

## **Terms of Use**

The copyright of this thesis is owned by its author. Any reproduction, adaptation, distribution or dissemination of this thesis without express authorization is strictly prohibited.

All rights reserved.

**GOAL INTERDEPENDENCIES AND OPPORTUNISM  
FOR SUPPLY CHAIN PARTNERSHIP IN CHINA**

**WU LANJUN**

**MPHIL**

**LINGNAN UNIVERSITY**

**2008**

**GOAL INTERDEPENDENCIES AND OPPORTUNISM  
FOR SUPPLY CHAIN PARTNERSHIP IN CHINA**

**by  
Wu Lanjun**

**A thesis  
submitted in partial fulfillment  
of the requirements for the Degree of  
Master of Philosophy in Business  
(Management)**

**Lingnan University**

**2008**

## **DECLARATION**

I declare that this is an original work based primarily on my own research, and I warrant that all citations of previous research, published and unpublished, have been duly acknowledged.

---

Wu Lanjun

Date \_\_\_\_\_

# **ABSTRACT**

## **Goal Interdependencies and Opportunism for Supply Chain Partnerships in China**

**by**

**Wu Lanjun**

**Master of Philosophy**

The possibility of opportunistic behavior is an important barrier to the collaboration between partners in the supply chain as partners pursue their self-interests with guile. Opportunistic behavior threatens the partners' relationships, influences their work accomplishment and prevents future collaboration. This study hypothesizes that opportunism is not just the result of people's self-interests pursuit but depends on how they think their self-interests are related. Opportunism in organizational partnerships could be understood in terms of how partners perceive their goals are related to each other. When partners believe that their goals are competitively or dependently rather than cooperatively related, they are more likely to pursue their self-interests opportunistically.

Altogether 86 face-to-face interviews were carried out in Beijing, Nanchang and Guangzhou, China to explore the links and relations among goal interdependencies, opportunism and the outcomes. Participants who work in a supply chain partnership were asked to describe an incident regarding their collaboration with their partners. It included the people involved, the reasons, what occurred, and the consequences. Structural equation modeling explored the proposed model that goal interdependencies could affect the levels of opportunism and thus influence the partnerships. Results suggest that cooperative goals are important foundations for effective organizational partnerships.

**Keywords: Supply chain partnerships, goal interdependence, opportunism**

# CERTIFICATE OF APPROVAL OF THESIS

**Goal Interdependencies and Opportunism for Supply Chain Partnerships**

**in China**

by

Wu Lanjun

Master of Philosophy

Panel of Examiners:

Signature \_\_\_\_\_ (Chairman)  
(Prof. Dean Tjosvold )

Signature \_\_\_\_\_ (External Member)  
(Prof. Chun Hui)

Signature \_\_\_\_\_ (Internal Member)  
(Prof. Edward, Wong)

Signature \_\_\_\_\_ (Internal Member)  
(Prof. Dean Tjosvold)

Signature \_\_\_\_\_  
Supervisor: Prof. Dean Tjosvold

Approved for the Senate:

Signature \_\_\_\_\_  
Chairman Prof. Robin Snell

Date \_\_\_\_\_

## TABLE OF CONTENTS

Acknowledgements.....	iv
<b>Chapter I</b>	
<b>Introduction</b>	
<b>Significance of this Study .....</b>	<b>2</b>
<i>Objective of this Study .....</i>	<i>2</i>
<i>Contributions of this Study .....</i>	<i>2</i>
<b>Chapter II</b>	
<b>Literature Review</b>	
<b>Understanding</b>	
<b>Opportunism .....</b>	<b>5</b>
<i>Opportunism in the Transaction Cost Economics (TCE) .....</i>	<i>5</i>
<i>Opportunism in the Social Relation .....</i>	<i>7</i>
<i>Trust theory and Opportunism .....</i>	<i>7</i>
<i>Reputation Mechanism and Opportunism .....</i>	<i>9</i>
<b>Opportunism and Culture Differences .....</b>	<b>12</b>
<b>Supply Chain Partnership and Opportunism .....</b>	<b>13</b>
<i>Opportunism in Current Supply Chain Partnership .....</i>	<i>15</i>
<i>Partnerships and Opportunism.....</i>	<i>15</i>
<b>Goal Interdependence Theory and opportunism.....</b>	<b>17</b>
<i>Introduction of Goal Interdependence Theory .....</i>	<i>18</i>
<i>Cooperation, Competition, and Independence .....</i>	<i>19</i>
<i>Goal Independences and Opportunism .....</i>	<i>20</i>
<b>Summary.....</b>	<b>22</b>
<b>ChapterIII</b>	
<b>Hypotheses</b>	
<b>Hypothesized Model.....</b>	<b>24</b>
<b>Model Variables .....</b>	<b>24</b>
<b>Chapter IV</b>	

<b>Method</b>	
<b>Participants</b> .....	<b>26</b>
<i>Interview</i> .....	<b>27</b>
<i>Critical Incident Technique</i> .....	<b>29</b>
<i>Interview Schedule</i> .....	<b>30</b>
<b>Scales</b> .....	<b>31</b>
<b>Analysis</b> .....	<b>32</b>
<i>Scale Validation</i> .....	<b>33</b>
<i>Hypotheses Test</i> .....	<b>35</b>
<b>Chapter V</b>	
<b>Results</b>	
<b>Sample Difference Analysis</b> .....	<b>37</b>
<b>Findings for Correlational Analysis</b> .....	<b>38</b>
<b>Structural Equation Modeling Analysis</b> .....	<b>39</b>
<i>Model Comparison</i> .....	<b>39</b>
<i>Structural Equation Modeling Analysis for the Hypothesized Model</i> .....	<b>41</b>
<b>Illustrative Cases</b> .....	<b>42</b>
<i>Summary of the Incidents</i> .....	<b>42</b>
<i>Case Illustrations</i> .....	<b>42</b>
<b>Chapter VI</b>	
<b>Discussion</b>	
<b>Summary of the Result</b> .....	<b>46</b>
<b>Important</b>	
<b>Findings</b> .....	<b>46</b>
<i>Influence of Opportunism on the Outcomes</i> .....	<b>47</b>
<i>Goal Interdependencies and Opportunism</i> .....	<b>48</b>
<i>Self-interest and Opportunism</i> .....	<b>49</b>
<i>Opportunism in Collectivistic Culture</i> .....	<b>50</b>
<b>Implications</b> .....	<b>51</b>

<b>Limitations .....</b>	<b>53</b>
<b>Possible Future Research .....</b>	<b>54</b>
<b>Summary.....</b>	<b>55</b>
<b>APPENDIX I Questionnaire .....</b>	<b>57</b>
<b>References.....</b>	<b>61</b>

## **ACKNOWLEDGEMENT**

Writing a thesis is a long time work, which is impossible to finish without the assistance from many people. Thus I would like to express my appreciation to some important persons here.

First, I would like to express my most sincere appreciation to my chief supervisor, Professor Dean Tjosvold. I can't finish this study without the support, direction and encouragement from him. He kept giving me useful advice in my study and motivating me in these two years. He always supported me when I faced difficulties or felt stressful. Actually, I felt quite pleasant and honored to be his student.

Second, I would like to express my gratitude to Professor Alfred Wong, Dr. Nancy Chen and Professor Robin Snell who provided advice on theoretical concepts and methodology of my study, as well as made useful comments. They were patient and careful in answering each of my questions, even a very tiny one. I also want to thank Dr. Nancy Chen, Dr Moureen Tang, Dr Winnie Wong and Mrs. Fonsa, Lau who gave me a lot of care and help in both my study and my life during my stay in Hong Kong

Lastly, I want to thank my relatives and friends for their help in doing my interviews in mainland, China. They are so warm-hearted and responsible in helping me with the data collection which is a very important part of my study. I enjoyed those happy moments talking with them.

All in all, it is an excellent experience to be a student in Lingnan, Hong Kong and I am sincerely grateful to those I mentioned above for their support, advice, and assistance.

## **Chapter I**

### **INTRODUCTION**

Companies increasingly emphasize specialized skills in the supply chain and they collaborate with their partners with complementary skills for the mutual benefit. Both scholars and managers have recognized the increasing importance of collaboration in supply chain. Fierce competing market and technology specialization make it critical that companies build an efficient partnership with their partners. We witness that organizations that develop effective partnerships with their partners can better meet their customers' needs and outperform others and survive. Managers are now increasingly encouraging collaborative activities across organization borders in the supply chain (Spekman et al., 1998; Womack et al., 1990; Myhr & Spekman, 2002).

Effective partnerships are based on more than just transactions and work completion. Collaboration between partners becomes an overall and comprehensive idea in the supply chain. For instance, customers will continue asking for the high quality product from suppliers, but they also want to feel confident that their technology partners are reliable and trustworthy, as well as will be collaborate with them in the long term (Michael, 2003). Transparency and confidentiality are also critical in the supply chain partnership now (Dyer & Chu, 2003; Love & Gunasekaran, 1999). As suppliers and customers want to believe that they are under little risk in disclosing important information and technologies. This study identifies four important criteria, namely relationship enhancement, work productivity, future collaboration and innovation to measure the efficiency and quality of partners' partnerships in supply chain.

The opportunistic behavior between partners is an important barrier to their

partnership because it involves partners' self-interests with guile (Williamson, 1985, 1991). However, although partners would view opportunism as unethical, it does occur in relations among organizations in supply chain (Ghoshal & Morgan, 1996; Griesinger, 1990; Johanson & Mattsson, 1987; Maitland, Bryson, & Van de Ven, 1985; Moschandreas, 1997). Moreover, fearing that their partner would notice that and feel unfair and exploited, they may engage in those activities that can mask their opportunism (Wathne & Heide, 2000; Williamson, 1985, 1991).

Thus, it is important to study the conditions that would possibly facilitate or inhibit opportunism. In order to identify the conditions that impact opportunism, we used goal interdependence theory to investigate the relationship between how partners understand their goals to be related to each other and the level of opportunistic behaviors. Our hypothesis is that what's critical is not whether partners are highly self-interested or not but how partners understand their self-interests to be related to each other. The next sections discuss the paper's objectives and contributions.

### **Significance of this Study**

#### *Objective of this Study*

This research aims to study partnerships between partners within the supply chain. Specifically it has two aims: First, it explores the effects of opportunism on partnerships. Specifically, we study how the opportunism affects relationship enhancement, work productivity, future collaboration and innovation in the supply chain. Second, it uses the theory of cooperation and competition to understand and predict people's opportunistic behaviors.

#### *Contributions of this Study*

This study makes several contributions to the literature. In addition to testing the generalization of the theory of cooperation and competition and the theory of opportunism, to supporting those theories with both qualitative and quantitative data, this study investigates the conditions for opportunistic behaviors and tests the opportunistic behaviors' effects on the efficiency of the partnership.

This study applies the theory of cooperation and competition to study the conditions for opportunism and tests the generalization of the theory of cooperation and competition; few studies have tried to examine opportunism behavior between partners with the antecedents of the goals interdependencies. This study demonstrates the important role of goal interdependencies in understanding people's opportunistic behavior. Cooperative goals are hypothesized to contribute to low level of opportunism and then lead to constructive outcomes. In contrast, competitive and independent goals are expected to lead to a high level of opportunism and thus harm the partnerships. Contrary to the transactional cost theory that regards the pursuit of self-interest as the reason for opportunism, this study proposed that opportunism in organizational partnerships should not be simply understood as an outcome of self-interests, but should be understood in terms of how partners understand their self-interests are related to each other. Those hypotheses, if tested, can provide an important understanding towards conditions for opportunistic behaviors.

Secondly, this study links the literatures on goal interdependencies, opportunism, and four outcomes for the partnerships. The study tests the effects of cooperative goal on the level of opportunism which then influences the partnerships. With positively related goals, partners can improve their relationships and work productivity, and raise the possibility of future collaboration and innovation, through the mediator of opportunism.

Thirdly, this study can also contribute to the literature on goal interdependence and

opportunism study by directly examining the interactions between the Chinese partners. As the theory and scales for goal interdependence and opportunism are developed from the west, it tests the generality and consistency for those theories in doing study in China. Finally, it uses both quantitative and qualitative data to test the hypothesis and theories and provides cases reported by partners with conditions of different goal interdependencies.

## **Chapter II**

### **LITERATURE REVIEW**

After the introduction part of this study about the background and objectives in the first chapter, this chapter reviews the studies on opportunism and supply chain partnerships. First, definition and concept on opportunism will be discussed to understand the idea. Then this study examines how the opportunistic behavior affects the partnership in supply chain and different approaches of people's opportunistic behavior in different cultures, especially in collectivistic culture of China. This will be followed by the introduction of the theory of cooperation and competition, which is the theoretical framework of this study. Finally, the chapter summarizes the literature review and proposes the hypotheses.

#### **Understanding Opportunism**

Opportunism in this paper is defined as the behavior by economic agents that involves "Self-interest-seeking with guile" (Williamson, 1985, 1991). Williamson emphasized that in relations among organizations, such behaviors like fierce bargaining or strong disagreement are not opportunistic, nor are the advantages that are resulted from having a unique skill or location. Activities like taking shortcuts, masking poor quality work, breaking promises and being dishonest in order to get benefit are common examples of opportunistic behavior. However, although most people would view opportunism as unethical, it does occur in relations among organizations. Any organizations can engage in opportunistic behavior, regardless of their position and relation with others.

