

**AN EMPIRICAL EXAMINATION OF BOUNDARY CONDITIONS FOR  
RELATIONAL EXCHANGE**

**by**

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**Dissertation submitted to the Faculty of the  
Virginia Polytechnic Institute and State University  
in partial fulfillment of the requirements for the degree of**

**Doctor of Philosophy**

**in**

**Business Administration: Marketing**

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**April 2006  
Blacksburg, Virginia**

**Keywords: Relational Exchange, Performance, Vertical Integration, Transaction  
Costs, Dependence, Opportunism**

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(ABSTRACT)

Current marketing channel literature overwhelmingly suggests that entering exchange relationships leads to positive outcomes for the exchange parties. Yet, not all exchanges employ relational exchange. Thus, research appears to lack an understanding of the boundary conditions of successful relational exchange.

This dissertation contributes to filling this gap by clarifying what is understood as relational exchange and differentiating it from vertical integration. Here, a two-dimensional perspective on exchange structure is offered that integrates our view of relational exchange and extends the conceptualization of vertical integration beyond sole ownership.

To derive boundary conditions of relational exchange the literature on interorganizational relationships is integrated into six determinants and two key outcomes of relational exchange. These boundary conditions thus represent the facilitating circumstances that make relational exchange viable and the outcomes of relational exchange that exchange partners seek to achieve.

## **DEDICATION**

This dissertation is dedicated to my parents Bernd and Brigitte whose continued encouragement has led me to take on this challenge. Without their support, especially during the recent years, completion of this dissertation would not have been possible.

## ACKNOWLEDGEMENTS

The completion of this dissertation has been a product of hard work and invaluable support and mentorship of my committee members. During this unexpectedly long journey I received not only guidance but hope and experienced not only collegiality but friendship from my committee members which I will always remember.

I would like to begin by thanking my dissertation chairs, Dr. James R. Brown and Dr. C. Jay Lambe whose door was always open and who continuously worked with me to complete this dissertation and guided me in becoming a member of the academic community. Jim's integrity, professionalism, and profound knowledge have become a guiding example in my scholarly development. I will never forget his passion for my work and his confidence in me that have given me the strength to complete this work.

I am also very thankful to my good friend and colleague, Dr. M. Joseph Sirgy, who deserves more thanks than space allows. He has always been there to share his wisdom and to offer a helping hand.

Dr. Donald E. Hatfield and Dr. Jim Littlefield deserve special thanks for staying with me and supporting the completion of this dissertation with their insightful advice and willingness to help. Last, but not least, I would like to thank everyone in the Department of Marketing at Virginia Tech who helped me with the nuts and bolts of completing this work.

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## CHAPTER I

### INTRODUCTION

Exchange is one of the core concepts in marketing (Bagozzi 1975; Kotler 1972). One marketing research stream studies exchange between buyers and sellers in industrial markets. Here, research has drawn on institutional economics and sociology to study the processes and outcomes of different exchanges. In particular, research in sociology suggests that:

[Exchange] between totally isolated, utility-maximizing individuals is not ... [exchange], but war; ... [exchange] without social structure and stability is ... rationally unthinkable (Macneil 1980, p. 1).

Following this notion, recent research on such exchanges is shifting its focus from exchange in the narrow sense of in economic transaction towards a sociological perspective concerned with building relationships and marketing networks (e.g., Kotler 1991; Achrol and Kotler 1999). Exchange in social relationships can be viewed as “interaction processes where the interaction is any set of observable behavior on the part of at least two individuals where there is reason to believe that some parts of these individuals are responding to each other” (Hallen, Johanson, Seyed-Mohamed 1991, p. 29). This orientation towards relational forms of contracting in the context of business-to-business exchanges is an orientation “that seeks to develop close interactions with selected customers, suppliers, and competitors for value creation through cooperative efforts” (Parvatiyar and Sheth 1994).

Scholarly work in the marketing literature, attracted by the outcomes of relational forms of exchange, seem to overwhelmingly favor initiation of relationship marketing [RM] or relational exchange. Houston and Gassenheimer (1987) stated that “good

marketing management emphasizes the building of long-term relationships” (p.10). Kotler (1991) similarly states “smart marketers try to build up long-term, trusting, win-win relationships with customers, distributors, dealers, and suppliers” (p.8). In particular, researchers have argued that interactions embedded within close ties will yield economic gains and increase mutual profitability (e.g., Granovetter 1985; Anderson and Weitz 1992). Also, independent channel members will work together to better serve customer needs once they have mutually committed to the relationship, and such coordinated interaction patterns facilitate adaptation to changing business conditions (Anderson and Weitz 1992). In addition, empirical studies show that closer relational ties improve performance outcomes in buyer-seller relationships (Noordewier, John, and Nevin 1990). In summary, the current perspective on relational forms of exchange appears to suggest that greater relational exchange is likely to lead to beneficial exchange outcomes.

Despite overwhelming support for this position, channel contexts may exist that are inappropriate for initiating relationship-building strategies between channel members (Nevin 1995). For example, it may be undesirable to initiate relational exchanges when the costs of relationship building efforts outweigh its benefits or when close inter-firm ties may conflict with the mission and marketing strategy of the firm. Empirically, some studies have found null effects (e.g. Lusch and Brown 1996) and even detrimental effects (e.g. Uzzi 1996) of closer ties on performance urging a closer look at this problem.

