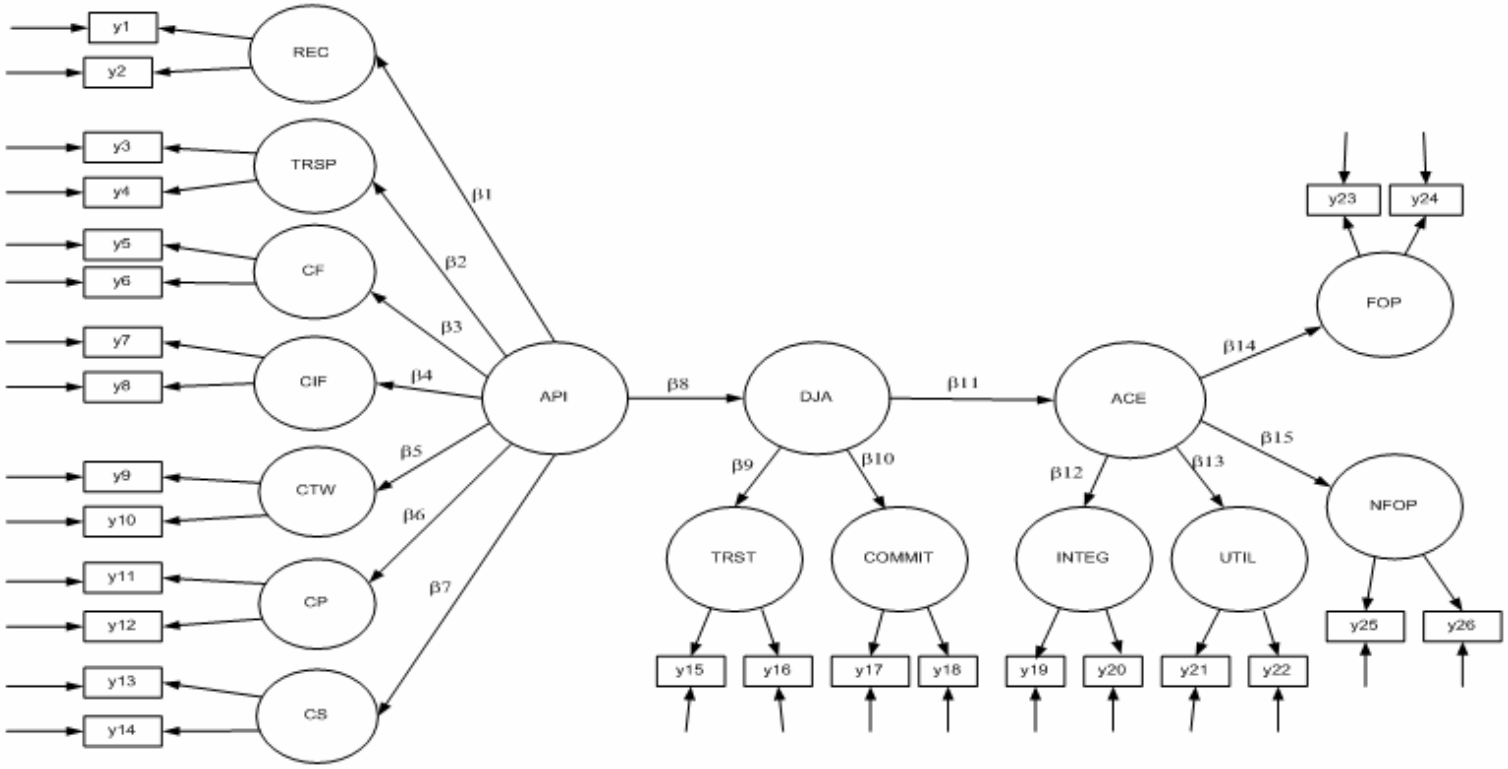
[1] Eta (η) was used for every factor.

Note: API= alliance partnership interaction ACE=alliance coordination effectiveness

sensitivity (β7) show relatively high contributions to trust. Formal communication (β3), informal communication (β4), and participative communication (β6) show relatively low contributions to trust. The higher order factor, ACE, positively influences financial and non-financial performance.

Even in the second proposed model, commitment does not significantly affect ACE. Though commitment has been a well-established and separate construct from trust in the relationship and alliance literature (Dwyer et al. 1987; Gundlach et al. 1995; Morgan and Hunt 1994), trust and commitment turned out to be essentially the same factor in this research (correlation of .91). Their high correlation may prevent the investigation of the correct effects of commitment on integration, utilization, and even ACE. In the relationship marketing literature, both trust and commitment are assumed to be important factors which give positive motivation to act together and encourage alliance partners to work together by cooperating with each other, bringing joint action to exchange partners (Kumar, Scheer, and Steenkamp 1995; Morgan and Hunt 1994; Ruyter, Moorman, and Lemmink 2001). Therefore, a further investigation which has another higher order factor, Desire for Joint Action (DJA) that contains trust and commitment as first order factors, was conducted. The third revised model, Figure 5, thus, has three higher order factors. The results of the LISREL analysis for the third revised model are reported in Table 23. Though the chi-square statistic shows a non-significant result ($\chi^2 = 633.498$, df=286, p=.00) and the RMSMR is a little bit high (.129), the goodness of fit statistics exhibit generally acceptable fit results: the RMSEA=.07, the NNFI=.97, and the CFI=.97.

Figure 5
Tests of the Third Revised Model



Note1: API=alliance partnership interaction, REC=Reciprocity, TRSP=transparency, CTW=two-way communication, CF=formal communication, CIF=informal communication, CP=participative communication, CS=cultural sensitivity, DJA=desire for joint action, TRST=trust, COMMIT=commitment, INTEG=integration, UTIL=utilization, ACE=alliance coordination effectiveness, FOP=financial performance, NFOP=non-financial performance

Note 2: Correlated error term for FOP and NFOP omitted for simplicity.

Table 23
Test Results of the Third Revised Model

Path	Standardized Estimate	T-Value
Beta[1]		
API → Reciprocity	.862	6.293
API → Transparency	.965	13.836
API → Formal Communication	.628	6.832
API → Informal Communication	.768	9.837
API → Two-way Communication	.942	12.046
API → Participative Communication	.758	11.398
API → Cultural Sensitivity	.875	13.078
API → DJA	.815	11.827
DJA → Trust	.968	17.586
DJA → Commitment	.969	19.153
DJA → ACE	.774	10.318
ACE → Integration	.840	10.17
ACE → Utilization	.980	14.698
ACE → Financial Performance	.575	7.258
ACE → Non-financial Performance	.619	8.069

Chi-square=633.498 (df=286, p=.00)

RMSEA=.07, NNFI=.97, CFI=.97 SRMR=.129

[1] Eta (η) was used for every factor.
Note: API=alliance partnership interaction, DJA=Desire for Joint Action
ACE=alliance coordination effectiveness

The difference between the second and third revised model is the introduction of DJA as a higher order factor for trust and commitment as mentioned earlier. All path results are the same between the second and third revised model, but in the third revised model, DJA positively influences ACE and commitment positively contributes to ACE. The third revised model becomes more refined and explains the proposed model, Figure 1, more parsimoniously.