#### *Opportunism in the Transaction Cost Economics (TCE)*

In modern theories of economic behaviors, information problems are becoming very

important (like search costs, asymmetric information, etc.), combined with temptations of opportunism (Charles, 1990). These reduce the transaction costs and raise important and interesting issues of organizations. Over the last two decades, transaction cost theory has become prominent in the academic researches and one of the most influential statements about this theory is made by Williamson (1975, 1985). Based on Williamson's work, researchers have used the transaction costs to explain a wide range of economic phenomena of organizations including opportunism. In a word, transaction cost theory has become quite influential in determining our thinking.

One of the central assumptions of this theory is that the risk of opportunism is inherent in the relationship among organizations in any transaction. Opportunism is defined as "self-interest seeking with guile". This includes not only the apparent behaviors like lying, stealing and cheating, but also refers to the offering of incomplete or distorted information with the purpose to misleading, confusing or blinding others for one's own benefit. (Williamson, 1985). The costs of negotiating, monitoring, and controlling to ensure against these possible behaviors in a transaction are called transaction costs. Williamson (1985) argued that among the three alternative governance structures, namely 'market', 'hierarchy' and 'between market and hierarchy', only the optimal one will survive, which minimizes the sum of production, transaction and organization costs under current conditions of technology and institutions. If the transaction costs of undertaking an exchange through the market are greater than the costs of exchanging within a hierarchy, it is more efficient to conduct the exchange within a hierarchy according to transaction cost theory (Jones & Hill, 1988; Williamson, 1985). Opportunism is a crucial factor in this choice. Without it, partners will always keep their promises and act according to the contract thus minimize the transaction costs (Williamson, 1985).

However, this theory has its own limitation. Research suggests that the formal

contract often play a limited role in the relationship between organizations (Macaulay 1963). Even if a contract exists, often many informal agreements or social norms affect the relationship (Hart & Moore 1999; Heide & John 1992; Wilson 1980). For example, rail freight relationships are often governed by those unwritten rules for the volume and equipment they use (Palay, 1984). People will reflect on their behaviors in a transaction and it may be from their comparison with others, in the social roles, and in identification with others as models (Argyle, 1994). All of these are examples of so-called relational contracts or social contracts (Macneil 1978) and several authors explicitly discuss opportunism within the context of such contracts (Gibbons 1999; Williamson 1996).

#### *Opportunism in the Social Relation*

There is a much wider context other than the contract that can influence the risk of opportunism which transaction cost theory neglects to consider. Other contexts may include such as the social network which economic transactions is in and the invisible hand of many market mechanisms. In another words, the social relation is the network of partnership between organizations and organizations that are dependent on each other.

Within transaction cost theory, opportunism is viewed as the violation of an explicit contract, more recent studies argue that opportunism also includes violation of relational contracts (Gibbons 1999; Williamson 1996). This has been specified by Granovetter (1995), who argued that the social context which transactions are in has a great impact on the behavior of the organizations.

#### *Trust Theory and Opportunism*

As we know, the social relation between two parties exists when each party decides

his or her behavior totally or in part according to the behaviors of the other with his or her expectations. Organizations are under behavioral risk when they are uncertain about the behavior of the partner when the behavior may materially affect them.

Trust is a meaningful concept for the parties to a social relation if and only if at least one party is exposed to an element of behavioral risk.

In the literature on trust (Gambetta 1988), this notion is described as the one's subjective probability that one's partner will do no harm. The following is the definition of trust by Nooteboom, 1996: 'The subjective probability is that the partner will not utilize opportunities for opportunism, even though it would be to his material (or economic) benefit.'

Trust is always believed to be a more favorable opinion of human nature and sometimes it is regarded to have opposing meaning to opportunism. Hill (1990) furthered the costs theory that when trust prevails, it could serve to eliminate the risk of opportunism. Trust could economize on the cost of transactions. Efficient exchange relations are realized when the different parties trust each other. The presence of trust can benefit a partner relation by reducing the costs of specification, monitoring and guarding against opportunistic behaviors, encouraging better business decisions, and ensuring rapid and efficient responses to unforeseen events and realizing relational contracts. Trust is one of the reasons why transaction is often governed by many unwritten contracts and verbal promises, rather than the strictly written legal forms. Partha Dasgupta (1998) argued that trust is central to all transactions and yet economists rarely discuss this notion.

However, many sociologists and economics have begun to treat trust as self-interest calculativeness (Bradach & Eccles, 1989; Dore, 1983; Coleman, 1990; Williamson, 1993). According to James Coleman, trust only occurs when the expected gain from being at the risk of trust is positive. James Coleman (1990) pointed out that:

“Situations involving trust constitute a subclass those involving risk. They are situations in which the risk one takes depends on the performance of another actor.”

According to Williamson, trust is just calculative self-interest on a higher level.

Completely non-calculative trust occurs only in 'personal trust', such as in the relationships with friends, family or other loved ones.

Ethics is part of culture issue which can provide a basis for trust within a partnership.

But it doesn't imply a complete eliminate of calculativeness. People may still be tempted by opportunism if the reward is high enough and it is called 'golden opportunity'. That is why trust, based on ethics or personal bonds, cannot totally eliminate the risk of opportunism.

#### *Reputation Mechanism and Opportunism*

The reputation mechanism is well known as an implement that can limit opportunistic behavior, but it is also known that its operation is limited to the conditions of monitoring, so that it may not be perfect. Only on the basis of reputation mechanism, opportunism remains in the relationship between organizations if self-interest is the only force of behavior (Nooteboom, 1996).

The reason is that monitoring of opportunism is never perfect and costless. When we assume that there is an automatic and costless reputation mechanism, controlling or monitoring still require costs and opportunism remains if the potential reward is less than the penalty of opportunism

This study uses the definition of opportunism by Williams and traditional operations of the concept. However, this definition includes a broad range of potentially different behaviors. If the concept of opportunism itself is poorly understood, documenting its potential outcomes is problematic. This section further reviews and

discusses current theoretical perspectives on opportunism to describe opportunism more specifically.

In the original transaction cost literature, opportunism is defined in general terms as “self-interest seeking with guile” (Williamson, 1975). This distinguishes opportunism from the standard self-interest-seeking behavior by including the notion of guile. In subsequent work, Williamson (1985) describes ‘guile’ as “lying, stealing, cheating, and calculated efforts to mislead, distort, disguise, obfuscate, or otherwise confuse.” In these practical terms, the characterization of opportunism indicates that human beings are only “weakly moral” (Douglas, 1990) and cannot be counted to abide by contracts or fixed rules of interaction with each other (John, 1984; Williamson, 1993).

Indeed, studies have suggested that formal contracts typically play a relatively limited role in understanding opportunism (Macaulay 1963). Consequently, researchers have examined opportunism in social relations generally. Specifically, transaction cost theory has extended the original concept of opportunism to the domain of relational contracts (Muris, 1981; Williamson, 1979, 1985, 1991). But the precise meaning of the opportunism concept itself in relational contracts has not been stated clearly.

Macneil (1981) suggests that it is necessary to begin with the definition of the term “guile”, which he defines as “taking advantage of opportunities with little regard for principles or consequences.” However, this definition requires “principles and consequences” to be defined. Researchers have different perspectives about this: Economists often emphasize consequences and outcomes whereas legal scholars emphasize principles. This study focuses on violations of principles. Opportunism is regarded as the behavior that violates operative principles and norms with the intention is to gain more benefits for the self.

For example, some researchers have argued that taking advantage of a lock-in condition may violate a principle itself, namely, the exploitation of another party's vulnerability (Barney, 1996; Sabel, 1993). Conceptually, a lock-in situation transfers the collaboration between two parties from a pattern of unconstrained bargaining or exchange (Graham & Peirce 1989) into a command business (Macaulay, 1985), in which one party lacks the ability to retaliate. In our opinion, although exploiting vulnerability may be inconsistent with some general ethical norms, taking advantage of a lock-in situation would not be considered as opportunistic unless it violated an existing rule operating in that relationships. According to Macneil (1981), identifying a behavior of opportunistic requires an assessment of whether it was "contrary to the principles of the relation in which it occurs." Otherwise, a given behavior, even if it takes place under conditions of unequal bargaining power, only represents conventional self-interest seeking.

Therefore, in this paper, opportunism is considered to involve those behaviors of cheating and slacking related to an implicit or explicit contract, with the intention of seeking one's own interest. For example, the traditional moral hazard problem describes how the information asymmetry enables one organization to supply lower level of quality or output of the products than that was contracted for. In this case, the organization utilizes information asymmetry to conduct some behaviors that are against the contract with its partner in their collaboration, with the intention to obtain more benefits for itself and thus is opportunistic as defined here.

According to previous studies, opportunistic behavior is reduced by self-interest or at least self calculativeness and it is hard to avoid. However, people with different culture backgrounds may have different attitudes and thinking towards opportunism. The next section continues to discuss opportunistic behavior under different cultures, especially in China where the data for this study were collected.

## **Opportunism and Culture Differences**

Based on the above analysis, opportunistic behavior is induced by people's self-interest seeking. People's diverse self-values and their beliefs of their interdependence with others that influences their attitudes and approaches towards opportunism behavior in their partnership can help us understand opportunistic behavior in different cultures

### *Diverse Self-values in Different Cultures*

Anthropological and psychological studies provide support for the idea that self concept varies across cultures. Smith & Bond (1998) emphasized the "distinction between the independent conception of the self fostered by individualistic culture and the interdependent conception of the self fostered by collectivist culture". For example, Kitayama (1991), Roland (1988) and Shweder & Bourne (1984) found that people in the United States had extremely different view of the self, others, and the interdependence of the two than people in India and Japan.

Individualistic culture promotes a view of the self which is individualized, independent and autonomous, and comprises a unique combination of inner attributes. By contrast, collectivist culture emphasizes the relations of individuals with each other which the common sense of self is familial and highly relational in the society. Behavior is oriented from harmonious interdependence with others rather than the expression of individuality and self achievement (Ash, 2000).

### *Values on Opportunistic Behavior in Collectivistic Culture*

Based on the above discussion, Collectivistic people may often avoid opportunism because they value interpersonal relationship highly and avoid the possible behavior that may damage the relationship (Ding, 1995; Jehn & Weldon, 1992; Kirkbride,

Tang, & Westwood, 1991; Leung, 1997; Triandis, 1989; Triandis, McCusker, & Hui, 1990; Tse, Francis, & Walls, 1994). For example, a number of authors have argued that in Japan, organizations economize on governance, enable less opportunistic behavior and build fruitful relations, on the basis of more trustful, long term relations (Dore, 1989; Cusumano & Fijimoto, 1991; Helper, 1991; Dyer & Ouchi, 1993). Also, ‘relational bonds’ are thought critical for doing business in China and Chinese people are regarded as less likely to be opportunistic (Hwang, 1987, 1997–1998, 2000; Lee, Pae, & Wong, 2001).

However, this strong relational bond can not ensure a low level of opportunism in collectivistic cultures. First, organizations in Collectivistic Culture can just be calculative in that they understand the value to maintain the social relation. Once the potential benefit is more than the penalty of guilt, they may be tempted to be opportunistic (Nooteboom, 1996). Second, Collectivistic people may conclude that their partners are out-group member and once they think so, they are likely to exploit them (Chen et al., 2002). As a result, opportunism is a likely barrier to partnerships in Asia as well as in the West. It is interesting and valuable to study opportunistic behavior in China.

### **Supply Chain Partnership and Opportunism**

Although people with various cultures and backgrounds may have different levels of likelihood of opportunism, opportunism is found to be prevalent in partnerships between organizations. It can be an important barrier to collaboration between partners in a supply chain partnership.

#### *Supply Chain Partnership*

Successful partnerships are based more on just transactions and work completion. Collaboration between partners becomes an overall and comprehensive idea in the

supply chain. For example, partners want to feel confident that the other party is reliable and trustworthy, as well as will collaborate with them in the long term (Dell, 2003). Also, transparency and confidentiality are critical in the supply chain partnership (Dyer & Chu, 2003; Love & Gunasekaran, 1999). As suppliers and customers want to believe that they are under little risk to disclose important information and technologies to each other.

Developing innovation creates competitive advantage in organizations. It helps them respond to the changes quicker and solve problems better. Innovation has been proved to help groups and organizations accomplish objectives easier and more effective (Williams, 2006). Through making constant innovation in its supply chain, a company can better achieve customer satisfaction by responding to customers' needs promptly.

Innovation could involve a large number of changes to an organization's activities that lead to the improvement of its performance. These changes can be improved products and processes, investments in new machines and trainings and the creations of intellectual properties (Rogers, 1998). Researchers have shown a strong relationship between market performance and innovation (Thomas, 1993). Both supplier and customers are now facing fierce competition in this dynamic market, so they must learn how to innovate so as to compete with many other competitors on responding to buyers' need rapidly, improving buyers' satisfaction and adapting to the changing marketplace. As a source of knowledge and information, it is critical that the companies in supply chain can help each other innovate successfully.