Much research on relational or hybrid forms of exchange relies on economic models, such as the transaction cost framework [TCA] (Williamson 1975), to predict the use of social types of exchange. However, the efficiency, or cost-based view of the TCA framework may not provide a sufficient explanation for an increasing number of non-

market and non-hierarchy forms of organizations (Larson 1992). Recent research has pointed towards incongruence of underlying assumptions of such economic frameworks for social types of exchange (e.g., the assumption of opportunism).

In light of these conceptual problems, a number of researchers have moved away from studying relational forms of exchange as informal social structures to studying them as formal governance structures that represent a legitimate alternative to markets and hierarchies (Achrol and Kotler 1999). Such research tends to treat relational forms of exchange as representing an independent dimension of exchange (e.g. Ring and Van de Ven 1992; Workman, Homburg, and Gruner 1998; Robicheaux and Coleman 1994).

However, the current literature on the determinants of interorganizational relationships is broad ranging and heterogeneous. Many types of exchange relationships have been studied in a variety of settings, and little attempt has been made to integrate this literature into generalizable predictors of relationship formation (see Oliver 1990 for a notable exception) or to distinguish the drivers of relational exchange from those of other elements of governance structure such as vertical integration.

## **Introduction to Investigations**

### **Theoretical Arguments**

In prospect of increasing managerial emphasis on relational exchange, as well as its significance to exchange partners the issue of whether to develop exchange relationships is highly relevant for both marketing research and practice. This investigation is therefore concerned with investigating the boundary conditions of relational exchange – conditions that determine whether relational exchange is beneficial to marketing channels of distribution. In particular, three conceptual issues are addressed:

1. An integrative conceptualization of what is commonly understood as relational exchange independent from vertical integration is developed;
2. A formal taxonomy of the boundary conditions for exchange relationship formation is developed and tested;
3. Overlap between drivers of relational exchange and those of vertically integrated exchange is investigated.

First, this investigation identifies two specific structural dimensions of exchange structure (relational exchange and vertical integration) that can be used to bridge research on the transaction cost and relationship marketing. It is posited that these dimensions can be understood as a unifying framework for studying exchange structure and, thus, relational exchange. In regards to the vertical integration dimension, the broad phenomenon of vertical integration is decomposed into generic aspects shared by markets, hybrids and hierarchies that go beyond mere ownership. These aspects may provide a more fine-grained view of vertical integration and can be described by outcome versus behavior-based incentives as well as bargaining versus direction used in the exchange. In regards to the relational exchange dimension, theory of reasoned action is applied to conceptualize relational behavioral intentions as a central aspect of relational exchange. An exchange partner's relational intentions may provide a parsimonious conceptualization of relational exchange because they link core motivations of an exchange partner for engaging in relational exchange with relational behavior in the exchange.

Second, this investigation addresses the question of boundary conditions for relational exchange by investigating (1) the specific causes within the marketing channel

that may lead to the development of relational exchange and (2) environmental and interorganizational constraints may determine whether these contingencies will lead to relational exchange. Here, causes for relational exchange are viewed as originating from the goal of channel members to achieve exchange performance and boundary conditions are those that affect its ability to contribute to these exchange outcomes. In order to derive a taxonomy of boundary conditions for relational exchange, existing literature on relational exchange is integrated into two broad categories of generalizable contingencies that clarify when it is desirable to develop relational exchange. These are an increased level of interdependence between the exchange parties and/or the need for safeguarding against opportunistic behavior in the exchange relationship.

By comparing and contrasting these antecedents of relational exchange with those of vertical integration, a theoretical framework is offered for employing these alternative exchange structures. This framework further provides insight into conditions under which vertical integration and relational exchange may supplement each other in governing the exchange relationship. Finally, distinguishing the impact of vertical integration and relational exchange on opportunistic behavior and exchange performance may help in developing an integrated approach of exchange governance.

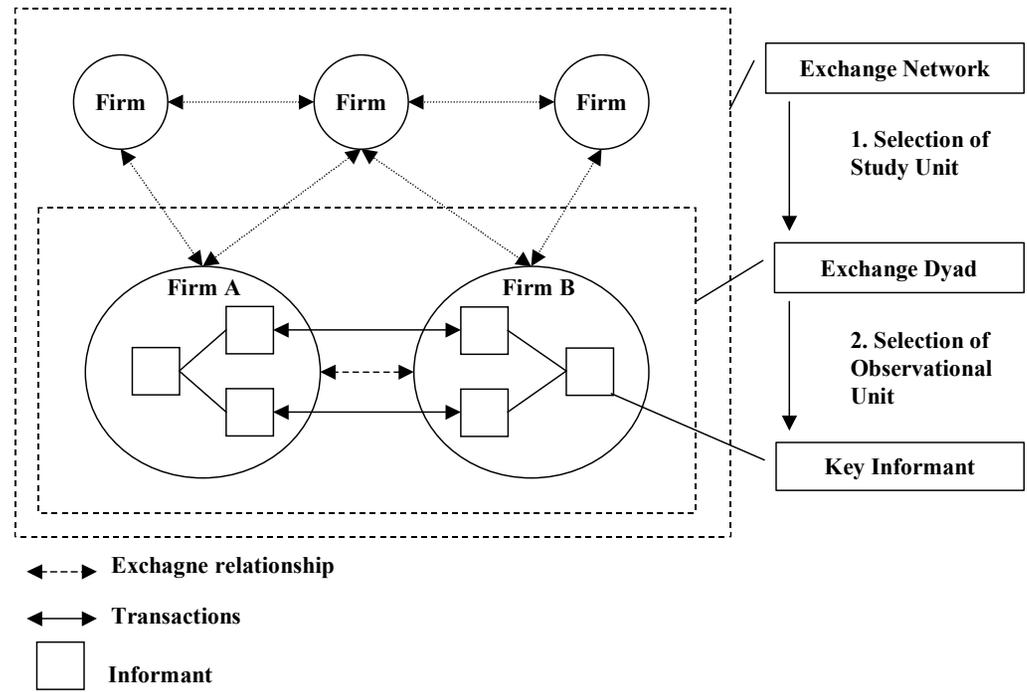
The following section describes the analytical focus of this study by discussing the selection of the unit of analysis. Alternative experimental units are outlined and it is concluded that the exchange dyad is an appropriate study unit for this research. Following this section, the contribution of this research to marketing theory, methodology and practice is addressed. This chapter concludes with an overview of the content of all subsequent chapters of this dissertation.