Additional Path Analyses and the Final Model

Three additional relationships (paths) were tested to enhance understanding of how the partnership development factors relate to each other. The additional paths are 1) from alliance partnership interaction (API) to alliance coordination effectiveness (ACE), 2) from Desire for Joint Action (DJA) to financial performance, and 3) from Desire for Joint Action (DJA) to non-financial performance. Each path was added to the third revised model one at a time to test whether it had significant effects. Chi-square differences between the third revised model and a model with each additional path were compared. When there is a significant chi-square difference between the third revised model and the model with each additional path, the path was added to the second revised model in order to generate the final model. Table 24 shows the results of chi-square differences and significance levels based on the chi square differences. The results indicate that only the path from API to DJA is significant, which shows that DJA is a partial mediator between API and ACE. The path was added to the final model, Figure 5. The two other paths were not significant, which indicates that ACE is a mediator

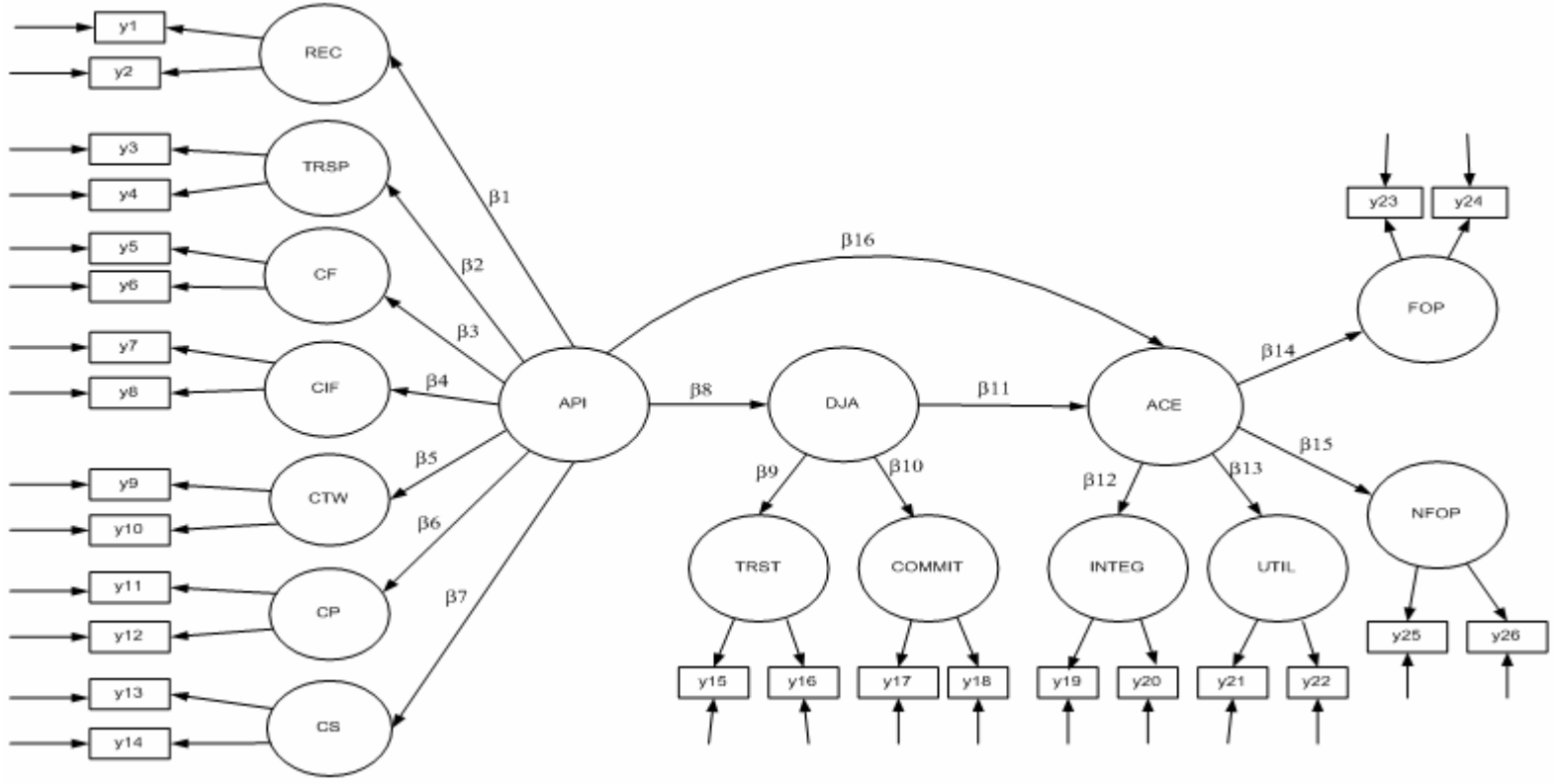
between DJA and financial performance measures. Only the significant path was added to the final model, Figure 5, and the test results of the final model are shown in Table 25.

Table 24
Additional Path Analysis Results

Path	Chi-square Difference	P-Value
API → DJA	17.784	.00
DJA → FOP	3.023	.08
DJA → NFOP	.875	.35

Note: API=alliance partnership interaction, DJA: desire for joint action, FOP=financial performance, NFOP= non-financial performance

Figure 6
Tests of the Final Model



Note1: API=alliance partnership interaction, REC=Reciprocity, TRSP=transparency, CTW=two-way communication, CF=formal communication, CIF=informal communication, CP=participative communication, CS=cultural sensitivity, DJA=desire for joint action, TRST=trust, COMMIT=commitment, INTEG=integration, UTIL=utilization, ACE=alliance coordination effectiveness, FOP=financial performance, NFOP=non-financial performance

Note 2: Correlated error term for FOP and NFOP omitted for simplicity.

Table 25
Test Results of the Final Model

Path		Standardized Estimate	T-Value
Beta[1]			
API →	Reciprocity	.859	6.195
API →	Transparency	.966	13.979
API →	Formal Communication	.638	7.020
API →	Informal Communication	.765	9.363
API →	Two-way Communication	.937	12.263
API →	Participative Communication	.769	11.647
API →	Cultural Sensitivity	.810	13.167
API →	DJA	.815	11.77
DJA →	Trust	.977	17.74
DJA →	Commitment	.961	18.327
DJA →	ACE	.240	2.203
ACE →	Integration	.838	10.382
ACE →	Utilization	.982	14.85
ACE →	Financial Performance	.572	7.215
ACE →	Non-financial Performance	.614	7.973
API →	ACE	.574	4.934

Chi-square=615.714 (df=285, p=.00)

RMSEA=.07, NNFI=.97, CFI=.97, SRMR=.126

[1] Eta (η) was used for every factor.