Based on the previous ideas, we identified four important criteria in this study, namely relationship enhancement, work productivity, future collaboration and innovation to measure the efficiency and quality of partners' partnerships in supply

chain.

### *Opportunism in Current Supply Chain Partnership*

Economic activity may be more efficient when it is conducted within a single organization, or hierarchy, rather than through a market of several organizations. Opportunism is an important reason in this (Williamson, 1975; Williamson & Ouchi, 1981). The possibility of opportunism emergency is much less in hierarchical relationships within an organization than it is in the relations among organizations as among organizations as there is no formal hierarchy to monitor people's behavior (Parkhe, 1993). Also, the incidence of opportunism will be low when relationships among organizations are long-term rather than short-term. Thus, opportunistic behavior has become particularly critical as organizations are relying more and more on supply chain partnership to do business and are moving away from the short-term pattern of the traditional supply chain to build a long-term partnership to better respond to the competing and rapidly changing marketplace (Buvik & Gronhaug, 2000).

### *Partnerships and Opportunism*

The possibility of opportunistic behavior is an important barrier to the partnership between organizations (Williamson, 1985, 1991). Concern about partner's opportunism is quite strong and thinking one's partner is opportunistic is quite harmful to many important aspects of the partnership in the supply chain (Friman, Garling, Millett, Mattsson, & Johnston, 2002; Zaheer, McEvily, & Perrone, 1998).

Firstly, the idea that one's partner has potential opportunistic behavior is harmful for the relationship and long term collaboration itself between partners. When opportunism occurs, partners become suspicious of each other and regard each other

as untrustworthy and unreliable. It damages the partners' relationship and it is hard for them to build a trusting and long term relationship again. On the contrary, a low level of opportunism enables more trustful and long term collaborations between partners (Nooteboom, 1996).

Secondly, opportunistic behavior makes people distrust each other, inhibiting openness (Sabel 1993), which decreases the efficiency and productivity of the relationship (Bradach & Eccles 1989, Dyer & Chu 2003, Zaheer & Venkatraman 1995). Moreover, opportunism increases the need for monitoring and increases transaction costs thus lowering productivity (Anderson & Narus 1990, Bradach & Eccles 1989, Nooteboom, 1996).

Thirdly, the process of innovation requires a combination of products, markets, information and technologies that most companies do not have. Companies have realized that their suppliers and customers may have the knowledge and information they lack which can be helpful for them to improve product and service quality and meet customer needs. By building a good partnership with low risk of opportunistic behaviors, organizations in supply chain can share their knowledge and information more openly and fully, so that they are more knowledgeable and resourceful; organizations in supply chain can also help each other gain more insight to buyers' need so that they can improve product or service according to buyers' needs. As a result, organizations can continuously innovate to strengthen their market competitive advantage (Ansari & Modarress, 1990; Child & Yan, 2003; Frey & Schlosser, 1993; Hardy, Phillips & Lawrence, 2003; Ireland, Hitt & Vaidyanath, 2003). In this way, in a positive supply chain partnership with low risk of opportunistic behavior, supply chain could act as an important source for innovation. However, this kind of openness and sharing of information is hard to achieve in the partnership with high level of opportunism. Opportunism decreases the possibility of innovation in a supply chain partnership.

Based on the previous discussion above, this study proposes that opportunism leads to bad outcomes in the partnership in the supply chain. Specifically, we propose that partner opportunism affects four important outcomes, namely relationship enhancement, work productivity, future collaboration and innovation. Specifically, the first four hypotheses are developed as:

*H1: Opportunism reduces partners' relationship enhancement in the supply chain.*

*H2: Opportunism reduces partners' work productivity in the supply chain.*

*H3: Opportunism reduces partners' future collaboration in the supply chain.*

*H4: Opportunism reduces partners' innovation in the supply chain.*

To summarize, opportunism is prevalent in the partnership between organizations and it damages the supply chain partnership in many aspects. Recent literature on the inter-organizational relationship has focused on strategies to control and manage opportunism. Surprisingly, little attention has focused on what reduces opportunism itself. We need to understand the conditions that affect the extent to which organizations are likely to engage in opportunism behavior in the relations with their partners in supply chain. The next section introduces the cooperation and competition theory to help us understand when opportunism is less likely.

### **Goal Interdependence Theory and Opportunism**

As define by Williamson (1985, 1991), opportunism is the behavior that involves “Self-interest-seeking with guile”. Previous research about opportunism tend to argue that partners should be less focused on their self-interest zealously and more on their common benefit and their relationship. In the transaction cost theory, self-interest pursuit is regarded as harmful and results in opportunism (Provan & Skinner, 1989). In the relation transaction theory, trust, ethics or people's relation

may lead to low level of opportunism but they could all be treated as calculative self-interests. In this sense, completely non-self-interest and trust do not exist in the partnership between organizations (Williamson, 1991).

However, the pursuit of self-interest is basic to human nature and it is hard to eliminate. Alfred, Tjosvold & Zi-you (2005) pointed out that what is critical is not the extent to which organizations are self-interested or whether they pursue their self-interest, but how they believe their self-interests are related to each other. When people confirm that their interests are positively related to their partners, they develop a relationship that leads to low levels of opportunism. This study uses Deutsch's (1973) theory of cooperation and competition to explain and develop this idea.

#### *Introduction of Goal Interdependence Theory*

Deutsch (1973) proposed that it is how people perceived their goals are related that affects and determines the interactions between individuals, groups and organizations. The premise of the theory of cooperation and competition is that the way goals are related determines how the individuals, groups, and organizations interact and these interaction patterns in turn affects outcomes (Deutsch, 1949, 1973; Johnson & Johnson, 1989). The way people think their goals related to others affects their interaction so that people may promote the success of others, obstruct the success of others, or pursue their goals regardless of the success or failure of others. Deutsch identified these three kinds of alternatives as cooperation, competition, and independence.

Researchers have already shown the effects of goal interdependence between individuals and groups and in some inter-organizational interaction (Cook, 1984; Tjosvold, 1988; Wong, Tjosvold & Yu, 2005). This study helps to test that this

theory can also apply to understand the relationship between supply chain organizations.

### *Cooperation, Competition, and Independence*

In cooperation, people perceive their goals are positively related so that they think if they reach their goals, others can reach their goals as well. One will success if and only if others success. They understand one's goal achievement helps others reach their goals. So people in cooperative situation want each other to work for their goals effectively, because the other's effectiveness is necessary to help all of them reach their goals.

In contrast to cooperation, people in competitive situation believe that their goals are negatively correlated, that is, if one person attain one's goal, all the others may fail or less likely to attain their goals. This is called a 'win-lose' situation. People believe that they can perform better when others perform ineffectively. When others are effective, they are less likely to succeed themselves. Competitive goal interdependence makes people want to beat others and prove they are the best and they are frustrated when others work effectively and successfully. They fight against each other to win.

Independence goals occur when people believe their goals are unrelated. One's goal attainment has no influence on the goal attainment of others. So the success by one neither make others fail nor succeed. In such condition, people believe that whether others act effectively or not, success or not means little to them.

The relationship of their goals has important effects on expectations, interaction and outcomes. In cooperation, people know that other's success could help them, so that they want others to work hard and effectively for their mutual benefit. (Lewicki,

McAllister & Bies, 1998). On the contrary, people in competition expect others to work ineffectively and fail and they may even try to hinder other's work for their own benefits. (Deutsch, 1973; Johnson et al., 1981; Stanne et al., 1999). They just want to win others in the competition. With independent goals, people tend to do their work regardless of others. They have no interest in helping or harming others and become indifferent to the performance of others.

### *Goal Independences and Opportunism*

Cooperation and competition theory suggests that opportunistic behavior is much more likely to happen when partners believe their goals are competitive and independent related than partners with cooperative goals. In cooperation, people consider their goal achievements and interests are positively related. They help each other to work effectively for their mutual interests and this in turn maximize their self-interests thus the potential opportunistic behavior reduces.

However, with competitive goals, the failing of other's reaching their goals can facilitate their own goal reaching. They may even be tempted to obstruct the goal progress of others and behave opportunistically. So as long as they view their interests as negatively related with their partners, they may engage in opportunistic behavior can help them seek their own interests by means of obstructing others reaching their goals. With independent goals, people expect that others will work for their own goals with little regard for the goals of others. Generally, independent goals have been found to have similar effects on the interaction of people as competition, although not as strong (Deutsch, 1973; Johnson et al., 1981). Both competition and independent goals can encourage people's opportunistic behavior.

Opportunism is not just the result of pursuit self-interests but of how self-interests and goals are related; goal interdependencies are critical factors that influence

opportunistic behavior in partnerships in supply chain. Based on the above discussion, the hypotheses are:

*H5a: Partners with cooperative goals in a supply chain engage in a low level of opportunism.*

*H5b: Partners with competitive goals in a supply chain engage in a high level of opportunism.*

*H5c: Partners with independent goals in a supply chain engage in a high level of opportunism.*

Why do we use opportunism as the mediator between goal interdependence and outcomes? Collaboration is superior to individual action in achieving many goals, from moving very heavy things to operating a complex organization. However, given that people have inconsistent (or at least only partially consistent) goals with each other, how can the collaboration be achieved and maintained? This is also the case for the collaboration between organizations. In Williamson's view, parties collaborate or abstain from collaborating based entirely on the calculation of the expected self-benefits. And if they cannot achieve what they want by collaborating with others, they may well engage in opportunism in search for larger benefits. In addition, if they do not believe each other can be restrained by contracts or norms, the parties must control and monitor to protect themselves from opportunistic behaviors.

What are the most efficient means for ensuring against the possible hazards of opportunism? Perceived cooperatively related goals and benefits between organizations could be an effective means. As discussed before, with cooperative goals, organizations consider their goal achievements and interests are positively related. They tend to help each other to work effectively for their mutual interests and at the same time maximize their self-interests, thus reducing the potential of

opportunistic behaviors. In contrast, with competitive goals, the failing of other's goals attainment facilitates their own goal reaching. They may even be tempted to obstruct the goal progress of others and behave opportunistically. Independent goals have generally been found to have similar effects as competition, although not as strong. All in all, how organizations believe their goals are related may very much affect the level of opportunism.

Therefore, this study uses goal interdependence as an important variable to explain organization's possible behavior of opportunism. Goal interdependence is hypothesized to affect partnerships through the mediator of opportunism. The hypothesized model is also consistent with the basic proposition of goal interdependence theory in that how people believe their goals are related is hypothesized to affect the dynamics of their interaction and these dynamics in turn affect outcomes.

### **Summary**

Opportunism is prevalent in the partnerships between organizations in the supply chain and is defined as partners' pursue of self-interest with guile (Williamson, 1985, 1991). Studies already demonstrated the harmfulness of opportunism to supply chain partnerships in many organization issues (Friman, Garling, Millett, Mattsson, & Johnston, 2002; Zaheer, McEvily, & Perrone, 1998). These include deterioration of relationship enhancement, work productivity, future collaboration and innovation ability and so on. Researchers have recognized it is necessary to identify the conditions under which opportunism occurs and partners become suspicious of each other (Chen, Peng, & Saporito, 2002; Maitland et al., 1985).

Both transaction costs theory and social theory argue that it is people's pursuit of self-interest that leads to opportunism. Theories point out that opportunism is inevitable due to the human nature of self-interest, despite taking into

consideration of many social issues like trusting, ethics and reputation mechanism. However, this kind of concept ignores the situation when people share the common goals and believe their self-interests are positively related but are still jealously self-interested. Therefore this study adopts the concept that this pursuit of self-interest itself is not harmful for the partnership and it does not lead directly to opportunism. The critical issue is how they believe their self-interests are related to each other. When self-interests are considered positively related, partners have low levels of opportunism and build effective partnerships (Alper, Tjosvold & Law, 2000).

Thus self-interest is not always destructive; it is how people consider and conduct their self-interest that largely determines the outcomes. Goal interdependence theory is therefore very useful in this study to understand people's opportunistic behaviors. It indicates that people's perceptions of their goal interdependencies influence their interactions with each other in managing their self-interest, and finally lead to different outcomes regarding opportunism (Deutsch, 1973). Based on this theory, three kinds of goals interdependencies, namely cooperative, competitive and independent goals are identified to characterize people's attitude toward opportunism. In cooperative situations, people construed their goals as positively related and one's goal achievement helps others also achieve their interests. Therefore they help each other to seek mutual self-interests and thus reduce opportunistic behavior. In a competitive condition, members believe their goals are negatively related; one's success makes others less likely to be successful. Consequently, people treat their self-interests as incompatible, thus they try to earn their own benefits at the expense of others and it encourages opportunism. Independent situation shares the same outcomes as competitive ones.

Though developed in the west, goal interdependence theory has also been shown to be effective in the Asian countries, like China. Opportunism cannot simply be

understood as the result of self-interest. Having cooperative goals is regarded to be a constructive approach toward self-interest seeking in supply chain partnership, which can generate more positive outcomes compared with competitive and independent goals.