## **Methodology**

An examination of the research streams that are under investigation will inform the choice of the appropriate unit of analysis for this research (Figure I.1). In the context of transaction cost analysis (TCA), Williamson (1975, p. XI) points out that “the transaction is the ultimate unit of microeconomic analysis.” Here, the central governance choice is the degree of vertical integration of the transaction (Rindfleisch and Heide 1997). Yet, research suggests that transactions are embedded in exchange relationships (e.g., Granovetter 1985) and business networks (e.g., Anderson, Hakansson, and Johanson 1994). Embedded means that transactions in an exchange are “so constrained by ongoing social relations that to construe them as independent is a grievous misunderstanding” (Granovetter 1985, p. 482). Relationship marketing (RM) incorporates this notion by focusing on the establishment, development, and maintenance of exchange relationships (Morgan and Hunt 1994).

Both, RM and TCA view the transaction as a focal event between the exchange parties. But, the transaction only serves as “critical event in the marketplace ...[that] allows the careful study of antecedent conditions and processes for buyer-seller exchange” (Dwyer, Schurr, and Oh 1987, p. 19). Thus, in order to understand transactions between the exchange parties it may be necessary to step back and take into perspective the circumstances surrounding the exchange such as the exchange relationship and the exchange network.

Exchange relationships are dyads, but network functions of the dyad make them part of a network (Anderson, Hakansson, and Johanson 1994). Network functions refer to



**Figure I.1: Unit of Analysis**

“positive or negative effects of a relationship because it is directly or indirectly connected to other relationships” (Anderson, Hakansson, and Johanson 1994, p. 3). In other words, network functions take into account the purpose a dyad fulfills in a larger chain of activities. Although these network functions may influence the exchange relationship, the study of particular mechanisms of this effect on the exchange dyad appears to be beyond the scope of this research because they only indirectly influence important boundary conditions of relational exchange.

However, that does not mean they are ignored. This study recognizes the influence of the network context of an exchange dyad in the conceptualization of central constructs. For example, transaction specific investments are conceptualized as “assets [that] cannot be redeployed without sacrifice of productive value if contracts should be interrupted or prematurely terminated” (Williamson 1985, p. 54). This conceptualization takes into account other exchange relationships as a point of reference because redeployment of assets is only meaningful with reference to sacrifices of productive value if assets are used in other exchanges (Williamson 1996, p. 105).

Chains of activities stretching over several firms and shared network perceptions, such as the reputation of exchange partners in the network, may influence the uncertainty in the exchange. Here, changes in circumstances surrounding an exchange (environmental uncertainty) may be due to the position of the dyad with respect to other activities. For example, if the dyad is located in a central position in the network, it may influence other network firms. However, if the dyad is not in a central position of the exchange network, it may be open to influence by other network firms. Thus, the concept

of environmental uncertainty captures important aspects of the dyads position in the network.

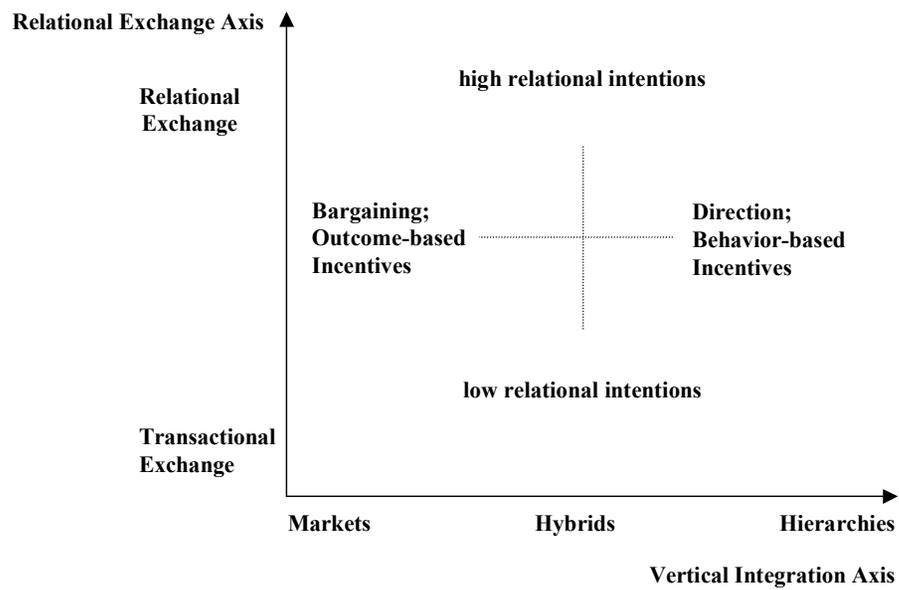
In addition, the difficulty associated with assessing the performance of transaction partners (behavioral uncertainty) may be influenced by shared network perceptions such as the partner's reputation within the network. Here, the level of behavioral uncertainty may capture these shared perceptions within the network that exert influence on exchange structure. Finally, the constellations of resources within the network might influence the firm's need to maintain an exchange relationship. For example, if similar complementary resources are available from multiple firms within the network, an exchange partner may be better able to influence decision-making behavior of another partner.