Note: API=alliance partnership interaction, DJA=Desire for Joint Action, ACE=alliance coordination effectiveness

Moderating Effects of Market Environment Turbulence on the Relationship Between ACE and ISA Performance

The moderating effects of market environment turbulence (i.e., host government interference and technology turbulence) on the relationship between ACE and ISA performance were tested by moderated multiple regression analysis. A multi-group analysis was not conducted because the split number of the collected sample size is only 81, which does not exceed the minimum sample size (N=100) needed for a SEM multigroup analysis (Hair et al. 1998).

A concern regarding the use of the moderated multiple regression analysis is the possible multicollinearity between the interaction terms and other factors. To reduce the problems of the multicollinearity, each scale substituting an interaction term was mean-centered (Cohen, Cohen, West, and Aiken et al. 2003). Mean-centering is a rescaling procedure by which the mean of the predictor is subtracted from each score on the predictor, reducing nonessential multicollinearity in a regression model containing interactions (Cohen et al. 2003).

The predictors (i.e., ACE, host government interference, and technology turbulence) were mean-centered. But each dependent variable (financial and non-financial performance) was not mean-centered (Cohen et al. 2003). In the case of ACE, the composite mean of integration and utilization was mean-centered. Then, the interaction terms were created by multiplying the mean-centered ACE and the mean-centered HGI and TET. The moderating effects of host government interference and technology turbulence on the relationship between ACE and ISA financial performance

(Table 26) and on the relationship between ACE and ISA non-financial performance (Table 27) are reported. As expected, ACE has a significant effect on financial and non-financial performance. However, the interactions between ACE and host government interference and between ACE and technology turbulence do not have significant effects on both financial and non-financial ISA performance.

Table 26
Interaction Effects of ACE and Control Variables on Financial Performance[1]

	Beta	T-Value	P-Value
HGI	.080	1.140	.256
TET	.039	.551	.582
ACE	.463	6.611	.000
ACE x HGI	.110	1.567	.119
ACE x TET	.032	.452	.652

Table 27
Interaction Effects of ACE and Control Variables on Non-Financial Performance[1]

	Beta	T-Value	P-Value
HGI	.109	1.142	.140
TET	-.016	-.218	.828
ACE	.399	5.461	.000
ACE x HGI	.021	.280	.780
ACE x TET	.063	.851	.396

Note: HGI: host government interference,
TET: technology turbulence
ACE: alliance coordination effectiveness
[1] Predictors are mean-centered in Table 26 and 27.

CHAPTER VII

DISCUSSION, IMPLICATIONS, AND CONCLUSION

This final chapter addresses a discussion of the final results, implications for managers and researchers, and future research directions based on the limitations of the study. A brief concluding remark is also presented in the final section.

Discussion of Findings

Research questions in this dissertation were raised by the lack of post-ISA formation issues. These issues include: 1) the need to investigate the factors affecting ISA partnership development, 2) the management of resources contributed by each alliance partner, and 3) the impact of the effective management of resources on ISA performance. The antecedents of trust and the alliance coordination effectiveness (ACE) concept were introduced to address these research questions. Items for each factor (latent variable) were refined by the EFA and CFA. The proposed model in Figure 1 was tested and modified to find out more precise relationships between factors and a more parsimonious model for this study. For example, in the first revised model, the effects of the three first order factors for PAPI (partial alliance partnership interaction), identified by the EFA results on trust, were tested. The introduction of the two higher order factors in the second revised model (i.e., alliance partnership interaction and alliance coordination effectiveness) was based on theoretical foundations that underlie the factors and the correlations between the factors involved. The final model introduced a higher order factor for trust and commitment (i.e., desire for joint action) and an additional significant path from alliance partnership interaction (API) to alliance

coordination effectiveness (ACE) was tested and added. The findings are generally discussed based on the final model.

Exogenous Factors and Trust

The first research question was to investigate how ISA partners develop their relationships after an ISA is formed. This study identified trust as the most important factor necessary for ISA partners to develop for successful relationships. The exogenous factors, that is, reciprocity, transparency, formal and informal communication (communication frequency), two-way and participative communication (communication efficacy), and cultural sensitivity, were proposed as factors influencing the building of trust among ISA partners (Hamel 1991; Kogut 1988; Mohr et al. 1996; Skarmeas et al. 2002). In the proposed model, five paths were significant: from utilization to ISA performance (H1b), from trust to integration (H4a), from trust to utilization (H4b), from transparency to trust (H6), and from trust to commitment (H11). While modifying the model to develop more refined relationships between factors and a more parsimonious model, all of these exogenous factors were proposed as first order factors for the second order factor, alliance partnership interaction (API), in the final model. The rationales behind this argument are that 1) the higher correlations between exogenous factors, 2) the higher correlations of each factor with trust, and 3) theoretical foundations regarding exogenous factors which can underlie one higher order factor based on the alliance and relationship marketing literature. As expected, API positively influenced trust. It is logical to think that ISA partners should have reciprocity, transparency, formal and informal frequent communication, two-way and participative communication, and

sensitivity towards different cultures to establish successful partnerships in order to achieve alliance objectives.

In terms of relative contributions to trust among these factors, however, transparency accounted for the most significant contribution to trust and formal frequent communication contributed the least to trust. Since an ISA involves at least two partners exchanging information, know-how, and ideas, ISA managers might think that the most important factor in developing a successful partnership would be exchanges without guile and distortion and that any activities, intentions, and behaviors between them should be easily understood by each partner in order to create a trusting relationship between them. Though frequent formal communication positively contributed to the development of trust between ISA partners, its lesser contribution to trust compared to other exogenous factors suggests that ISA managers may put little emphasis on formal communication to develop trust. Frequent formal communication can be viewed as hampering flexibility between alliance partners to adapt to changing partnership and market conditions (Fisher et al. 1997). Other factors such as contingent exchanges of resources (reciprocity), feedback and input by partners (two-way communication), understanding different cultures (cultural sensitivity), joint decision making (participative communication), and frequent informal communication are more important to ISA partners in developing an ISA partnership than is frequent formal communication.

The Effects of Trust and Commitment and Desire for Joint Action (DJA) on ACE

The second research question was to investigate how ISA partnership development affects the management of resources contributed by each partner. ISAs are established to acquire resources from the partner firm and to utilize the resources from the partner in order to accomplish their objectives in the market. It is, thus, important to explore how ISA partners effectively manage the resources contributed by its partner firm(s) to achieve their alliance objectives.