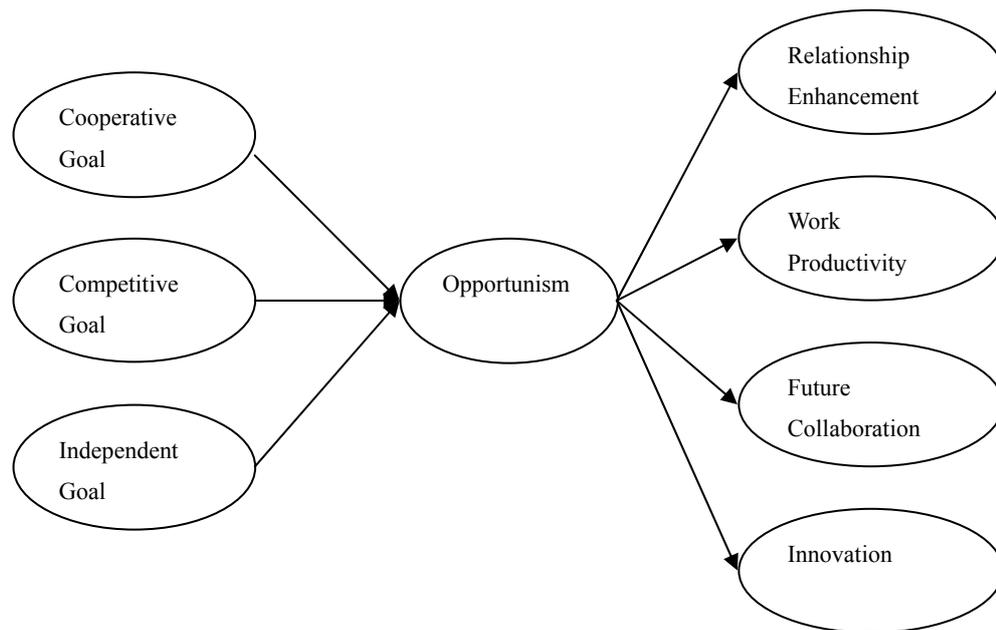
## CHAPTER III

### HYPOTHESES

After a review on the previous studies on opportunism in Chapter II, this chapter displays all the hypotheses that have been developed based on the literature review. It first presents the hypothesized model and then explains the variable and the study's six hypotheses.

#### Hypothesized Model

Figure 1 Hypothesized Structural Model in this Study



As shown in the figure above, the basic model to be tested in this study is that perceived goal interdependence affects opportunistic behavior and then leads to four outcomes. In this model, cooperative, competitive and independent goals are identified as antecedents to affect the outcomes of relationship enhancement, work productivity, future collaboration and innovation. Seven hypotheses are listed below:

*H1: Opportunism reduces partners' relationship enhancement in the supply chain.*

*H2: Opportunism reduces partners' work productivity in the supply chain.*

*H3: Opportunism reduces partners' future collaboration in the supply chain.*

*H4: Opportunism reduces partners' innovation in the supply chain.*

*H5a: Partners with cooperative goals in a supply chain engage in a low level of opportunism.*

*H5b: Partners with competitive goals in a supply chain engage in a high level of opportunism.*

*H5c: Partners with independent goals in a supply chain engage in a high level of opportunism.*

### **Model Variables**

This study proposes that people's perception of their goal relationships with their partners affect their actions toward opportunism that influences the supply chain partnership in many aspects. There are seven variables in the hypothesized model with three antecedent variables, two mediators and four outcomes. All the variables are measured in 7 point Likert-scales.

This section defines each variable in the model (Figure 1):

Cooperative goals are measured by the extent the interviewees think their goals and their partners' are positively related.

Competitive goals are measured by the extent the interviewees think their goals and their partners' are negatively related.

Independent goal is measured by the extent the interviewees think their goals and their partners' are unrelated.

Opportunism is measured by the extent to which the one's partner was perceived to be willing to pursue its own interests with guile.

Relationship Enhancement is measured by the effect of the interaction

between the partners on their feelings and attitudes toward each other.

Work Productivity is measured by the effect of the interaction between the partners on their task accomplishment of their collaboration.

Future Collaboration is measured by the effect of the interaction between the partners on the likelihood of their future effective collaboration.

Innovation is measured by the effect of the interaction between the partners on their improved ability to develop new and useful ideas and products.

## CHAPTER IV

### METHOD

This research studies opportunism in supply chain relationships between suppliers and customers in China. I used an interview-based study to collect the data to test the hypothesis. In half a year, I interviewed 86 people in mainland China for the sample of this study.

#### Participants

Eighty-eight employees were involved in this study and two of them felt it hard to understand some of the questions and did not provide all the answers, so their answers are not included. Of the 86 participants, 34 are the suppliers and 52 are the customers. Of all the respondents, 50 are male and 36 are female and the average age is 36. 72 of them said the supply chain relationship they talked about existed for more than 1 year. 63 of them have bachelor degree and 7 of them have higher degree.

Of the 34 suppliers (See Table 1), 59% were male, 85% of the supply chain relationships they talked about existed for more than 1 year, 71% had a bachelor degree and 11% had either a master or a doctorate degree.

Table 1

	Number of Participants	Percentage
<b>Gender</b>		
Male	20	59%
Female	14	41%
<b>The partnership's existence</b>		
< 1 year	5	15%

> 1 year	29	85%
<b>Educational level</b>		
Without Bachelor degree	6	18%
Bachelor degree	24	71%
Graduate degree	4	11%

Of the 52 customers (See Table 2), 58% were male, 83% of the supply chain relationships they talked about existed for more than 1 year, 75% had a bachelor degree and 6% had either a master or a doctorate degree.

Table 2

	<b>Number of Participants</b>	<b>Percentage</b>
<b>Gender</b>		
Male	30	58%
Female	22	42%
<b>The partnership's existence</b>		
< 1 year	9	17%
> 1 year	43	83%
<b>Educational level</b>		
Without Bachelor degree	10	19%
Bachelor degree	39	75%
Graduate degree	3	6%

I tried to choose the samples that could reflect the diverse business, gender, age and education level in China. I choose those who are actually working in a supply chain relationship and who are likely to understand the questions. Consequently, there are 86 satisfactory participators from different business and with different genders, ages and education levels. While the sample is too small to represent Chinese mainland as a

whole, these interviews are diverse in studying supply chain relationships.

### **Interview**

Critical Incident Technique (CIT) was used in this study. During the interview, each interviewee was first asked to describe a concrete example when he/she interacted with a person(s) from another organization in his/her supply chain and they disagree with each other or somehow need to negotiate regarding an issue. After that the interviewee was asked to rate specific questions based on the recalled example on 7-point Likert-type scales. Measures include goal interdependencies, opportunism and four outcomes of their relationship and work effectiveness.

#### *Critical Incident Technique*

The critical incident technique (CIT) (Flanagan, 1954) was used in this study to develop the interview structure. CIT is considered to be very useful when studying complex interpersonal phenomenon (Walker & Truly, 1992). This method could help moderate the errors when persons need to summarize across many incidents to give a respond in most surveys (Schwartz, 1999).

Interviewees were first asked to describe a recent incident when they disagreed with a person (s) from another organization in his/her supply chain during their collaboration or somehow needed to negotiate regarding an issue with that person(s). They need to recall the reason of this instance, people involved, what happened, people's reaction and the outcome. The outcome can be one that they thought was satisfactory or unsatisfactory. After the describing the instance, they answered specific questions regarding the instance they described. The scales include goal interdependencies, opportunistic behavior and four outcomes of their relationship and work performance. In order to reduce biases, interviewees were not informed of

the hypotheses in the whole process. Before the interview, they were told their responses could be kept totally confidential.

### *Interview Schedule*

The interviews were conducted in mainland China during the summer of 2007 and at Christmas. Each interview lasted for almost one hour and was conducted in Mandarin. First, I did some pre-tests among colleagues and Chinese friends in Hong Kong before the summer break. I wanted to make sure the interviews are practical and the questions are understood. I made some changes according to their feedback and suggestions. Later, I went to Beijing and Nanchang to collect data during the summer in 2007. It took one and a half months to do the interviews. After that summer, I went to Guangzhou to collect data again during the Christmas break. The interviewees were relatives, friends, formal classmates and those introduced to me by them.

## **Scales**

### *Goal Interdependence*

Based on Deutsch's (1949, 1973) cooperation and competition theory, three items in form of 7-point Likert-scale (from 1=strongly disagree to 7=strongly agree) taken from Alper, Tjosvold & Law (1998) indicated how the interviewees construed their relationship between their goals and those of the partners in the supply chain relationship in the incident. The first item "How much would your reaching your objectives help the other person reach his or her objectives" measured the extent to which interviewees assumed a cooperative goal relationship with their partners. The second item "How much would your accomplishing your objectives interfere with his or her objectives" measured competitive goals between the partners. And the last item 'In your mind, how related was your reaching your objectives with the other reaching

his objectives' measured independent goal relationship and is a reversed item.

### *Opportunism*

An opportunism scale developed in the West was used here (Parkhe, 1993). The six opportunism items measured the extent to which the partner was perceived to be willing to pursue its own interests with guile. For example, sometimes our partner alters the facts slightly in order to get what they need. The scale demonstrated acceptable reliability. The opportunism scale has a Cronbach alpha reliability of 0.86.

### *Relationship Enhancement*

A three-item scale taken from Tjosvold & Sun (2000) was developed to measure the extent that the interviewee improved his/her relationship with the partner after the interaction, i.e. the extent this interaction strengthen the interviewees' relationship with the other person in the incident. The relationship scale had a Cronbach alpha of 0.83.

### *Work Productivity*

This scale is to measure the extent that the interviewees' interaction with others helped to solve the current problem effectively and efficiently. This 3-item scale has a Cronbach alpha reliability of 0.7. A sample item is "how efficiently did you and your partner accomplish the task in this interaction".

### *Future Collaboration*

A three-item scale was developed to measure the interviewee's inclination to collaborate with the partner in the future (Tjosvold, Andrews & Struthers, 1991). For example, "To what extent do did you want to collaborate with this person in the future after this instance". The future collaboration scale had a Cronbach alpha of 0.91.

### *Innovation*

Interviewees were asked to rate the effect of innovation from the incident using a four-item scale developed by Burpitt & Bigoness (1997). Example item is “How much did this interaction help you seek out information about new markets, products, and technologies from sources outside the organization.” The innovation scale had a Cronbach alpha of 0.90.

Table 3 Scales and Reliabilities

<b>Measures</b>	<b>Number of Items</b>	<b>Alpha</b>
<b>Opportunism</b>	6	0.86
<b>Relationship Enhancement</b>	3	0.83
<b>Work Productivity</b>	3	0.7
<b>Future collaboration</b>	3	0.91
<b>Innovation</b>	4	0.9

### **Analysis**

Both qualitative and quantitative analyses were used in this study. Regarding the quantitative data, it is based on the interviewees’ ratings on the scales we developed. Confirmatory factor analysis (CFA) was first applied to test whether the respondents’ ratings would load on opportunism, relationship enhancement, work productivity, future collaboration and innovation as five distinct factors. Sample difference was then analyzed to test whether the hypothesized model differed across the two groups of respondents: the suppliers and customers, as well as three groups: interviewees work in Beijing, Nanchang and Guangzhou. Correlation analysis was used to have initial tests of the relationships among different variables, i.e., how would the three types of goal interdependence relate to the level of opportunism, and how the opportunism related to the four outcomes. Structural equation modeling (SEM) was then used to further study the causal relationships among goal interdependencies,

opportunism, relationship enhancement, work productivity, future collaboration and innovation.

Regarding the qualitative data from the narrative recording of the interviews on the incidents, I selected specific case studies to understand the conditions that lead to opportunistic behaviors and the outcomes.

### *Scale Validation*

I carried out a series of confirmatory factor analyses test whether the respondents' ratings would load on opportunism, relationship enhancement, work productivity, future collaboration and innovation as five distinct factors. Although most of the items used in this study have been validated in the previous study, some of the scales are first developed in the West, the forms and values may be different than those in China. Also, some of the questions are differently structured. Therefore, it is necessary to examine if these scales are appropriately organized.

We excluded the three goal relationships items from the confirmatory factor analyses because each of the three goal interdependent scale has one single item.

Confirmatory factor analysis (CFA) was then performed to validate that the five scales are distinct variables. The results are shown in Table 4.

Table 4 Validation through Confirmatory Factor Analyses

Models	d.f.	Model $\chi^2$	$\Delta\chi^2$	NFI	NNFI	CFI
Baseline 5-factor Model (M0) keeping opportunism, Relationship enhancement, Work Productivity, Future collaboration and Innovation as distinct factors	125	281.18	.	.74	.84	.83
4-factor Model (M1) including a combined opportunism and Relationship enhancement factor	129	310.79	29.61	.72	.81	.80
4-factor Model (M1) including a combined opportunism and Work Productivity factor	129	308.85	27.67	.72	.81	.80
4-factor Model (M1) including a combined opportunism and Future collaboration factor	130	474.7	193.52	.57	.64	.63

4-factor Model (M1) including a combined opportunity and Innovation factor	129	346.63	65.45	.68	.77	.76
2-factor Model (M6) including a combined Relationship enhancement, Work Productivity, Future collaboration and Innovation factor	134	374.86	93.68	.66	.75	.74
One factor solution (M7)	135	509.76	228.58	.53	.61	.60

Notes:

\* N of cases =86

\* In the one-factor Model (M7), all the factors were combined into one factor.