*In summary*, the above discussion suggests that the transaction may be too narrow and the exchange network too broad as an experimental unit for the study of relational exchange and vertical integration. Thus, the study unit in this research is the exchange dyad.

## **Significance of the Research**

### **Contribution to Marketing Theory**

By answering the research questions posed above, this research contributes to the understanding of exchange structure by revising and extending the basic TCA model towards addressing the choice of exchange structures more closely. Specifically, the vertical integration dimension of the TCA framework is conceptually refined and distinguished from the relational exchange dimension of the relationship-marketing framework (Figure I.2).



**Figure I.2: Exchange Structure Dimensions**

This conceptual distinction will then be used to identify predictors and contingencies that encourage the use of relational forms of exchange based on existing literature. These antecedent mechanisms of the relational exchange dimension will then be classified into a two-group taxonomy (interdependence and safeguarding). This taxonomy may be used to systematize future research on relational exchanges and reveal gaps in the understanding of antecedents to relational forms of exchange. Although each determinant of relational exchange may be viewed as a separate and distinct cause of relational exchange, the analysis of overlap between drivers of relational exchange and vertical integration will help to determine boundaries of each dimension and resolve previously outlined inconsistencies in the relational exchange framework. In addition, this research uses previous literature to identify conditions that may facilitate relational exchange for each type of antecedent.

### **Contribution to Marketing Methodology**

The chief methodological contribution may be the development of an integrative measure of relational exchange to distinguish it from vertical integration. This measure of relational intentions of the exchange parties reduces the need to assess individual components that contribute to the formation of relational exchange. It further is distinct from measures of vertical integration and can be used to study relational exchange under varying degrees of vertical integration.

In conjunction with the development of measures of relational exchange this research contributes to the measurement of vertical integration by developing continuous indicators of the degree of vertical integration that are distinct from and go beyond measures of ownership. From a methodological point of view, answering the research

questions will also help to determine the sampling frame for future research on market, transactional, relational, and vertically integrated forms of exchange.

Finally, answering the research question will help distinguish measures of relational exchange from those of antecedent and outcome conditions of relational exchange.

### **Contribution to Marketing Practice**

Separating relational forms of exchange from integrated forms of exchange has important implications for practitioners. First, such research provides guidance for the choice of alternative exchange structures by outlining the preconditions for their use. Second, such distinction helps to further refine existing exchange structures to fit specific exchange contexts and informs the direction of structural change in response to changes in the environment or within the exchange.

Finally, and perhaps most importantly, this research suggests that different exchange structures (esp. relational exchange) may not always lead to enhanced exchange performance (e.g., efficiency and effectiveness). Rather, certain conditions within the exchange itself or its environment determine whether a given exchange structure contributes to exchange performance. Insight into this issue will inform marketing managers about conditions that warrant the use of alternative exchange structures. For example, this research will help to determine under what circumstances an investment in Customer Relationship Management practices and structures with customers or suppliers will pay off.

## Overview of Chapters

Chapter II reviews the relevant TCA literature in order to identify and conceptualize vertical integration. Here, Chapter II reviews alternative attributes of vertical integration that go beyond sole ownership. These attributes are critically evaluated for their ability to locate alternative exchange structures on the continuum between markets and hierarchies. A main criterion for the selection of attributes to describe this continuum is the ability to distinguish markets, hybrids and hierarchies as alternative forms of governance described in the TCA framework.

Chapter III reviews the RM literature in order to derive an integrated conceptualization of relational exchange. Here, multiple overlapping conceptualizations and characteristics of relational exchange are identified. These conceptualizations are then integrated using Fishbein and Ajzen's (1975) theory of reasoned action.

Chapter IV reviews literature on relational exchange and vertical integration to identify boundary conditions of these exchange structures. Here, antecedents of vertical integration are derived from the transaction cost framework. Antecedents of relational exchange are shown to overlap with the antecedents of vertical integration and the facilitating condition of frequent, bi-directional communication is introduced.

Additional antecedents of relational exchange are shown to emerge from increased levels of interdependence between the exchange parties that are distinct from the mechanism of small numbers bargaining in the TCA framework. Here, another facilitating condition, the symmetry of interdependence between the exchange parties, is suggested to moderate the link between interdependence and relational exchange.

Finally, three important outcome variables of vertical integration and relational exchange are reviewed. These are the level of opportunism in the exchange and the performance components of exchange efficiency and effectiveness. Here, previous literature is reviewed to describe the link between these outcome variables and relational exchange and vertical integration respectively.