Before discussing the effects of trust and commitment on ACE, three points are necessary to facilitate understanding of the test results. The first is that both trust and commitment have been considered as important factors that give motivation to act together and bring positive joint action between alliance partners (Kumar et al. 1995; Morgan and Hunt 1995; Ruyter et al. 2001). The second is the high correlation between trust and commitment (the correlation of .91), which indicates that trust and commitment are practically the same factor in this study although the two factors are distinctive by the CFA analysis. Therefore, a higher order factor, desire for joint action (DJA), that could underlie trust and commitment was introduced. The third is the introduction of a second order factor, alliance coordination effectiveness (ACE), for integration and utilization. ACE had integration and utilization as first order factors because of the high correlation between integration and utilization (.70) and the coordination concept that can underline both integration and utilization. Although both integration and utilization were identified as distinctive factors by use of the EFA and CFA, the high correlation between the two implies that one underlying dimension for both of them may exist. This

underlying dimension may be cooperative activities through which alliance partners try to effectively manage the resources they need to achieve alliance objectives. Therefore, the second order factor, ACE, was proposed. As expected, DJA significantly affected ACE in the final model. ACE positively influenced the two financial performance measures. The impacts of commitment on integration, utilization, and ACE were not significant in the proposed, first, and the second revised model. The high correlation between trust and commitment might obscure the actual effect of commitment on those factors in these models. However, in the final model, DJA positively influenced ACE in which both trust and commitment significantly contributed to DJA.

ACE and ISA Performance

The third research question was to investigate how ISA partners manage resources contributed by each partner and how this activity affects ISA performance. ISA partners share and exchange resources to create a resource base to accomplish their ISA objectives. ISA partners need not only share and exchange their resources but also need to coordinate activities which capitalize on these resources to achieve their strategic goals. To do this, cooperation to effectively manage resources provided by each partner is necessary. As expected, ACE positively and significantly affected both ISA performance measures in the second and third revised and final model[3] . These positive effects indicate that ISA partners can achieve their alliance objectives, whether financial or non-financial performance, when they effectively coordinate (i.e., integrate and

[3] In the proposed and first revised model, only utilization positively and significantly affected the two performance measures. Integration did not significantly affect either measure of performance.

utilize) the resources provided by each partner.

Moderating Effects of Host Government Interference and Technology Turbulence

In addition to the three main objectives of this study, this study investigated whether market environment turbulence (i.e., host government interference and technology turbulence) can moderate the relationship between ACE and ISA performance.

The ISA literature indicates that host government interference can affect the operation of foreign firms and ISAs in the host country (Calantone et al. 2003; Yan 1998). Yet, this study found that the interaction effects of ACE and host government interference on both ISA performance measures were not significant. These non-significant effects indicate that ACE is strong enough to absorb interferences by the host government and that ISA partners can still achieve their objectives by minimizing interferences when they effectively integrate and utilize the resources available to them.

The interaction effects of ACE and technology turbulence on ISA performance were also not significant. These non-significant interaction effects indicate that when ISA partners effectively manage their resources through integration and utilization, they can minimize the impact of technology turbulence on ISA operations. Both the non-significant effects suggest the strong direct impact of ACE on ISA performance.

Mediating Effects of DJA and ACE

Tests for the additional path analyses indicated that alliance partnership interaction (API) directly influences alliance coordination effectiveness (ACE). Desire for joint action (DJA), therefore, partially mediated the relationship between API and

ACE. This partial mediation effect of DJA suggests that the interactions between ISA partners specified in this study can directly influence the sharing, exchanging, and capitalizing on the resources between ISA partners. The non-significant effects of DJA on both financial performance measures indicate that ACE mediates DJA to positively affect ISA performance.

Implications

The results reported in Chapter VI are significant because they explain how ISA partners should develop a trusting relationship to successfully manage ISA resources in order to achieve their objectives. The original model was empirically tested and modified to more precisely investigate the research objectives based on the theoretical foundations and the relationships between factors specified in each model. The modifications, through the introductions of higher order factors, provide more appropriate understanding and interpretation of the findings for the research questions in this study. The findings have implications for both managerial practice and scholarly research as addressed below.

Managerial Implications

General implications for managerial practice largely come from the findings related to what factors are important to build trust in alliance relationships and how ISA partners should coordinate their activities in order to manage the resources contributed by each partner to achieve alliance objectives.

Exogenous Factors and DJA. In order to develop the relationship between ISA partners, ISA managers need to understand what factors are important in developing

interactive relationships. Transparency is more likely to contribute to the development of ISA interaction relationships between ISA partners than any other factor. This implies that informing each other of events or changes affecting ISA partners and exchange and delivery of information, ideas, and know-how without guile or distortion could be the most important factor in alliance partner interactions, which can positively promote an atmosphere in which ISA partners can build trust or commitment. When ISA managers clearly understand activities, intentions, or responses of their partner(s), they are more likely to work together based on trust and commitment. Two-way communication and cultural sensitivity are also relatively important factors. Given that ISAs are formed to acquire and utilize each partner's resources and carry out their strategies through coordination between the partners, ISA managers should stress the need to provide input to their partner(s) and get feedback from them. The importance of cultural sensitivity implies that the understanding of different cultural practices in the operation of ISAs can be a positive alliance interaction, which helps ISAs work together based on trust and commitment.

Another interesting finding arises from the low contribution of formal communication to API. Particularly in ISA contexts, this low contribution implies that ISA managers may put less emphasis on formal communication than on any other interaction addressed in this study.

The above findings suggest that ISA managers should 1) emphasize an ISA partnership in which each partner has a clear understanding of the importance of being transparent, 2) promote an atmosphere of providing feedback or input to each other, and

3) develop a greater level of cultural understanding, in order to establish a higher level of joint working environment. On the other hand, formal communication may need to be less emphasized with regard to promoting a better joint working environment between ISA managers.

Trust, Commitment, and ACE. Once ISA partners establish a joint working environment based on trust and commitment, they can better manage their resources. When ISA managers perceive that they have established a higher level of DJA between them, they are more likely to effectively integrate and utilize the resources provided by each partner. Therefore, it might be desirable for ISA managers to establish DJA through positive interactions if they wish to effectively integrate their resources with those of their partners, resulting in a greater likelihood of effectively implementing their strategies based on the pooled resources.

ACE and ISA Performance. The positive effects of ACE on both ISA performance measures imply that ISA managers should understand the importance of coordinating activities between them. They need to know how to share as well as exchange resources to create a resource base and how to harness the pooled resources to implement and successfully carry out their alliance strategies in the market. When they understand how to coordinate their resource management activities, they can enhance the success of their alliance objectives.

Research Implications

The insights obtained in this research generate several implications that can be applied to the ISA literature and to those who will investigate further the partnership

development processes in the relationship marketing area.

Many researchers have indicated that the ISA literature has not focused much on how ISA partners develop their relationships and how the partners can successfully accomplish their objectives (Gulati et al. 1994; Yan 1998). This study integrated and synthesized various exogenous factors that could help ISA partners develop a relationship in which ISA partners can work together based on trust and commitment. The factors were extensively investigated and one higher order factor (API: alliance partnership interaction) that underlies all the factors was proposed and empirically tested related to other ISA relationship factors. The results of this study regarding the relative contributions of the exogenous factors to DJA can provide researchers theoretical foundations by which the researchers can conceptualize the factors influencing the development of effective partnerships in various interorganizational contexts.