\* NFI Bentler-Bonnett Normed Fit Index; CFI Comparative Fit Index; NNFI Bentler-Bonnett Non-Normed Fit Index.

Table 4 shows the results of these confirmatory factor analyses which indicate a good fit between our proposed five-scale model and the data. The 5-factor model fits the data the best with the Comparative Fit Index (CFI) and the Bentler-Bonnett Fit Index (NFI) as .83 and .74, respectively. This 5-factor model was then compared to four different 4-scale models. The first comparative model was the 4-factor model, in which we merged opportunity and relationship enhancement into one aggregate factor. The second comparative model was the 4-factor model in which we merged opportunity and work productivity into one aggregate factor. The third comparative model was the 4-factor model, which we merged opportunity and future collaboration into one aggregate factor and the fourth one is to merge opportunity and innovation factors. The 2-factor comparative model included a combined relationship enhancement, work productivity, future collaboration and innovation factor. And the last comparative model is 1-factor model, which all the factors were combined into one factor.

Results in Table 4 show that chi-squares of all the comparative models increase significantly compared with the hypothesized model. The comparative models also have significantly lower fit indices than the hypothesized model. Therefore, the comparisons of the models suggest that the 5-factor proposed model is a distinct

measure of the constructs in our study. However, the CFI score of 0.83 for the original 5-factor model is not satisfactory given the usually critical value of .90 (Bentler & Bonnett, 1980). A possible reason is that some items for the variables are cross-loaded on two or more factors (items that had loadings of greater than 0.3 on more than one factor). After we did the Factor Analysis and deleted some items that are cross-loaded (item 1, 4, 11 and 13), we re-did the CFA. The CFI score rose to 0.90 without the deleted items, which is regarded as acceptable according to the critical value. However, to make the items for each variable consistent with the original measures, we did not delete the cross-loaded items that led to a low CFI.

### *Hypotheses Test*

We first tested whether the differences of groups of respondents had effects on the results. We divided all the participants into three groups according to their cities and tested the differences of their responses between interviewees who worked in different cities in mainland China. We also tested the differences of their responses between interviewees who were suppliers and customers.

The hypothesized mediating effects model (M0) was first compared to the direct effects model (M1) (shown in next chapter). The direct effects model implies that goal interdependence impacts outcomes directly while the mediating effects model proposes that opportunism mediate between goal interdependence and outcomes.

At the same time, other models except the direct effects model may fit the data equally well. So we also compare the hypothesized model to the second alternative model (M2) that opportunism is the antecedent of goal interdependencies which then impact the outcomes.

## **Summary**

Eighty-six Chinese employees who worked in a supply chain relationship were interviewed in Beijing, Nanchang and Guangzhou, during the period from June 2007 to December 2007. We used critical incident technique to develop the interview. Interviewees were first asked to describe an incident when they disagreed or needed to negotiate with their partners. They then answered specific questions based on the recalled incidents. Scales included goal interdependencies, opportunistic behavior and the four outcomes of relationship enhancement, work productivity, future collaboration and innovation.

Both qualitative and quantitative data were collected and analyzed. CFA results validated the five distinct scales. Correlational analysis was used to do the initial test of the relationship among variables in the hypothesized model. Structural equation modeling (SEM) was then adopted to explore the causal relationships among goal interdependencies, opportunism and the outcomes. Some specific cases were selected to understand the conditions that lead to opportunistic behaviors and the outcomes.

## CHAPTER V

### RESULTS

Chapter four described the methods used to analyze the quantitative and qualitative data. This chapter reports how we analyze the data collected from the interviews and presents the results of data analyses. Specifically, it describes the sample and regional difference analysis, correlational analysis, structural equation modeling analysis, and the results. Lastly, it presents the cases.

#### Sample Difference Analysis

A first step was to determine whether the interviewees' respondents to the variables differed across suppliers and customers.

Table 5 Results of sample difference Analysis

	df	Mean Square	F	Sig.
(1) Cooperation	1	10.877	2.933	.090
(2) Competition	1	4.774	1.496	.225
(3) Independence	1	.058	.018	.892
(4) Opportunism	1	.187	.121	.729
(5) Relationship Enhancement	1	1.927	1.114	.294
(6) Work Productivity	1	.112	.120	.730
(7) Future Collaboration	1	1.153	.572	.451
(8) Innovation	1	12.872	9.617	.031

Table 5 shows the results that there are no significant differences in the two groups of interviewees' responses towards our variables, which indicates that the suppliers group and customers group are not significantly different. We combined the two sets of data into one.

### Regional Difference Analysis

Differences of the recorded variables between interviewees who worked in Beijing, Nanchang or Guangzhou were also tested. The effects of the interviewees' working city were examined to see whether cultural background and working environment significantly affected interviewees' responding. Given the reason that the three cities of China are in different phases of development and have different cultures and traditions in doing business in the supply chain, we may assume that the reported goal interdependencies and opportunistic behaviors may differ across the cities the interviewees are working on. The results (Table 6) indicate that there are no significant effects of the regional factor on employees' ratings. As the results do not find significant differences, we could use all the samples together.

Table 6 Results of Regional difference Analysis

	df	Mean Square	F	Sig.
(1) Cooperation	2	6.370	1.708	.188
(2) Competition	2	10.892	3.601	.032
(3) Independence	2	9.189	3.094	.051
(4) Opportunism	2	2.340	1.554	.217
(5) Relationship Enhancement	2	4.158	2.483	.090
(6) Work Productivity	2	2.248	2.519	.087
(7) Future Collaboration	2	3.412	1.732	.183
(8) Innovation	2	4.572	3.267	.043

### Findings for Correlational Analysis

The results of correlations (see Table 7) provide initial support to the last three hypotheses (H5a, H5b and H5c) that cooperative goals between partners lead to low level of opportunism( $r = - 0.13$ ) while competitive and independent goals lead to

high level of opportunism ( $r = .18, p < .05$ ;  $r = .23, p < .05$ ).

For the first four hypotheses that opportunism behaviors lead to undesirable outcomes, opportunism is significantly negatively related to the four outcomes of relationship enhancement, work productivity, future collaboration and innovation ( $r = -.44, p < .01$ ;  $r = -0.21, p < .05$ ;  $r = -.49, p < .01$ ;  $r = -.22, p < .05$ ).

Table 7 Correlations

	Mean	Std. D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>(1) Cooperation</b>	3.62	1.95	-							
<b>(2) Competition</b>	4.27	1.79	-.81(**)	-						
<b>(3) Independence</b>	3.73	1.77	-.57(**)	.60(**)	-					
<b>(4) Opportunism</b>	4.00	1.24	-0.13	0.18(*)	.23 (*)	(0.86)				
<b>(5) Relationship Enhancement</b>	4.24	1.32	.26 (*)	-.29(**)	-.21 (*)	-.44(**)	(0.83)			
<b>(6) Work Productivity</b>	4.17	0.71	-.33(**)	.28(*)	0.20	-0.21(*)	-0.11	(0.7)		
<b>(7) Future Collaboration</b>	4.00	1.42	.21 (*)	-.27(*)	-0.14	-.49(**)	.68 (**)	0.11	(0.91)	
<b>(8) Innovation</b>	4.17	1.21	0.09	-0.06	0.01	-.22(*)	.45(**)	0.17	.34(**)	(0.9)

Notes:

a N=86

b Values in bracket are reliability (coefficient alpha) estimates.

c \*\* $p < .01$ ; \* $p < .05$ .

### Structural Equation Modeling Analysis

Structural equation modeling analyses were used to explore the relationship between goal independencies, opportunism and the outcomes of relationship enhancement, work productivity, future collaboration and innovation. We first compared the hypothesized model to some alternative models to see if the hypothesized model was the best fitted one.

### *Model Comparison*

Two alternative models (M1-M2) were compared with the hypothesized fully mediated model (the hypothesized model). Results (see Table 8) indicate that the hypothesized model statistics fits the data very well. The  $\chi^2$  of the hypothesized model was 15.03 (d.f.=12) and NFI, NNFI and CFI were 0.95, 0.99 and 0.98, respectively. Given the usually critical value of .90 (Bentler & Bonnett, 1980), results of the fit statistics suggested that the hypothesized model fitted the data quite well.

However, even if the hypothesized model fits the data well, other alternative models are considered and compared. Specifically, the first alternative model (M1) is a direct model with the mediator omitted. The second alternative model (M2) indicates that opportunism impacts goal interdependence first and goal interdependence then impact the dependent variables.

We can see that hypothesized model fit the data better after comparing the hypothesized model to the alternative models: For the non-mediated model (M1), the  $\chi^2$  was 43.62 (d.f.=7). The  $\chi^2$  for the changed-mediated model (M2) is 34.4 (d.f.=4). The hypothesized model thus showed substantial improvement in the chi-square indicates over the other two alternative models.

As for other model fits, CFI, NNFI and NFI for non-mediated model (M1) were 0.85, 0.86 and 0.84, respectively. Those for changed-mediated model (M2) were 0.87, 0.88 and 0.89 respectively. Overall, the fit statistics indicated that the Indirect Effects Model M0 fitted the data best.

Table 8 Results of the Nested Model Analyses

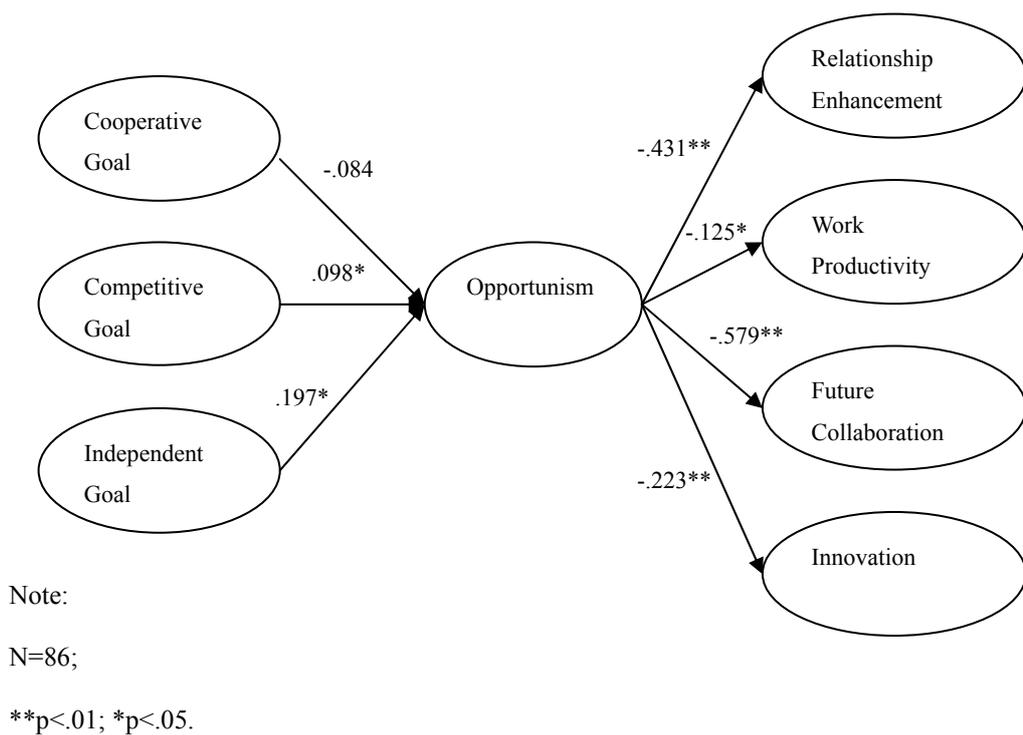
Indirect Effects Model (M0)	Direct Effects Model (M1)	Changed-mediated Model(M2)
-----------------------------	---------------------------	----------------------------

Model $\chi^2$	15.03	Model $\chi^2$	43.62	Model $\chi^2$	34.4
d.f.	12	d.f.	7	d.f.	4
CFI	0.98	CFI	0.85	CFI	0.87
NFI	0.95	NFI	0.84	NFI	0.89
NNFI	0.99	NNFI	0.86	NNFI	0.88

### *Structural Equation Modeling Analysis for the Hypothesized Model*

The path coefficients of the theorized model help to explore the findings more specifically (Figure 2). Those findings on path coefficients generally provide good support for this study's hypotheses.

Figure 2 Result of SEM Analysis



Results showed that competitive and independent goals provoked opportunism ( $\beta=.098$ ,  $p<.01$ ;  $\beta=.197$ ,  $p<.01$ ). However, contrary to the hypotheses, cooperative goals did not significantly negatively affect opportunistic behaviours ( $\beta= -.084$ ,

$p < ns$ ). Consistent with the hypotheses, opportunism significantly affected the outcomes of relationship enhancement, work productivity, future collaboration and innovation ( $\beta = -.431, p < .01$ ;  $\beta = -.125, p < .05$ ;  $\beta = -.579, p < .01$ ;  $\beta = -.223, p < .01$ ). Generally, these findings on path coefficients are consistent with the correlational findings and provide good support for the study's hypotheses. Competitive and independent goals between partners reduce to high level of opportunism behavior, which do harm to their relationship and work performance. The results will be discussed more in the later discussion part.