Since the objective of this research effort is the identification of boundary conditions for relational exchange, chapter IV evaluates the past research on relational exchange with the goal of identifying boundary conditions of relational exchange. The chapter is organized along types of antecedents rather than in chronological order of their development in the literature on relational exchange. A qualitative integration of the literature has been attempted and moderator variables have been identified where applicable.

Chapter V develops the conceptual arguments culminating in research hypotheses. It develops a research model based on the arguments introduced in Chapter IV. Specifically, the precise relationships between antecedents, outcomes and moderating conditions of relational exchange suggested by relationship marketing theory are identified and cast into a research model. The chapter also explicates components of the transaction cost framework as they relate to relational exchange. Results from previous research are presented as a “pretest” of the hypotheses.

Chapter VI outlines the research design employed in this study and develops a methodology for empirically testing the hypotheses developed in Chapter V. Focus of this chapter is sampling and data collection. The development of the scales is discussed in Chapter VII (operationalizations and scale development). Analysis procedures and results

from this study are presented in Chapter VIII (structural model test). This dissertation concludes with the discussion of the results and implications of these findings for marketing managers and researchers in Chapter IX.

## CHAPTER II

### THE MARKET-HIERARCHY CONTINUUM

#### Three Governance Structures Defined

The TCA framework suggests three alternative governance structures to organize exchange: markets, hybrids, and hierarchies (e.g. Williamson 1985; 1996). Governance structures in the context of TCA represent “the institutional framework in which the integrity of a transaction, or related set[s] of transactions, is decided” (Williamson 1996, p. 11).<sup>1</sup>

*Markets and hierarchies.* Williamson (1986, p. 112) sees markets as those exchanges within which “faceless buyers and sellers meet for an instant to exchange standardized goods at equilibrium prices.” Whereas market governance describes the rules of an arm’s length market exchange, hierarchical governance refers to those of internalized or vertically integrated exchange (Ghosh and John 1999). Internalized or vertically integrated exchange refers to exchange that occurs within the firm<sup>2</sup> and is characterized by unified ownership of exchange inputs to and outputs from the exchange (Williamson 1985, p. 393; Heide 1994).

*Hybrids.* According to Williamson (1996, p. 104), markets and hierarchies are “polar modes of governance,” and hybrid modes are located between the two. In hybrid modes of governance exchange parties “expand” arm’s length market exchange, thereby

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<sup>1</sup> Governance was defined above as “a multidimensional phenomenon, encompassing the initiation, termination and ongoing relationship maintenance between a set of parties” (Heide 1994, p. 72). In Williamson’s view (1996, p. 11), governance also entails the assessment of the efficacy of alternative modes of organization. This additional component of governance is very much evident in his comparative treatment of alternative governance structures (e.g., Williamson 1975, 1985).

<sup>2</sup> Anderson and Weitz (1986, p. 3) define vertical integration as “the combination of technologically distinct economic processes within the confines of a single firm.”

moving the exchange towards the middle of the market-hierarchy continuum (Williamson 1985, p. 191). Expansion refers to reducing exchange parties' exposure to potential opportunism in the exchange (Williamson 1985, p. 191).<sup>3</sup> Resembling hierarchies, hybrids simulate hierarchies and may be "expected to produce the governance effects of hierarchies" (Stinchcombe and Heimer 1985, p. 165). However, in contrast to hierarchies, hybrids maintain the autonomy of the trading partners (Williamson 1986, p. 115).

### **The Continuum of Governance Structures**

*The criterion of ownership.* According to Williamson (1985, p. 83) transactions can be arrayed in terms of the degree to which "parties to the trade maintain autonomy". Markets and hierarchies are located at the ends of this continuum and hybrid modes are located between the two (Williamson 1985). Although researchers disagree about the particular form of the distribution of transactions across the continuum of exchange integration<sup>4</sup>, there appears to be agreement on a continuous, not discrete, distribution of transactional forms (e.g., Ouchi 1979; Williamson 1985; Stinchcombe and Heimer 1985; Bradach and Eccles 1989; Noordewier, John, and Nevin 1990; Kaufman and Dant 1992). But, how useful is the criterion of ownership of the exchange parties to distinguish and study what is understood as alternative forms of governance?

*The ownership dichotomy.* Williamson's (1975) early 'Markets and Hierarchies' is mostly concerned with the endpoints of this continuum. It addresses the use of

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<sup>3</sup> Expansion can, for example, be achieved with a bilateral trading agreement in which exchange parties procure from each other and the exchange will only be continued if an equal volume of purchases by both parties is observed (Williamson 1985, p. 191), or it may be achieved through contractual arrangements between the exchange partners (Stinchcombe and Heimer 1985, p. 165).

<sup>4</sup> Macneil and Williamson disagree about the expected distribution of transactions across governance modes. Macneil, according to Williamson, expects that such a distribution would be bell-shaped whereas Williamson (1996, p. 90) himself argues that "because it was obvious that there were many spot and many hierarchical transactions" such a distribution of transactions is bimodal.

hierarchical governance as an alternative to markets as an efficient governance mechanism of exchange. Research studying the insights of the early TCA framework was predominantly concerned with uncovering TCA determinants of the decision to transact across markets versus using vertically integrated forms of governance. Such research often relied upon discrete conceptualizations of alternative governance structures using ownership as the defining attribute of governance structure. For example, Anderson and Weitz (1986) investigate make-or-buy decisions in the context of distribution channels by conceptualizing hierarchy as the use of company employees, and market as the use of contracts with external agents.