The higher correlation between trust and commitment suggests the need for further examination of the relationship between trust and commitment. Since trust and commitment have been addressed as separate and distinctive factors, marketing researchers need to clearly conceptualize trust and commitment in different research settings to understand whether they are practically the same or different factors and to what extent they are same or different.

The concept of ACE was conceptually developed to provide the theoretical foundation for coordination processes related to resource management in an ISA context. The two related but different dimensions of ACE, i.e., integration and utilization, can provide a theoretical foundation for coordination related to effective resource

management in the alliance context. By empirically demonstrating the importance of integration and utilization concepts, this study will encourage marketing researchers to explore these concepts in other interorganizational contexts.

In order to empirically test exogenous factors, a number of new scales for these factors were developed (e.g., reciprocity, transparency, integration, and utilization). Although scale development was not a primary purpose of this research, the new scales could be used in subsequent research to substantiate the arguments proposed in this study. Researchers can replicate these scales in different interorganizational relationship marketing areas, such as, buyer-seller relationships or domestic alliance relationships, thereby validating these scales.

Although this research attempted to understand how ACE affects the financial and non-financial measures of ISA performance, it could not identify any significant differences in terms of the impact of ACE on these two measures. Further research addressing the question of the differentiation of these two measures and how other independent factors might influence them would enrich the understanding of ISA performance.

Limitations and Directions for Future Research

Some of the possible limitations of this study are noted and addressed in this section. The limitations, interestingly, provide several research opportunities for investigation.

Response Rate

The responses in the web survey were individuals who are/were involved in

the international operations of their firms. However, the response rate from the web survey was low (4.3%), generating only 143 responses, suggesting that the responses that were obtained might have been biased although non-response bias was not statistically identified. The low response rate may have been caused by a long questionnaire (six pages) or by not clearly defining the target sample (i.e., the target sample was those who are/were involved in international operations of their firms). If the target sample could have been chosen more precisely (i.e., those who are/were involved in ISAs) and the questionnaire had been shorter, the response rates may have been higher, which could have allowed the results of this study to be generalized to a broader population (Note: The relative higher response rate (14.1%) from Group 4, which consisted of alliance organization members, somewhat supports this argument). Additional research based on a larger sample size would possibly substantiate the findings of this study (e.g., as way of increasing the sample size and response rate, the researcher could attend an ISA- related conference and have attendees complete the survey instrument).

One objective of this study was to find out whether there would be any differences in responses by those who are/were involved in equity ISAs and those involved in non-equity ISAs. However, the small sample size of equity ISAs (N=38) prevented comparisons of the responses from them with those of non-equity ISAs through the use of SEMs. Therefore, future research with a large sample of equity and non-equity ISAs would be helpful in learning whether there are any differences in their partnership development process and the impact of this development process on their

performance.

R***esearch Context***

One future research avenue related to ISAs is the investigation of the theoretical aspects addressed in this study in different types of alliances, such as, exploitation and exploration alliances (March 1991; Rothaermel 2001) or vertical and horizontal alliances (Rindfleish and Moorman 2003). It would be interesting to investigate how ISA partners develop their relationships to accomplish their objectives in different types of ISAs. Since the objectives or formations of these alliances may differ, the partnership development processes may vary depending on the types of alliances. Such research would extend and enrich the findings of this study.

Another research avenue related to the research context is the partnership development process in different industries. As indicated by Varadarajan and Cunningham (1995), the theories developed in this study could be applied to various industries in which ISAs are involved, such as, manufacturing or services or more specific industries (e.g., telecommunication, pharmaceutical, or hotel). Questions that could be investigated are 1) how does the partnership evolve in different industries? 2) what partnership factors are the most important? 3) how do ISAs manage their resources in different industries? 4) how does the development and resource management in different industries affect ISA performance? If ISAs are different in their partnership development and resource management, how are they different and why? All of these questions will extend, verify or modify the findings of this study.

Methodological Issues

Several measurement scales were developed specifically for this study (e.g., reciprocity, transparency, integration, and utilization). Though these measurement scales showed acceptable levels of reliability and validity, they need to be replicated in different research settings in order to validate whether they can be applied to those settings. Further research is especially required to refine the integration items. This study used only two integration items because three out of the original five integration items loaded highly on utilization. Therefore, before replicating and using integration scale items in other contexts, the scale items need to be developed and refined to correctly reflect the concept of integration as specified in this study.

Another scale-item issue is the high correlation between trust and commitment. The high correlation between the two implies that the scale items need to be reexamined and refined before they are used in other research contexts so as not to cause any interpretation problems. Because they have been identified as different concepts in past research, further examination and refinement of these items is necessary.

Unit of Analysis

The responses for this research came from only American managers. The responses from only one partner side may not accurately reflect the partnership development processes after the ISA is established. Because at least two country managers are involved in the operations of an ISA, it would be more realistic and perhaps informative to interpret the findings of a study when the responses came from all the mangers involved in the ISA. Therefore, another research avenue would be to

study the partnership development process and its performance implications from the multiple perspectives of different country ISA managers.

Conclusion

By developing and testing a model of partnership development and its implications for performance in an ISA context, this study added to the theoretical and managerial contributions to the growing ISA research stream. The results show that 1) partnership interactions positively influence the building of an atmosphere in which ISA partners can act together based on trust and commitment, 2) the building of the cooperative atmosphere promotes effective management of resources contributed by each ISA partner through coordinated activities (i.e., integration and utilization), and 3) the coordinated activities positively influence ISA performance.

In globalizing market situations, it is necessary for firms to cooperate with firms in other countries via alliances in order to remain competitive in the market. It is expected that the theoretical foundations and managerial implications addressed in this study will contribute to enhancing the understanding of ISAs and might help to increase the number of ISAs that are considered to be successful.

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APPENDIX A

WEB SURVEY QUESTIONNAIRE

Texas A&M University

A Web Survey of International Strategic Alliances/Joint Ventures

Dear Sir/Madam,

This is a web survey for Young-Tae Choi's **doctoral dissertation**, which investigates how **international (strategic) alliances** (**ISAs**: international joint ventures, international joint marketing agreement, international licensing, etc.) effectively develop their partnerships and achieve their objectives.

We would very much appreciate it if either you or another individual in your firm who knows the operations of your firm's ISAs would participate in this survey. The survey will take approximately 10-15 minutes to complete. Participation is voluntary and does not have any potential risk for you. Your responses will be held in strict confidence and all data will be aggregated prior to analysis. In other words, neither you nor your firm will be identified in any discussions of the findings.