## **Illustrative Cases**

### *Summary of the Incidents*

A total of 86 cases are recorded and the interviewees' ratings on goal interdependencies and their descriptions on the incidents indicated that 49 cases had largely cooperatively related goals while 32 cases reported competitive goals. In the remaining 5 cases, interviewees reported independent goals.

Most of the interviewees who reported cooperative goals with their partners were satisfied with the final results of the instances. All the interviewees expressed that they were not satisfied with the results when they had competitive or independent goals with their partners. These results were consistent with the correlational and structural equation analyses that cooperative goals contributed to low level of opportunism and positive outcomes while competitive and independent goals contributed to negative outcomes.

### *Case Illustrations*

Drawing on interviewees' qualitative accounts of their incidents, we presented three

cases, all of which interviewees rated either high or low in the level of opportunism. These cases involved competitively related, independent and cooperatively related goals, respectively, and suggested how the perceived goal interdependence affected the partners' opportunistic behaviour and how these led to different outcomes.

Case A illustrates how perceived competitive goals lead to opportunistic behaviour in the supply chain relationship with results of unsatisfactory work performance and worse relationship between partners. A male vice-manager in the production department of one company reported that they recently purchased two testing instruments from another machine supply company. In the process of using the two instruments, they found that the outputs of one instrument are not consistent, so they contacted the supplier and asked for an exchange or repair. In total, the manager's company changed the instrument for a new one twice during the one year time since the purchasing, but the instrument was still not working well. When the interviewee reported the problem to the supplier and requested to change the instrument the third time, he was told that the guarantee period for the instrument was passed so that he could not change a new instrument and the supplier company would also charge the repairing fee if he needed the supplier company to repair the instrument. The -manager felt very angry about this and thought as long as they have changed a new instrument, the guarantee period should be prolonged and the supplier company should change or repair the instrument free of charge. He thought he had a competitive goal relationship with the supplier that the supplier's goal was to charge the fee of repairmen but his own goal was to get the instrument repaired or changed free of charge. He felt that and the supplier just used the guarantee period as an excuse not to perform its responsibility and did some unreasonable business just for its own benefits. But at last, he had no way to ask for a free repair but paid for the repairing fee. As for the outcomes, he reported a very negative relationship with the supplier after this incident and felt they had low work productivity in solving this problem. He also reported very low confidence for future collaboration with the

supplier and low innovation.

Case B illustrates how perceived independent goals leads to opportunistic behaviour in the supply chain relationship which then results in unsatisfactory resolution and worse relationship between partners. A male manager in a drinking-water company described how he ended the supply chain partnership with a customer company who had collaborated with them for more than 3 years. The average price of the drinking water improved a little in the market, so the manager decided to raise the price of the water they sell. But the manager in one of the customer companies required keeping the old price. The customer's reason was that they had collaborated for a long time so that his company should be treated specially. The interviewee said he believed he and the customer had independent goals. The reason was that his goal was just to sell all the water his company's produces, so even the customer company did not want to buy his water any more, he could still sell the water to other customers and keep the price the same with the average price in the market. While the customer's goal is to get water with the same price, so the customer may still get water with the old price from other water supply company even this supplier company refused to keep the price. So under this condition, when the manager simply explained to the customer that they could not keep price the same as before, he did not get reply from the customer and later, the customer just ended their collaboration without any notice beforehand. The manager felt no relationship enhancement after this incident and low efficiency in negotiation regarding this issue. He also felt no confidence for future collaboration with this customer and gave low rating on the improvement of innovation.

Case C illustrates how perceived cooperative goals lead to low level of opportunistic behaviour and enables satisfactory outcomes. The interviewee, a female manager in a state-owned manufactory factory, described an incident some years ago. Her

production department was short of one important material one day and without that material, they could not produce. If they stop the production, it would cost a lot to her company. So the interview called the supplier company of this material and asked if they could send small quantity of this material promptly to her factory. The supplier promised at once to send the material to the factory before dark so the factory could continue producing. However, she failed to get the material on time and the reason was that the deliver person from the supplier company took the wrong address so he drove the material to another place. At first, the manager was very anxious for the large cost of the delay and angry with the supplier. But the supplier showed that he shared the same goal with the manager that he also hoped to deliver the material on time and minimize the lost of her factory. So when the mistake happened, the supplier carefully listened to problem and used the quickest way to send the material to the right place. The supplier also admitted his fault and agreed the interviewee's request to lower the price of this material a little this time to make up for some lost for the delay. And later, the supplier and the manager discussed with each other on how to avoid the same mistake. The manager felt that their relationship was improved after this instance and that she and the supplier were efficient in solving this problem. She also gave high rate for innovation and future collaboration.

## **Chapter VI**

### **DISCUSSION**

This chapter provides an overview of the study results and then discusses some important findings. Specifically, the findings include issues on the influence of opportunism on the outcomes, the relationship between opportunism and goal interdependencies, self-interest and opportunism, and opportunism in collectivistic cultures. Then it describes the limitations and practical implications and suggests possibilities for future research.

#### **Summary of the Result**

The results support the first four hypotheses about the negative effects opportunistic behaviours between partners have on the collaboration. A low level of opportunism is needed to help partners improve their work performance and relationship. A high level of opportunistic behavior undermines their relationship with their partners, lowers their work productivity and reduces the possibility for future collaboration and innovation.

When it comes to the factors that affect the level of opportunistic behaviors, goal interdependencies between partners are found to be most crucial. Results suggest that reducing competitive and independent goals can help to limit opportunities. It may also be that strengthening cooperative goals can help to reduce the likelihood of opportunistic behavior in supply chain partnerships.

Opportunistic behaviors were found to exist between partners even in the collectivist culture in China. Results suggest that goal interdependence theory is still useful in studying phenomenon of organizations in collectivist countries like China.

## **Important Findings**

### *Influence of Opportunism on the Outcomes*

The results suggest that opportunism ruins the partnership in the supply chain. Specifically, it undermines partners' relationships, lowers their work productivity and reduces the possibility for future collaboration and innovation. As no previous researches have ever explored how opportunistic behavior influence innovation in supply chain, here we discuss the important finding that opportunistic behavior undermines partners' ability to innovate.

### *Innovation*

Developing innovation creates competitive advantage in an organization which helps them respond to the changes quicker and better solve problems. Continuing innovation in the supply chain collaboration can achieve customer or supplier satisfaction by responding to the partners' needs promptly and adapt to the changing marketplace (Williams, 2006). It is an important competitive advantage for the organization in a supply chain relationship in the competing market (Burpitt & Bigoness, 1997; West, 2002).

Results suggest that managing goal interdependencies properly could help enhance innovation in the supply chain through the mediator of opportunism. With little competitive and independent goals, partners would engage in few opportunistic behaviors. Under low risk of opportunistic behaviors, organizations in supply chain can share their knowledge and information more openly and fully. Also, a low level of opportunism means that organizations would provide more truthful picture of their own business and the collaboration with their partners. As a result, companies could gain more new technologies and information from their partners. They could also help each other gain more insight to each others' needs and see their own shortcomings, so that they could better improve their operations, products and services. In this way, low opportunism helps companies to innovate thus strengthen their market competitive

advantage. (Ansari & Modarress, 1990; Child & Yan, 2003; Frey & Schlosser, 1993; Hardy, Phillips & Lawrence, 2003; Ireland, Hitt & Vaidyanath, 2003).

### *Goal Interdependencies and Opportunism*

The type of goal interdependencies was found to be an important predictor of opportunism in supply chain partnerships. Results from the correlational and structural equation analyzes are quite consistent with the study's model. The path coefficients between competitive goals and opportunism and between independent goals and opportunism are both significant. When partners thought that their goal attainments are competitively or independently related to their partners, they were more likely to behave opportunistically.

Besides, findings further suggest that the influence of competitive and independent goals on opportunism may be much stronger than cooperative goals. Cooperative goals can not ensure low level of opportunism directly, while competitive and independent goals can significantly lead to high level of opportunism.

Although path coefficients of the model and correlational results between cooperative goals and opportunism did not directly support the hypothesis that cooperative goals could reduce opportunistic behavior, the path coefficients involving perceived goal relationships should be interpreted together, because these three types of goals are related. The assumption that goals are competitively related or independently related implies the assumption that goals are not cooperatively related. In this study, competitive and independent goals were positively correlated. Both competitive goals ( $\beta = -.098, p < .05$ ) and independent goals ( $\beta = -.197, p < .01$ ) had significant positive effects on opportunism and thus we could interpret that the absence of cooperative goals had significant effects on opportunism.

The above results indicate that cooperative goals can not ensure low level of opportunism directly, while competitive and independent goals can significantly lead to high level of opportunism. While cooperative goals can not necessarily lead to low levels of opportunistic behaviour, the absence of cooperative goals can directly impact opportunism, making partners more likely to behave opportunistically.

### *Self-interest and Opportunism*

Transaction cost theorists suggest that self-interest pursuit is harmful and could result in opportunism. Also, in the social relation theory, trust, ethics and people's relation may lead to low level of opportunism but they could all be treated as calculative self-interests. Completely non-self-interest and trust does not exist in the partnership between organizations. Both theories point out that partners are self-interested which lead to opportunistic behavior. We can see that previous researches on opportunism tended to argue that partners should be less focused on their self-interest zealously and more on their common benefits and their relationships.

However, our study used the theory of cooperation and competition to suggest that the opportunistic behavior was not necessarily caused by partners' self-interests pursuit or how much they committed on their self-interests. It was actually the partners' goal interdependencies that affected the level of their opportunistic behavior. As long as the partners understand that their self-interests are little competitive and independent related, even partners are highly committed to their self-interests, they could still engage in low level of opportunism to seek for positively related interests.

In other words, opportunism is not just the result of pursuit in self-interests but the result of how self-interests and goals are related (Kale et al., 2000). The level of opportunism depends on the extent to which the partners believe their goals are

cooperative, competitive or independent, not on the extent of their self-interests pursuit.

Meanwhile, the theory implied that the more committed partners are on self-interest, the stronger effects of perceived goals towards opportunism are. When partners are highly committed to their self-interests, they are more concerned about the outcomes of their opportunistic behavior. Therefore, partners are less likely to engage in opportunism if they are more self-interested, as long as they perceive that their goals are not negatively or independently related.

#### *Opportunism in Collectivistic Culture*

In this study, the regional difference statistics did not find significant differences between those who worked in Beijing, Nanchang or Guangzhou in the respondents' ratings of the scales. These results might imply that in China the influence of region and culture on people's opportunistic behavior and perceived goal interdependencies were not direct and absolute, and that these three cities could represent mainland China as whole in studying supply chain partnership.

Our result supports that opportunism is still a likely barrier to partnerships under specific collectivistic culture in China where people value interpersonal relationship highly and tend to avoid the possible behavior that may damage the relationship (Ding, 1995; Jehn & Weldon, 1992; Kirkbride, Tang, & Westwood, 1991; Leung, 1997; Triandis, 1990; Triandis, McCusker, & Hui, 1990; Tse, Francis, & Walls, 1994). The strong relational bond can not ensure low level of or no opportunism in the collectivistic culture. Sometimes, partners have the low level of opportunistic behavior just because they know that the bad reputation for those behaviors would harm their interests and they understand the value to maintain the social relation. Otherwise, they may still be opportunistic when the potential benefit is more than the potential lost (Nooteboom, 1996). In addition, collectivists may be exploratory and

aggressive toward out-group members, such as those who are in another organization (Chen et al., 2002; Triandis, 1990). Competitive and independent goals suggest that people and their partners are more of the out-group ones than in-group members, and once they think so, they are likely to exploit them thus conduct opportunistic behavior (Chen et al., 2002).

In conclusion, Chinese people can still be opportunistic toward their partners in general and the possibility of opportunistic behavior, still, depends on how they perceive their goals with each other.

### **Implications**

Results, if continued to be supported, have important practical implications for developing sound supply chain partnerships, especially in China.

Current efficient and healthy partnership has a more overall and comprehensive idea. In such a competitive marketplace, partners in supply chain face serious stress of developing efficient and healthy relationships with each other that could improve work productivity, reduce costs, collaborate for the long term, meet customers' need, innovate and so on (Harrison & St John, 1996; Kumar, 1996). Therefore, the four outcomes, namely relationship enhancement, work productivity, future collaboration and innovation, in this study are crucial in valuating partnerships in the supply chain. This study provides both quantitative and qualitative evidence of the value of goal interdependencies and their relationship with partnerships, with the predictor of opportunism.

Results show that competitive or independent goals between partners would encourage partners to behave opportunistically. Thus managing goal interdependencies between partners, especially by limiting competitive and

independent goals, is necessary to realize a low level of opportunistic behavior which leads to favorable outcomes. To develop effective partnership with partners, they should first manage their goal interdependencies with their partners. To lessen competitive and independent goals, partners could try to: get together often to develop a common aims and values, integrate each other's roles, conduct a common task, develop personal relationships, or share some rewards or distributions (Hambrick, 1994; Hanlon, Meyer, & Taylor, 1994; Li, Xin, Tsui, & Hambrick, 1999; Pearce, 1997; Tjosvold & Tjosvold, 1995). Doing these could generate more cooperative goals and less competitive and independent goals, between partners in the supply chain.