*Midrange governance structures.* However, the current perspective of the TCA framework (e.g. Williamson 1985, 1996) acknowledges that the study of governance forms "... involves more than an examination of discrete markets on one hand and hierarchical organization on the other" (Williamson 1985, p. 83). In contrast to the original TCA framework (e.g., Williamson 1975), Williamson is "now persuaded that transactions in the middle range are much more common" (1985, p. 83) and that they "... have only recently received the attention they deserve ..." (1985, p. 76). In order to study these hybrid forms of governance, ownership appears to be insufficient to distinguish hybrid governance from its governance alternatives for two reasons:

First, Williamson (1986, p. 115) suggests that parties to a hybrid exchange maintain trading autonomy. Similarly, exchange parties to a market exchange are independently owned. Thus, the criterion of ownership does not suffice to distinguish hybrids from markets.

Second, Williamson (1985, p. 239) suggests “ownership is only weakly related to hierarchy.” He further points out that “the challenge to comparative ... analysis is to discern and explicate the different means” employed by alternative forms of governance (Williamson 1996, p. 95). Here, hybrids attempt to simulate hierarchies (Stinchcombe and Heimer 1985). Thus, ownership might not be a sufficient criterion to capture the degree to which hybrids are distinct from hierarchies.

*Alternative criteria.* As an alternative approach to distinguish different forms of governance, Williamson (1996, p. 95) suggests that each form of governance be defined “by a syndrome of attributes that bear a supporting relation to one another.” As pointed out above, a conceptualization of markets, hybrids, and hierarchies on the sole basis of ownership may not sufficiently capture such “syndromes of attributes.” Thus, the issue becomes not ownership or vertical integration, but rather “the manner in which an exchange is organized” (Heide 1994, p. 72).

But what are these key attributes with respect to which governance structures differ? Williamson (1996, p. 101) suggests three key aspects that might yield distinguishing characteristics of alternative governance forms:

1. contract law;
2. adaptability;
3. incentive and control mechanisms.

In the following section I will investigate each of these categories in order to arrive at a set of defining aspects that can be used to map the continuum from markets to hierarchies and locate hybrids as an intermediate form of governance. In doing so I will first derive the aspects within each category that distinguish markets and hierarchies as

endpoints of the continuum. Then I will evaluate the capacity of these aspects within each category to (1) distinguish different forms of hybrids and (2) to locate hybrids on the continuum between markets and hierarchies.

### **Contract Law as Decisive Factor**

According to Williamson (1996), alternative forms of governance can be distinguished by the type of contract law that governs the exchange. Williamson (1996) points toward classic contract law, neoclassical contract law, and employment contracts as alternative types of contracts. In the following section I will describe how each type of contract maps onto markets, hybrids, and hierarchies. I will then investigate how the type of contract law employed in an exchange can be used to distinguish alternative forms of governance.

*Classic contract law.* According to Williamson (1996; see also: Macneil 1974, 1978), classical contract law is congruent with and supports market forms of exchange. Classic contract law views exchange as “composed of single, independent, and static transactions,” in which “prior dealings are of little consequence in the interpretation of exchange with events not contemplated originally by the parties excluded” (Gundlach and Murphy 1993, p. 38). Classical contracts refer to formal contingency contracts (Cannon, Achrol, and Gundlach 2000) that emphasize presentation (Macneil 1980). Presentation refers to “the extent to which an explicit contract attempts to see into the future and explicitly state today ... how various situations that might occur in the future would be handled if they were to occur ...” (Lusch and Brown 1996). In classical contract law “...more formal terms supersede less formal should disputes arise between

formal and less formal features ..., and hard bargaining, to which the rules of contract law are strictly applied, characterize these transactions” (Williamson 1996, p. 95).<sup>5</sup>

*Neoclassical contract law.* Neoclassical contract law supports hybrid modes of exchange, in which “the parties to such contracts maintain autonomy, but the contract is mediated by an elastic contracting mechanism” (Williamson 1996, p. 96). Such elastic contracting mechanisms are intended to relax classical contract law’s emphasis on presentation (Macneil 1980). Elastic contracting mechanisms in the context of the Uniform Commercial Code (UCC) refers to “gap filler” provisions that enable exchange parties to respond to unforeseen contingencies and make adjustments in ongoing exchange relationships (Cannon, Achrol, and Gundlach 2000).<sup>6</sup>

*Employment contracts.* In hierarchies the employment relation governs internal exchange.<sup>7</sup> Yet, Williamson (1996, p. 98) suggests that much of the governance characteristics of the hierarchy are due to forbearance. In particular, Williamson (1996, p. 98) describes:

whereas courts routinely grant standing to firms should there be disputes over prices, the damages to be ascribed to delays, failures of quality, and the like, courts will refuse to hear disputes between one internal division

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<sup>5</sup> For example, dispute of formal terms versus less formal terms may arise between written agreements and oral amendments.