In appreciation of your participation, **a $2 per returned response** will be donated to either **UNICEF (United Nations Children's Fund)** or **the American Cancer Society** based on your preference. In addition, **a summary of the results** will be available to those who request it.

We truly appreciate your completion of this survey. If you have any questions, please feel free to call (979) 845-6084 or email ytchoi@cgsb.tamu.edu.

Sincerely,

Young-Tae Choi
Ph.D. Candidate in Marketing and
Project Coordinator
Phone: 979-845-6084
Email: ytchoi@cgsb.tamu.edu

Dr. Richard T. Hise
Professor of Marketing and
Project Advisor
Phone: 979-845-5807
Email: dick-hise@tamu.edu

Begin Survey
Click here

Directions: In answering the following questions, please refer to the most recent international strategic alliance (ISA) for which you can evaluate whether or not the objectives established for it were achieved.

Note:
1. An international strategic alliance (ISA) is a cooperative interfirm organization between two or more different country firms to achieve their strategic objectives by pooling their resources or skills.
2. The international strategic alliance still exists or no longer exists.

1. Please indicate the type of international strategic alliance your firm was (is) involved in. Please check the one (either equity or non-equity) that best represents the type of international strategic alliance.

1)	International joint venture(equity international strategic alliance)	○
2)	Non-equity international strategic alliance(Licensing, Joint marketing, R&D collaboration, Supply agreement, Consortium, etc)	○

If you chose number 1), approximately what is (was) your firm's equity share in the joint venture?
[ ] %

If you chose number 2), what specific type of non-equity international strategic alliance is (was) it (please check one) ?

Licensing	○
Joint marketing	○
R&D collaboration	○
Supply agreement	○
Consortium	○
Other	○

Please select the number that best describes your international strategic alliance experience.

	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
Our firm and the partner firm(s) always pay each	○	○	○	○	○	○	○

other back when one party gets help from the other(s).							
There is a give and take relationship between our firm and the partner firm(s).							
If the partner firm(s) takes into account our firm's needs and wants, we will consider its needs and wants.							
Resource exchanges between the partner firms are fair.							
Our firm and the partner firm(s) deliver necessary information in an understandable manner to each other.							
Our firm and the partner firm(s) understand each other's intentions and behaviors.							
Our firm and the partner firm(s) always keep each other informed about events or changes that may affect the other party.							
It is expected that any information that might help the other party will not be withheld.							
Exchange of information between the partner firms takes place frequently in formal meetings.							
It is always possible to have a formal meeting with the partner firm(s).							
Extensive formal							

communications occur frequently between the partner firms.							
Exchange of information between the partner firms takes place frequently and informally(e.g., hallway talk, telephone, emails, etc).							
It is always possible to have an informal meeting with the partner firm(s).							
Extensive informal communications occur frequently.							
Our firm and the partner firm(s) provide a lot of timely feedback about each other's decisions and strategies.							
Our firm and the partner firm(s) always respond to each other's communications in a timely and effective manner.							
Our firm and the partner firm(s) encourage each other to express views fully and openly.							
Our firm and the partner firm(s) participate in alliance goal setting together.							
Our firm and the partner firm(s) are jointly involved in alliance planning efforts.							
Our firm and the partner firm (s) seek each other's advice and counsel concerning alliance market strategies.							

Our firm and the partner firm(s) are sensitive to each other's culture and ways of doing business.							
Our firm and the partner firm(s) are willing to adapt to each other's ways of doing business.							
Our firm and the partner firm(s) work hard to familiarize ourselves with each other's culture.							
Different cultures from each partner's country are very much appreciated by the partner firm(s).							
The partner firm(s) never acts opportunistically for its own benefit.							
The partner firm(s) keeps the promises it makes to our firm.							
A high level of trust generally characterizes the relationship with the partner firm(s).							
The partner firm(s) is trustworthy.							
Our firm and our partner firm(s) are very committed to each other.							
Our firm and the partner firm(s) are willing to dedicate whatever people and resources it takes to make this alliance a success.							
Our alliance deserves our maximum effort to maintain it.							

Our firm and the partner firm(s) really care about the fate of the alliance.							

Please select the number that best describes your opinion regarding resource management between your firm and your partner firm(s).

	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
Our firm and the partner firm(s) share a lot of market information.							
Our firm and the partner firm(s) exchange a great deal of market information.							
Our firm and the partner firm(s) are cooperative in transferring necessary resources.							
Our firm's resources are well integrated with the partner firm's resources.							
The integration of each partner's resources is effectively facilitated between the partner firms.							
Our firm and the partner firm(s) efficiently allocate alliance resources.							
Our firm and the partner firms(s) give a high priority to the joint implementation of coordinated market strategies.							
Our firm and the partner firm(s) effectively capitalize on alliance resources.							
Our firm effectively implements its strategies with our partner firm(s).							
Decision-making processes regarding the effective use of alliance resources are well coordinated between our firm and the partner firm(s).							

Please check the number that best describes various aspects of market(s) in which your alliance operates.

	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
The host country government frequently intervenes in the operation of the ISA.	○	○	○	○	○	○	○
The host country government frequently changes its policies about the ISA after the ISA was formed.	○	○	○	○	○	○	○
ISA market strategies often have to be modified due to host government policy changes about the ISA.	○	○	○	○	○	○	○
Host government policies favor the local firm partner.	○	○	○	○	○	○	○
The technology in our industry changes rapidly.	○	○	○	○	○	○	○
A large number of new product ideas have been made possible through technological breakthroughs in our industry.	○	○	○	○	○	○	○
Technological developments in our industry are major in scope.	○	○	○	○	○	○	○
Technological changes provide numerous opportunities for our alliance.	○	○	○	○	○	○	○

The following questions are related to your firm's financial and non-financial objectives and performance.

1. What was (were) the financial objective(s) your firm wanted the international strategic alliance to achieve? Please check all that apply.

Sales growth	☐
Market share	☐
Lower production cost	☐
Profitability	☐
Other	☐

2. What was (were) the non-financial objective(s) your firm wanted to achieve in the international strategic alliance? Please check all that apply.

Acquisition of partner technology	☐
Use of partner distribution channel(s)	☐
Acquisition and use of partner marketing skills	☐
Acquisition and use of partner's knowledge of foreign markets	☐
Improvement of product quality manufacturing process	☐
Improvement of product design	☐
Providing better service for customers	☐
Overcoming foreign government barriers	☐
Entering a new foreign market	☐
Other	☐

Regarding the above non-financial objective(s),	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
Our firm has accomplished its non-financial objectives.	○	○	○	○	○	○	○

Our firm is satisfied with its non-financial performance.	○	○	○	○	○	○	○
Overall, the strategic non-financial goals of our firm were successfully achieved.	○	○	○	○	○	○	○

Please answer the following questions about you and your company. Your answers will be used for statistical purposes only and will be kept strictly confidential.