The findings could have practical implications for companies to do business in China.

Chinese people are regarded as collectivists and concern about their relationships with others particularly. But we can not assure that the collectivists could always develop good relationships between their partners in the supply chain. Collectivists can also be exploratory and aggressive towards others which lead to ruined partnerships.

In order to build good partnerships with Chinese partners, they should first manage their goal interdependencies.

This study also opposes the idea in the transaction theory and social theory that the more the partners' pursuit self-interests, the more likely they are opportunistic and raises a contrary argument. Self-interest does not necessarily lead to opportunism and threaten partnerships. The level of opportunism depends on the extent to which the partners believe their goals are cooperative, competitive or independent, not on the extent of their self-interests pursuit. Above findings indicate that between partners in the supply chain self-interest pursuit is not always harmful. Partners should not be advised to avoid self-interests, but be encouraged to limit their competitive and independent goals.

In this study the theory of goal interdependencies and opportunism, although developed in the West (Deutsch, 1973), is proved to be useful in understanding the partnerships of supply chain in China. This study's approaches of identifying three different types of goals are found to be useful in collectivistic cultures and in determine opportunistic behaviors. Goal interdependence theory can be used to understand cross-organizational issues in collectivist cultures.

### **Limitations**

This study has several limitations. First, the sample and methodology may limit the results of this study. The relatively small sample of 86 respondents limits the validation and generation of the findings. Although interview is a very useful method for this study, its operation makes collecting a wide sample of data difficult. Second, regarding internal validity, the data is self-reported and thus is subject to biases and may not accurately or completely report the incidences. In addition, the composition of the sample of interviewees may limit the generality of the results. In our study, we selected data from three different cities in China to make the data more suitable to represent the China as a whole. Third, these data are also correlational, which are not able to provide direct evidence of causal links between of goal interdependencies, opportunistic behaviors, and outcomes.

In addition, the study relied on Western-developed scales. Although most of the scales used in this study have been tested in China, researchers have doubted the viability of applying scales developed in the West to China because Chinese people's ideas and understandings may be different and are likely to result in different outcomes (Helms, 1992; Hofstede, 1993). If the model in this study could be tested in the future research in the west, it could provide more direct evidence of the cultural equivalence of this study's measurements of goal interdependencies,

opportunism and four outcomes (Van de Vijver & Leung, 1997). Developing different sources for the scales could reduce the possibilities of errors and bias than one-source method for the results. This study randomly selects the sample of either customers or suppliers so that all variables could be measured by both suppliers and customers thus improve the results.

Another limitation is that we were only able to do the interview on one part in the supply chain partnership for his/her relation to the recalled incident. It is possible that the other party might have different perceived goal relationships to the incident, might have different perceptions towards the extent of opportunism, and might report different outcomes.

### **Possible Future Research**

During this research, I found some other studies related to this one could be valuable to supplement and refine the current findings. These possible future researches are:

First, it would be useful to provide direct verification of the dynamics of cooperative goals, opportunism and outcomes in supply chain partnership, with the data gathered from both parties in the partnerships.

Second, studies combine both high and low levels of commitment to self-interest with cooperative, competitive, and independent goals as the independent variables to study opportunistic behavior might be a constructive way to future test our cooperation and competition theory and to test the contrasting hypothesis in the transaction cost theory as well.

Third, bargaining power is considered to be powerful in determining and understanding the opportunistic behavior in the supply chain (Macneil, 1981). Future

research could directly investigate the impact of bargaining power on perceived goals and opportunism in supply chain partnerships.

### **Summary**

The results support the first four hypotheses about the negative effects opportunistic behaviours between partners have on the collaboration and two hypotheses that competitive and independent goals led to opportunistic behaviors.

A low level of opportunism is needed to help partners improve their work performance and relationship. At the same time, a high level of opportunistic behavior undermines their relationship with their partners, lowers their work productivity and reduces the possibility for future collaboration and innovation.

The influence of competitive and independent goals on opportunism may be stronger than that of cooperative goals. While cooperative goals is not necessarily lead to low level of opportunistic behaviour, the absence of cooperative goals can directly influence opportunism, making partners more likely to behave opportunistically. To build effective partnerships between partners, partners should manage their goal interdependencies with each other by limiting competitive and independent goals.

This study also indicates that self-interest does not necessarily lead to opportunism and threaten partners' partnerships. The level of opportunism depends on the extent to which the partners perceive their goals as cooperative, competitive or independent, not on the extent of their self-interests pursuit. Results oppose the idea in the transaction cost theory that the greater partners are committed to self-interest, the more likely the opportunism takes place. The extent of self-interest could just influence the impact of the effects of perceived goals.

The study tests the generality of some theories. The theory of goal interdependencies developed in the West (Deutsch, 1973) is proved to be useful in this study in understanding the partnerships of supply chain in collectivistic culture of China. Goal interdependence theory can be used for understanding between-organizational issues in nonwestern cultures.

## APPENDIX I

### Questionnaire



Management Department

Contact: Wu Lanjun, Julie

Tel.: 2616-8308 Email: l3wu@ln.edu.hk

### Supply Chain Partnership Study

Interviewee: \_\_\_\_\_

Your Position: \_\_\_\_\_

Years at Organization: \_\_\_\_\_

Gender \_\_\_\_\_ Age \_\_\_\_\_ Education Level \_\_\_\_\_

- A. We are studying how suppliers, manufacturers, and marketing organizations work together on projects that could influence their partnership. Specifically, we want you to discuss a concrete example when you interacted with a person (s) from someone in another organization in your supply chain as you disagree with each other regarding an issue or in some way tried to negotiate in terms of your collaboration. The example can be one which the interaction with the person from the other company turned out to be successful or one that was less successful. (Rephrase if necessary)

Describe what led to the situation, with whom you were working, what happened, with whom did you discuss the problem, and people reacted. (Record Verbatim)

### B. Scales

#### Goal Interdependence

- (1) What were your objectives in this interaction?

(Record Verbatim)

(2) What were the objectives of the other person in this interaction?

(Record Verbatim)

1. In your mind, how related was your reaching your objectives with the other reaching his objectives? (reverse-scored)

Little 1 2 3 4 5 6 7 A Great Deal

2. How much would your reaching your objectives help the other person(s) reach his objectives?

Little 1 2 3 4 5 6 7 A Great Deal

3. How much would your accomplishing your objectives interfere with his objectives?

Little 1 2 3 4 5 6 7 A Great Deal

### **Opportunism**

1) Your partner provided you a completely truthful picture of his company's business in this interaction. (reverse-scored)

Little 1 2 3 4 5 6 7 A great deal

2) Complete honesty did not pay when dealing with your partner in this interaction.

Little 1 2 3 4 5 6 7 A great deal

3) Sometimes your partner altered the facts slightly in order to get what he need in this interaction.

Little 1 2 3 4 5 6 7 A great deal

4) Your partner carried out his duties even if you did not check up on him in this interaction. (reverse-scored)

Little 1 2 3 4 5 6 7 A great deal

5) Your partner had sometimes promised to do things without actually doing them later, in this interaction.

Little 1 2 3 4 5 6 7 A great deal

- 6) Your partner seemed to feel that it is OK to do anything within his means that would help further his firm's interests, in this interaction.

Little 1 2 3 4 5 6 7 A great deal

### **Strength of Relationship**

- 7) How much did this interaction with the other person make you more confident that you could work successfully with him in the future?

Little 1 2 3 4 5 6 7 A great deal

- 8) To what extent did this interaction strengthen your relationship with the other person?

Little 1 2 3 4 5 6 7 A great deal

- 9) To what extent did this interaction make you more trusting of the other person?

Little 1 2 3 4 5 6 7 A great deal

### **Work Productivity**

- 10) How much did you and the other person make progress on the task because of this interaction?

Little 1 2 3 4 5 6 7 A great deal

- 11) How efficiently did you and the other person accomplish the task?

Little 1 2 3 4 5 6 7 A great deal

- 12) How effectively did you and this person work on the task?

Little 1 2 3 4 5 6 7 A great deal

### **Future Collaboration**

- 13) To what extent do you hope you can work with the other person in the future?

Little 1 2 3 4 5 6 7 A great deal

- 14) To what extent will you try to seek opportunity to work with the other person in the future?

Little 1 2 3 4 5 6 7 A great deal

15) To what extent would you be very pleased if the other person continued to be you partner in the future?

Little 1 2 3 4 5 6 7 A great deal

**Innovation**

16) How much did this interaction help you seek out information about new markets, products, and technologies from sources outside the organization?

Little 1 2 3 4 5 6 7 A great deal

17) How much did this interaction help you identify and develop skills that can improve your ability to serve existing business needs?

Little 1 2 3 4 5 6 7 A great deal

18) How much did this interaction help you identify and develop skills that can help attract and serve new business needs?

Little 1 2 3 4 5 6 7 A great deal

19) How much did this interaction help you seek out and acquire knowledge that may be useful in satisfying needs unforeseen by the client?

Little 1 2 3 4 5 6 7 A great deal

## REFERENCE

- Alper, S., Tjosvold, D. & Law, K. S. (2000). Conflict management, efficacy and performance in organizational teams. *Personnel Psychology*, 53(3), 625-642.
- Alper, S., Tjosvold, D. & Law, S. A. (1998). Interdependence and controversy in group decision making: Antecedents to effective self-managing teams, *Organizational Behavior and Human Decision Processes*, 74, 33-52.
- Anderson, J. C. & Narus, J. A. (1990). A Model of Distributor Firm and Manufacturing Firm Working Relationships. *Journal of Marketing*, 54 (1), 42-58.
- Ansari, A. & Modarress, B. (1990). JIT brings problems and solutions, *Purchasing World*, 34(3), 47-50.
- Argyle M. (1994). *The Psychology of Social Class*. London: Routledge.
- Ash C. (2000). Social-Self-Interest. *Ann. of Public & Cooperative Economics*, 71(2).
- Barney, J. B. (1996). *Gaining and Sustaining Competitive Advantage*. Reading, MA: Addison Wesley.
- Bentler, P. M. & Bonnett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structure. *Psychological Bulletin*, 88(3), 588-60.
- Bradach, J. L. & Eccles, R. G. (1989). Price, authority, and trust: from ideal types to plural forms. *Annual Review of Sociology*, 15, 97-118.
- Burpitt, W. J. & Bigoness, W. J. (1997). Leadership and innovation among teams: The impact of empowerment. *Small Group Research*, 28, 414-423.
- Buvik, A. & Gronhaug, K. (2000). Inter-firm dependence, environmental uncertainty and vertical co-ordination in industrial buyer-seller relationships. *Omega*, 28, 445-454.
- Ding D. Z. (1995). Exploring Chinese conflict management styles in joint venture in the People's Republic of China. *Management Research News*, 19 (9), 45-55.
- Dore R. (1989). *Taking Japan seriously*, Stanford: Stanford University Press.
- Chen, C. C., Peng, M. W. & Saporito, P. A. (2002). Individualism, collectivism, and opportunism: A cultural perspective on transaction cost economics. *Journal of Management*, 28, 567-583.
- Child, J. & Yan, Y. (2003). Predicting the performance of international joint ventures: An investigation in China. *Journal of Management Studies*, 40, 283-320.
- Coleman, J. S. (1990). *Foundations of social theory*. Cambridge, MA: Harvard University Press.
- Cook, S. (1984). Cooperative interaction in multiethnic contexts. in N. Miller and M. Brewer (eds.), *Groups in Contact: The Psychology of Desegregation*. Academic Press: New York, 156-186.
- Cusumano, M. A. & Fujimoto, T. (1991). Supplier relations and management: A survey of Japanese, Japanese-Transplant and U.S. auto plants. *Strategic Management Journal*, 12, 563-588.
- Dasgupta, P. (1998). Trust as a Commodity, in Trust: Making and Breaking Cooperative Relations. *Annual Review of Sociology*, 15, 97-118.
- Deutsch, M. (1973). *The resolution of conflict*. New Haven, CT: Yale University Press.
- Deutsch, M. (1949). A theory of cooperation and competition. *Human Relations*, 2, 129-152.
- Dore, R. (1983). Goodwill and the spirit of market capitalism. *British Journal of Sociology*,

34, 459-482.