<sup>6</sup> Lusch and Brown (1996, p. 20) point to three such provisions in the UCC: A course of dealing which refers to “... a sequence of previous conduct between the parties to a particular transaction which is fairly to be regarded as establishing a common basis of understanding for interpreting their expressions and other conduct ...”; A usage of trade which refers to “...any practice or method of dealing having such regularity of observance in a place, vocation or trade as to justify an expectation that it will be observed with respect to the transaction in question ...”; And course of performance that is defined as situations in which “... the contract for sale involves repeated occasions for performance by either party with knowledge of the nature of the performance and opportunity for objection to it by the other, any course of performance accepted or acquiesced in without objection shall be relevant to determine the meaning of the agreement ... .” See also Gundlach and Murphy (1993) for an additional discussion of “gap filler” provisions of the UCC.

<sup>7</sup> What Williamson (1985, p. XV) refers to as an employment relation implies a superior-subordinate relationship. This subordination is voluntary and has its origins in the employment contract. An employment contract exists “whenever ... [an employee] agrees to accept the authority of ... [the employer] in return for which ... [the employer] agrees to pay ... [the employee] a stated wage (Williamson 1985, p. 71).

and another over identical technical issues. Access to the courts being denied, the parties must resolve their differences internally. Accordingly, hierarchy is its own court of ultimate appeal.

Forbearance refers to a situation in which disputes in internal exchanges are not resolved externally through the use of the court system but they are resolved internally, within the hierarchy. Here, parties to an internal exchange can either work out their differences themselves or appeal unresolved issues to the appropriate organizational superior for decision (Williamson 1996, p. 100).

But what is the content of contracts that define a hierarchy and set it apart from classical and neoclassical contracts? Alchian and Demsetz (1972) define the firm by the bundle of rights that determines the permissible actions of the owner. In particular, the owner has the right:

1. to be a residual claimant to exchange outcomes;
2. to observe input behavior;
3. to be the central party common to all contracts with input owners;
4. to alter the membership of the exchange; and
5. to sell these rights.

However, Demsetz (1991) recognizes that these criteria may not suffice to clearly define the notion of contractual arrangements of a hierarchy. Alternatively to defining the firm in terms of absolute characteristics of contractual arrangements, he suggests a shift in focus toward relative attributes of contracts that describe the degree to which a set of contracts is more “firm-like”.

Note, that “firm-like” refers to the set of contracts used, not the governance outcomes of the set of contracts. Here, the set of contracts in a hierarchy may be distinct

from the set of contracts used in hybrids, and, thus, provide alternative governance structures. Yet, different sets of contracts might lead to similar governance outcomes. Thus, the question here is to what degree these relative attributes of a set of contracts are capable to distinguish hierarchies from hybrids and markets.

Demsetz (1991) proposes that specialization, continuity of association, and reliance on direction are characteristic of contracts in hierarchies. I will first explain what is understood by these characteristics. Then, I will evaluate if these criteria suffice to distinguish hierarchies from hybrids and markets.

*Specialization*, in this context, refers to an agreement to “produce mainly for persons who are not members of the firm’s team” (Demsetz 1991, p. 170). Demsetz (1991, p. 170) further describes this aspect of hierarchical contracts with:

... the firm produces goods that are to be sold. ... The complement to this is self-sufficiency or production by and *for* the same persons, which, in the limit, is one person doing for himself without the cooperation of others.

In other words, the firm does not consume its own products but sells to others. If this conceptualization of specialization is viewed in terms of transactions, it appears to distinguish agreements for transactions that are conducted with exchange parties outside the firm from agreements for transactions conducted within the firm. Agreements for transactions conducted within the firm would then characterize hierarchy. And agreements for transactions conducted across firm boundaries would describe other forms of governance.

*Continuity of association* refers to the “expected length of time of association between the same input owners” (Demsetz 1991, p. 170). Demsetz (1991, p. 170) further describes this aspect of hierarchical contracts with:

Do the contractual agreements entered into contemplate mainly transitory, short-term association, which in the extreme would be characterized by spot market exchanges, or do these agreements contemplate a high probability of continuing association between the same parties? The firm ...exhibits significant reassociation of the same input owners.

In other words, the criterion of continuity of association classifies a set of contracts that pertains to short-term transactions as markets. Whereas a set of contracts that pertains to enduring and long-term exchanges are classified as hierarchies.

*Reliance on direction* refers to the “degree of conscious direction that is used to guide the uses to which resources are to be put” (Demsetz 1991, p. 170). Direction refers to an ordered system of super- and subordination in which the subordinate is expected to comply with the decisions of the superior (e.g., Weber 1996). In the hierarchy, direction refers to subordination of employees to decisions of the employer, who are then “expected to respond in details of timing and execution of their assigned tasks” (Demsetz 1991, p. 172). More generally, this aspect of contracts in exchange appears to describe a situation in which some members of the exchange are to comply with decisions of other members of the exchange. Hierarchies are then characterized by exchanges that rely on direction of the exchange parties.

### **A Contract Law Conceptualization of the Hierarchy Continuum**

According to Demsetz (1991), three aspects of contractual arrangements are frequently found characteristics of hierarchies (specialization, continuity of association, and reliance on direction). But can these criteria be used to distinguish hierarchies from markets and hybrids?

First, specialization, as conceptualized by Demsetz (1991, p. 170), appears to distinguish contracts that support the exchange between organizational units with those

that support exchange within organizational units. This conceptualization appears weak in distinguishing alternative forms of governance. For one reason, hierarchies may be organized in multiple divisions. Here, applying the concept of specialization, transactions between organizational units of the same firm would be classified as non-hierarchical.