What are the approximate annual sales of your company?	$
What is the approximate percentage of sales from abroad?	%
What is your current position?	
How long has (was) the international strategic alliance been operating?	years months
How long did you work or have you been working (or involved) in this international strategic alliance?	years months

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Thanks you for your participation! Please select one of the following charities that you would like to donate a $2.00 from us in appreciation of your effort.

American Cancer Society	○
UNICEF(United Nations Children's Fund)	○

Please provide your email address in the box below if you would like to receive a summary of this research.

Your email address:

Submit

Thank for your help and participation!!

APPENDIX B

CONFIRMATORY FACTOR ANALYSIS WITHOUT THE PARTIAL DISAGGREGATION APPROACH

Correlations, Means and Standard Deviations Among Exogenous Factors Without the Partial Disaggregation Approach

	RC1	RC2	RC3	RC4	TP1	TP2	TP3	TP4	CW1	CW2	CW3
C1	1										
RC2	0.454	1									
RC3	0.423	0.457	1								
RC4	0.311	0.552	0.396	1							
TP1	0.269	0.477	0.215	0.571	1						
TP2	0.291	0.418	0.279	0.601	0.678	1					
TP3	0.432	0.431	0.194	0.500	0.673	0.667	1				
TP4	0.395	0.466	0.263	0.431	0.548	0.492	0.573	1			
CW1	0.340	0.487	0.257	0.461	0.480	0.564	0.576	0.548	1		
CW2	0.382	0.415	0.255	0.459	0.648	0.525	0.606	0.599	0.638	1	
CW3	0.223	0.442	0.388	0.436	0.438	0.449	0.485	0.587	0.641	0.639	1
CF1	0.157	0.134	0.055	0.093	0.270	0.307	0.394	0.242	0.389	0.301	0.224
CF2	0.213	0.072	0.093	0.083	0.249	0.189	0.262	0.294	0.273	0.307	0.282
CF3	0.219	0.132	0.044	0.127	0.330	0.373	0.483	0.285	0.418	0.305	0.219
CI1	0.228	0.383	0.229	0.370	0.479	0.478	0.472	0.455	0.513	0.459	0.424
CI2	0.262	0.263	0.216	0.303	0.453	0.408	0.411	0.360	0.462	0.513	0.448
CI3	0.157	0.269	0.203	0.336	0.405	0.352	0.427	0.401	0.468	0.526	0.483
CP1	0.218	0.265	0.132	0.244	0.383	0.413	0.425	0.481	0.580	0.423	0.470
CP2	0.223	0.349	0.179	0.304	0.460	0.412	0.500	0.519	0.576	0.456	0.430
CP3	0.302	0.446	0.293	0.428	0.494	0.495	0.541	0.468	0.605	0.553	0.509
CS1	0.298	0.416	0.268	0.505	0.532	0.629	0.494	0.543	0.563	0.513	0.532
CS2	0.383	0.440	0.284	0.547	0.567	0.619	0.567	0.535	0.530	0.581	0.440
CS3	0.378	0.371	0.245	0.468	0.452	0.576	0.568	0.552	0.547	0.483	0.485
CS4	0.444	0.443	0.345	0.477	0.440	0.556	0.578	0.554	0.523	0.546	0.466
MEAN	4.161	4.87	5.519	5.087	5.179	4.914	4.63	5.26	4.303	4.667	5.216
SD	1.834	1.68	1.406	1.48	1.378	1.586	1.572	1.582	1.627	1.487	1.377

Note: RC=reciprocity, TP=transparency, CW=two-way communication, CF= formal communication, CI= informal communication, CP= participative communication, CS=cultural sensitivity

Correlations, Means and Standard Deviations Among Exogenous Factors Without the Partial Disaggregation Approach (Continued)

	CF1	CF2	CF3	CI1	CI2	CI3	CP1	CP2	CP3	CS1	CS2	CS3	CS4
RC1													
RC2													
RC3													
RC4													
TP1													
TP2													
TP3													
TP4													
CW1													
CW2													
CW3													
CF1	1												
CF2	0.385	1											
CF3	0.615	0.465	1										
CI1	0.164	0.122	0.365	1									
CI2	0.266	0.495	0.262	0.508	1								
CI3	0.279	0.167	0.308	0.707	0.652	1							
CP1	0.476	0.393	0.453	0.379	0.375	0.358	1						
CP2	0.478	0.387	0.493	0.394	0.389	0.402	0.831	1					
CP3	0.448	0.303	0.424	0.453	0.412	0.424	0.675	0.740	1				
CS1	0.251	0.224	0.289	0.411	0.426	0.349	0.463	0.454	0.520	1			
CS2	0.234	0.192	0.264	0.417	0.430	0.380	0.360	0.372	0.485	0.775	1		
CS3	0.286	0.199	0.368	0.377	0.331	0.350	0.449	0.477	0.542	0.690	0.724	1	
CS4	0.252	0.304	0.323	0.310	0.346	0.334	0.355	0.428	0.539	0.641	0.678	0.726	1
MEAN	4.704	4.611	4.37	5.173	5.124	4.093	4.728	4.833	4.624	5.037	4.451	4.722	4.494
SD	1.595	1.837	1.588	1.551	1.667	1.595	1.634	1.605	1.668	1.499	1.541	1.505	1.605

Note: RC=reciprocity, TP=transparency, CW=two-way communication, CF= formal communication, CI= informal communication, CP= participative communication, CS=cultural sensitivity

Correlation, Standard Errors, and T-Values Among Exogenous Factors Without the Partial Disaggregation Approach[1]

	REC	TRSP	CTW	CF	CIF	CP	CS
REC	1.00						
TRSP	0.79	1.00					
	(0.05)						
	15.99						
CTW	0.74	0.86	1.00				
	(0.06)	(0.04)					
	12.94	23.55					
CF	0.23	0.57	0.52	1.00			
	(0.1)	(0.07)	(0.08)				
	2.36	7.95	6.87				
CIF	0.51	0.65	0.73	0.45	1.00		
	(0.08)	(0.06)	(0.05)	(0.08)			
	6.54	11.02	14.13	5.54			
CP	47	0.65	0.71	0.68	0.54	1.00	
	(0.08)	(0.05)	(0.05)	(0.06)	(0.07)		
	6.16	11.91	13.92	11.68	8.11		
CS	0.73	0.83	0.77	0.43	0.54	0.58	1.00
	(0.05)	(0.04)	(0.04)	(0.08)	(0.07)	(0.06)	
	13.37	22.78	17.27	5.5	7.98	9.69	

Note: REC=reciprocity, TRSP=transparency, CTW=two-way communication
CF=formal communication, CIF=informal communication,
CP=participative communication, CS=cultural sensitivity

[1] Numbers in parentheses are standard errors.