- Douglas, Mary (1990). Converging on Autonomy: Anthropology and Institutional Economics in *Organization Theory: From Chester Barnard to the Present and Beyond*, Oliver E. Williamson, ed. New York: Oxford University Press, 98–115.
- Dyer, J. H. & Chu, W. (2003). The role of trustworthiness in reducing transaction costs and improving performance: Empirical evidence from the United States, Japan and Korea. *Organization Science*, 14(1), 57–68.
- Dyer, J. H. & Ouchi, W. G. (1993). Japanese-style partnerships: Giving companies a competitive edge, *Sloan Management Review*, 35, 51-63.
- Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin*, 54, 327-358.
- Frey, S. C. & Schlosser, M. M. (1993). ABB and Ford: creating value through co-operation. *Sloan Management Review*, 35(1), 65–72.
- Friman, M., Garling, T., Millett, B., Mattsson, J., & Johnston, R. (2002). An analysis of international business– business relationships based on the commitment–trust theory. *Industrial Marketing Management*, 31, 403–409.
- Gambetta, D. (1988). Can we trust trust? In: D. Gambetta, Editor, *Trust: making and breaking cooperative relation*, Basil Blackwell, New York, 213–238.
- Ghoshal, S. & Morgan, P. (1996). Bad for practice: A critique of the transaction cost framework. *Academy of Management Journal*, 21, 13–47.
- Gibbons, R. (1999). Taking Coase Seriously. *Administrative Science Quarterly*, 44 (March), 145–57.
- Graham, D. A. & Ellen R. P. (1989). Contract Modification: An Economic Analysis of the Hold-Up Game. *Law and Contemporary Problems*, 52 (1), 9–32.
- Granovetter, M. (1985). Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology*, 91 (November), 481–510.
- Griesinger, D. (1990). The human side of economic organization. *Academy of Management Review*, 15, 478–499.
- Hambrick, D. C. (1994). Top management groups: A conceptual integration and reconsideration of the “team” label. *Research in Organizational Behavior*, 16, 171–213.
- Hanlon, S. C., Meyer, D. C. & Taylor, R. R. (1994). Consequences of gainsharing: A field experiment revisited. *Group and Organizational Management*, 19, 87–111.
- Hardy, C., Phillips, N. & Lawrence T.B. (2003). Resources, knowledge and influence: The organizational effects of interorganizational collaboration. *Journal of Management Studies*, 40, 320–347.
- Harrison, J. S. & John, S. (1996). Managing and partnering with external stakeholders, *Academy of Management Executive* 10, 46–60.
- Hart, Oliver D. & John Moore (1999). Foundation of Incomplete Contracts. *Review of Economic Studies*, 66 (1), 115–38.
- Helms, J. E. (1992). Why is there no study of cultural equivalence in standardized cognitive ability testing? *American Psychologist*, 47, 1083-1101.
- Helper S. (1991). Strategy and irreversibility in supplier relations: The case of the U.S. automobile industry, *Business History Review*, 65 (Winter 1991), 781-824.
- Heide & George, J. (1992). Do Norms Matter in Marketing Relationships? *Journal of*

- Marketing*, 56, 32–44.
- Hill, C. W. L. (1990). Cooperation, Opportunism, and the Invisible Hand: Implications for Transaction Cost Theory. *The Academy of Management Review*, 15(3), 500-513.
- Hofstede, G. (1993). Cultural Constraints in Management Theories. *Academy of Management Executive(AEX)*, 7(1), 81-94.
- Hwang, J. J. (2000). The reforms of educational systems and quality: The future of career and technical education reform. *Journal of Technological and Vocational Education*, 57, 10-14.
- Hwang, K. K. (1997-8). *Guanxi* and *mientze*: Conflict resolution in Chinese society. *Intercultural Communication Studies VII*, 1, 17-42.
- Hwang, K. K. (1987). Face and Favour: The Chinese Power Game, *American Journal of Sociology*, 92 (4), 944-974.
- Ireland, R. D., Hitt, M. A. & Vaidyanath, D. (2003). Alliance management as a source of competitive advantage. *Journal of Management*, 28, 413–446.
- Jehn, K. A. & Weldon, F. (1992). *A comparative study of managerial attitudes toward conflict in the United States and the People's Republic of China: Issues of theory and measurement*. Paper presented at the annual meeting of the Academy of Management, Las Vegas, NV.
- Johanson, J. & Mattsson, L. G. (1987). Interorganizational relations in industrial systems: A network approach compared with the transactioncost approach. *International Studies of Management and Organization*, 1, 33–80.
- John, George (1984). An Empirical Investigation of Some Antecedents of Opportunism in a Marketing Channel. *Journal of Marketing Research*, 21 (August), 278–89.
- Johnson, D. W. & Johnson, R. T. (1989). *Cooperation and competition: Theory and research*, Edina, MN: Interaction Book Company.
- Johnson, D. W., Maruyama, G., Johnson, R. T., Nelson, D., & Skon, S. (1981). Effects of cooperative, competitive, and individualistic goal structures on achievement: A meta-analysis. *Psychological Bulletin*, 89, 47–62.
- Jones G. R. & Hill C. W. L. (1988). Transaction cost analysis of strategy–structure choice. *Strategic Management Journal*, 9 (2), 159–172.
- Kale, P., Singh, H., & Perlmutter, H. (2000). Learning and protection of proprietary assets in strategic alliances: Building relational capital. *Strategic Management Journal*, 21, 217–237.
- Kirkbride, P. S., Tang, F. Y. & Westwood, R. I. (1991). Chinese conflict preferences and negotiating behavior: cultural and psychological influence. *Organization Studies*, 12(3), 365-389.
- Kumar, N. (1996). The power of trust in manufacturer–retailer relationships. *Harvard Business Review*, 92–106.
- Lee, D. J., Pae, J. H. & Wong, Y. H. (2001). A model of close business relationships in China (guanxi). *European Journal of Marketing*, 35(1/2), 51-69.
- Leung, K. (1997). Negotiation and reward allocations across cultures. In: P. C. Earley and M. Erez, Editors, *New perspectives on I/O psychology*, Jossey-Bass, San Francisco, 640–675.

- Lewicki, R. J., McAllister, D. J. & Bies, R. J. (1998). Trust and distrust: New relationships and realities. *Academy of Management Review*, 23, 438–458.
- Li, J., Xin, K. R., Tsui, A., & Hambrick, D. C. (1999). Building effective international joint venture leadership teams in China. *Journal of World Business*, 34, 52–68.
- Love, E. D. & Gunasekaran, A. (1999). Learning alliances: A customer-supplier focus for continuous improvement in Manufacturing. *Industrial and Commercial Training*, 31(3), 88-1999.
- Macaulay S. (1963). Non-contractual relations in business; a preliminary study. *American Sociological Review*, 28, 55-70.
- Macneil, I. R. (1978). Contracts: Adjustment of Long-Term Economic Relations Under Classical, Neoclassical, and Relational Contracts. *Northwestern Law Review*, 72 (6), 854–901.
- Macneil, I. R. (1981), Economic Analysis of Contractual Relations: Its Shortfalls and the Need for a ‘Rich Classificatory Apparatus’. *Northwestern University Law Review*, 75, 1018–63.
- Maitland, I., Bryson, J., & Van de Ven, A. (1985). Sociologists, economists, and opportunism. *Academy of Management Review*, 10, 59–65.
- Markus, H. R. & Kitayama, S. (1991). Culture and Self: Implications for Cognition, Emotion, and Motivation. *Psychological Review*, 98, 224-253.
- Michael, D. (2003). *CEO Visions: Collaboration Equals Innovation*. InformationWeek, 27.
- Moschandreas, M. (1997). The role of opportunism in transaction cost economics. *Journal of Economic Issues*, 31, 39–55.
- Muris, Timothy J. (1981). Opportunistic Behavior and the Law of Contracts. *Minnesota Law Review*, 65, 521–90.
- Myhr & Spekman (2002). Partnership Performance in Supply Chains – The Impact of Collaboration, An article submitted to the *Journal of the Academy of Marketing Science* in the category of Industrial Marketing,
- Nooteboom, B. (1996). Trust, opportunism and governance: A process and control model. *Organization Studies*, 17(6), 985-1010.
- Nooteboom, B. (1996). *Will opportunism go away?* SOM theme B: Inter-Firm Coordination and Change: Marketing and Networks.
- Palay, Thomas M. (1984). Comparative Institutional Economics: The Governance of Rail Freight Contracting. *Journal of Legal Studies*, 13 (June), 265–87.
- Parkhe, A. (1993). Strategic alliance structuring: a game theoretic and transaction cost examination of interfirm cooperation. *Academy of Management Journal* 36(4), 794–829.
- Pearce, R. J. (1997). Towards understanding joint venture performance and survival: A bargaining and influence approach to transaction cost theory. *Academy of Management Review*, 22, 203–235.
- Provan, K. G. & Skinner, S. J. (1989). Interorganizational Dependence and Control as Predictors of Opportunism in Dealer-Supplier Relations. *The Academy of Management Journal*, 32, 202-212.
- Roland, A. (1988). *In Search of Self in India and Japan*. Princeton, N.J.: Princeton University Press.

- Rogers, M. (1998). *Definition and measurement of innovation*.
- Sabel, C. (1993). Studied Trust, in R. Swedberg (ed.), *Explorations in Economic Sociology*, New York, Russell Sage, 104-144.
- Schwartz, N. (1999). Self-reports. *American Psychologist*, 54, 93-105.
- Shweder, R. A. & Bourne, E. J. (1984). Does the Concept of the Person Vary Cross-Culturally? In R.A. Shweder and R.A. Levine (eds) *Culture Theory*, Cambridge: Cambridge University Press, Ch.6.
- Smith, P. B. & Bond, M. H. (1998). *Social psychology across cultures* (2nd ed.). Prentice-Hall, Englewood Cliffs, NJ.
- Spekman, R. E., Kamauff, J. W. & Myhr, N. (1998). An empirical investigation into supply chain management: A perspective on partnerships. *International Journal of Physical Distribution and Logistics Management* 28, 630–650.
- Stanne, M. B., Johnson, D. W., & Johnson, R. T. (1999). Does competition enhance or inhibit motor performance: A meta-analysis. *Psychological Bulletin*, 125, 133–154.
- Thomas, R. J. (1993). *New Product Development*, New York: John Wiley & Sons.
- Thomas, W. (1993). Diffusion of Innovations and Policy Decision-Making. *Journal of Communication*, 43, 30-45.
- Tjosvold, D. (1998). The cooperative and competitive goal approach to conflict: Accomplishments and challenges. *Applied Psychology: An International Review*, 47, 285-313.
- Tjosvold, D., Andrews, I.R., and Struthers, J. (1991). Power and Interdependence in Work Groups: Views of Managers and Employees. *Group and Organization management*, 16 (3), 285.
- Tjosvold, D. & Sun, H. (2000). Social face in conflict: Effects of affronts to person and position in China. *Group Dynamics*, 4, 259-271.
- Tjosvold, D. & Tjosvold, M. M. (1995). Cooperation theory, constructive controversy, and effectiveness: Learning from crises. In R. A. Guzzo & E. Salas (Eds.), *Team effectiveness and decision making in organizations* (pp. 79–112). San Francisco: Jossey-Bass.
- Triandis, H. C. (1989). The self and social behavior in differing cultural contexts. *Psychological Review*, 96, 506–520.
- Triandis, H. C., McCusker, C. & Hui, C. H. (1990). Multimethod probes of individualism and collectivism. *Journal of Personality and Social Psychology*, 59, 1006–1020.
- Tse D. K., Francis J. & Wall J. (1994). Cultural differences in conducting intra- and inter-cultural negotiations: A Sino-Canadian comparison. *Journal of International Business Studies*, 25, 537–555.
- Van de Vijver, F. J. R., & Leung, K. (1997). *Methods and data analysis for cross-cultural research*. Newbury Park, CA: Sage.
- Walker, S. & Truly, E. L. (1992). The Critical Incident Technique: philosophical and methodological contributions to marketing research. In C. T. Allen (ed.), *Proceedings of the American Marketing Association's Winter Educator's Conference* Chicago, IL: American Marketing Association, 270-275.
- Wathne, K. H., & Heide, J. B. (2000). Opportunism in interfirm relationships: Forms, outcomes, and solutions. *Journal of Marketing*, 64, 35–51.

- Williamson, O. E. (1996). *The Mechanisms of Governance*. New York: Oxford University Press.
- Williamson, O. E. (1993). Opportunism and its critics. *Managerial and Decision Economics*, 14, 97-197.
- Williamson, O. E. (1991). Comparative economic organization: The analysis of discrete structural alternatives. *Administrative Science Quarterly*, 63, 269–296.
- Williamson, O. E. (1985). *The economic institutions of capitalism*. New York: Free Press.
- Williamson, O. E. (1980). The Organization of Work: A Comparative Institutional Assessment. *Journal of Economic Behavior and Organization*, 1(1), 538.
- Williamson, O. E. (1975). *Markets and Hierarchies*. New York: Free Press.
- Williamson, O. E. & Ouchi, W. G. (1981). The markets and hierarchies and visible hand perspectives' in Perspectives on *organizational design and behavior* W. F. Joyce (ed.), 347-370, New York: Wiley.
- Williams, J. P. (2006). *Collaboration in the Supply Chain Speeds Innovation*.
- Wilson, James A. (1980). Adaptation to Uncertainty and Small Numbers Exchange: The New England Fish Market. *Bell Journal of Economics*, 11, 491–504.
- Womack, James P., Daniel T. Jones, and Daniel Roos (1990). *The Machine That Changed the World: Based on the Massachusetts Institute of Technology 5-Million Dollar 5-Year Study on the Future of the Automobile*. New York: Rawson Associates.
- WONG, A., TJOSVOLD, D. & YU, Z. (2005). Organizational Partnerships in China. *Journal of applied psychology*, 90(44), 782-791.
- Zaheer, A. B., McEvily, B. & Perrone, V. (1998). Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. *Organizational Science*, 9, 1–20.