Correlations, Means, and Standard Errors Among Trust and Commitment Without the Partial Disaggregation Approach

	TRST1	TRST2	TRST3	TRST4	CMIT1	CMIT2	CMIT3	CMIT4
TRST1	1.000							
TRST2	0.628	1.000						
TRST3	0.645	0.780	1.000					
TRST4	0.639	0.767	0.911	1.000				
CMIT1	0.615	0.694	0.829	0.819	1.000			
CMIT2	0.662	0.608	0.691	0.706	0.741	1.000		
CMIT3	0.483	0.501	0.599	0.616	0.610	0.626	1.000	
CMIT4	0.518	0.650	0.778	0.751	0.826	0.714	0.663	1.000
MEAN	3.852	4.784	4.889	5.056	4.735	4.346	5.204	5.185
S.D	1.742	1.543	1.615	1.553	1.656	1.721	1.462	1.525

Note: TRST= trust, CMIT= commitment

Correlation, Standard Error, and T-Value Among Trust and Commitment Without the Partial Disaggregation Approach[1]

	Trust	Commitment
Trust	1.00	
Commitment	0.91	1.00
	(0.02)	
	48.52	

[1]Number in parenthesis indicates standard error

Correlations, Means, and Standard Errors Among Integration and Utilization Without the Partial Disaggregation Approach

	INTEG1	INTEG2	UTIL1	UTIL2	UTIL3	UTIL4	UTIL5
INTEG1	1.000						
INTEG2	0.924	1.000					
UTIL1	0.490	0.533	1.000				
UTIL2	0.604	0.683	0.716	1.000			
UTIL3	0.541	0.606	0.812	0.772	1.000		
UTIL4	0.531	0.599	0.715	0.706	0.761	1.000	
UTIL5	0.546	0.628	0.715	0.734	0.809	0.762	1.000
MEAN	4.630	4.448	4.235	4.457	4.370	4.531	4.309
S.D	1.540	1.577	1.481	1.584	1.440	1.441	1.497

Note: INTEG=integration, UTIL=utilization

Correlation, Standard Error, and T-Value Among Integration and Utilization Without the Partial Disaggregation Approach[1]

	Integration	Utilization
Integration	1.00	
Utilization	0.68	1.00
	(0.05)	
	14.81	

[1]Number in parenthesis indicates standard error

Correlations, Means, and Standard Errors Among Performance Factors Without the Partial Disaggregation Approach

	FOP1	FOP2	FOP3	NFOP1	NFOP2	NFOP3
FOP1	1.000					
FOP2	0.749	1.000				
FOP3	0.748	0.680	1.000			
NFOP1	0.665	0.523	0.516	1.000		
NFOP2	0.596	0.641	0.588	0.818	1.000	
NFOP3	0.661	0.547	0.558	0.896	0.849	1.000
MEAN	4.189	3.994	4.521	4.767	4.528	4.622
S.D.	1.673	1.602	1.709	1.458	1.523	1.502

Note: FOP=financial performance, NFOP=non-financial performance

Correlation, Standard Error, and T-Value Among Performance Factors Without the Partial Disaggregation Approach[1]

	Financial Performance	Non-financial Performance
Financial Performance	1.00	
Non-financial Performance	0.74	1.00
	(0.04)	
	17.62	

[1]Number in parenthesis indicates standard error

Correlations, Means, and Standard Errors Among Control Variables

	HGOV1	HGOV2	HGOV3	HGOV4	TECH1	TECH2	TECH3	TECH4
HGOV1	1.000							
HGOV2	0.697	1.000						
HGOV3	0.632	0.863	1.000					
HGOV4	0.452	0.455	0.442	1.000				
TECH1	-0.039	-0.078	0.025	-0.053	1.000			
TECH2	-0.124	-0.085	0.006	-0.059	0.662	1.000		
TECH3	-0.047	-0.101	-0.020	0.042	0.596	0.775	1.000	
TECH4	-0.054	-0.069	-0.016	-0.018	0.534	0.721	0.768	1.000
MEAN	2.358	2.167	2.333	3.494	4.838	4.925	4.869	4.801
S.D	1.754	1.557	1.600	1.909	1.762	1.659	1.654	1.701

Note: HGOV=host government interference, TECH=technology turbulence

Correlation, Standard Error, and T-Value Among Control Variables[1]

	Host Government Interference	Technology Turbulence
Host Government Interference	1.00	
Technology Turbulence	-0.08	1.00
	(0.08)	
	-0.99	

[1] Number in parenthesis indicates standard error

Factor Loadings Among Each Indicator and a Factor 1a [1]

	REC		TP		CF		CIF		CTW		CP		CS		TRST
REC1	6.89	TP1	12.14	CF1	8.29	CIF1	10.04	CTW1	11.12	CP1	13.40	CS1	12.89	TRST1	9.72
REC2	10.05	TP2	11.61	CF2	6.50	CIF2	9.17	CTW2	11.08	CP2	15.45	CS2	13.75	TRST2	12.51
REC3	7.41	TP3	12.17	CF3	9.65	CIF3	13.8	CTW3	11.14	CP3	11.39	CS3	12.81	TRST3	16.29
REC4	8.13	TP4	8.88									CS4	11.73	TRST4	15.94

Note: REC=reciprocity, TP=transparency, CF=formal communication, CIF=informal communication, CTW=two-way communication**,** CP=participative communication, CS=cultural sensitivity, TRST=trust

Factor Loading Among Each Indicator and a Factor 1b[1]

	CMIT		INTEG		UTIL		FOP		NFOP		HGI		TECH
CMIT1	14.42	INTEG1	15.46	UTIL1	13.41	FOP1	14.02	NFOP1	15.41	HGI1	10.43	TECH1	9.69
CMIT2	12.2	INTEG2	17.09	UTIL2	12.94	FOP2	12.24	NFOP2	14.1	HGI2	15.83	TECH2	13.71
CMIT3	10.2	INTEG3	9.16	UTIL3	15.34	FOP3	12.22	NFOP3	16.45	HGI3	14.11	TECH3	14.07
CMIT4	14.53	INTEG4	7.86	UTIL4	12.99			NFOP4		HGI4	6.42	TECH4	12.67
		INTEG5	8.34	UTIL5	13.82								

Note: CMIT=commitment, INTEG=integration, UTIL=utilization, FOP= financial performance, NFOP=non-financial performance, HGI=host government interference, TECH=technology turbulence

[1] Numbers represent t-value between each indicator and a factor

VITA

YOUNG-TAE CHOI
The Preserve at Arbor Lakes #209
10150 Belle Rive Blvd. E.
Jacksonville, FL 32256

Current Employment

University of North Florida, August 2004
Assistant Professor of Marketing

Education

Ph.D. Texas A&M University, August 2004
- Major in Marketing

M.S. Texas A&M University, August 1999
- Major in Marketing

M.A. Pusan National University, Pusan, Korea, February 1988
- Major in English Literature

B.A. Pusan National University, Pusan, Korea, February 1985
- Major in English Literature