In addition, hybrids (e.g., research and development joint ventures) may be set up as a single organizational unit that does not significantly transact with an outside firm. Again, applying the concept of specialization classifies some hybrid exchanges as hierarchy. Finally, transactions in hybrids may occur between independently owned parties (e.g., fast food franchises). Specialization, as conceptualized above, may not distinguish these hybrids from markets, but classifies them both as non-hierarchy.

Second, continuity of association may occur in any of the three governance forms (Lambe and Spekman 1997; Lambe, Spekman and Hunt 2000). For example, market exchanges (e.g., consumers patronizing gas stations) might be characterized by significant repeat transactions by the same parties. Similarly, hybrid exchanges (e.g., R&D joint ventures) might last for a considerable duration. Thus, because continuity of association may occur in each type of governance it appears not well suited as a criterion to distinguish alternative governance forms.<sup>8</sup>

Third, reliance on direction appears to better discriminate hierarchies from markets and hybrid exchanges. Direction may not be feasible in market exchanges in which exchange partners are independent from each other. For example, manufacturers of

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<sup>8</sup> Note that continuity of association is different from long-term orientation. An exchange partner's long-term orientation is the "perception of interdependence of outcomes in which both a ...[partner's] outcomes and joint outcomes are expected to benefit the ...[partner] in the long-run" (Ganesan 1994, p. 2). Long-term orientation refers to the belief that outcomes of the exchange are dependent on both partners and that these outcomes will be realized across multiple exchanges over time (Kelley and Thibaut 1978). Here it is important to distinguish the duration (past or future) of the exchange from the belief addressed by Kelley and Thibaut (1978) that outcomes of the exchange are not realized in a single exchange, but necessitate multiple exchanges over time.

consumer goods often have difficulty in directing independent grocery retailers to provide shelf space for their new products.

In addition, direction seems to be more available in hybrid forms of exchange. As pointed out above, hybrids attempt to simulate hierarchies. Contracts in hybrids, for example, may legitimize the use of direction within the exchange (e.g. franchise agreements). Thus, the degree of direction used in exchange may be a useful criterion in distinguishing hybrids from markets and hierarchies.

In summary, out of the three aspects that distinguish a set of contracts, only reliance on direction appears useful in categorizing exchanges as markets, hybrids, or hierarchies. Specialization and continuity of association, however, appear to be less able to distinguish different forms of hybrid exchanges. Nevertheless, the single criterion of using direction in an exchange might not capture all of the ways in which a hybrid simulates a hierarchy. Other aspects like the incentives and control mechanisms used in the exchange might add to this and they are evaluated below.

### **Adaptability as Decisive Factor**

The second aspect that can be used to distinguish governance forms, according to Williamson (1996), is their ability to adapt. In the context of exchange relationships, adaptation refers to changes that one party's organization undergoes to: (1) initially fit the needs and capabilities of a specific other party and (2) fit changing business conditions in ongoing exchanges (Hallen, Johanson, and Seyed-Mohamed 1991).

In contrast to adaptability, flexibility is defined as “a bilateral expectation of willingness to make adaptations as circumstances change” (Heide and John 1992, p. 35). Here two differences between adaptability and flexibility arise. First, flexibility appears

to be more limited than adaptability because it refer to changes in ongoing exchange, not changes made to initially enter into an exchange. Second, flexibility refers to the willingness to make adaptations, whereas adaptability refers to the ability to make these adaptations.

This study is concerned with those changes that occur in ongoing exchanges. Here, two types of adaptation need to be distinguished (Williamson 1996, p. 102f.): autonomous adaptation and cooperative adaptation. In the following section I will describe how markets and hierarchies compare with respect to each type of adaptation. I will then investigate how the ability of alternative forms of governance to adapt can be used to distinguish alternative forms of governance.

*Autonomous adaptation.* Autonomous adaptation refers to situations in which exchange partners “respond independently to ... changes so that as to maximize their utility and profits, respectively” (Williamson 1996, p. 102). Here changes refer to “changes in the particular circumstances of time and place” within an exchange (Hayek 1945, p. 524). In other words, these changes do not affect the exchange process, but do influence the volume and price of goods and services exchanged between the exchange partners.

In markets, the price mechanism serves as a sufficient indicator for this type of change. This is because exchange parties can respond independently to changes in demand through changes in price (Williamson 1996). For example, in a channel relationship, a retailer might change the amount of products purchased from a wholesaler as a result of changing demand for the product by his customers. Such changes in demand of a product may be reflected in changes in the willingness to pay for the product by the

retailer, in response to which “individual participants ... [in the exchange are] able to take the right action” (Hayek 1945, p. 527). The wholesaler takes the price the retailer is willing to pay and adjusts the quantity of goods supplied.

In contrast, hierarchies may rely on direction to bring about change (Williamson 1996). For example, if the above-described exchange occurs among parties within a single firm, both exchange partners might be directed to change the quantity of goods exchanged. However, assuming that the price mechanism would be sufficient to communicate change, direction may generate delays and opportunities for error that may be seen as additional costs of the exchange (Hayek 1945). Even if an internal market is implemented for the exchange, the hierarchy is unnecessary to induce change. Thus, for autonomous adaptation, hierarchies may be less well suited than markets in responding to change (Hayek 1945).

*Cooperative adaptation.* Cooperative adaptation refers to situations in which exchange partners need to make coordinated changes to fit fluctuating business conditions.<sup>9</sup> These fluctuations might not be fully anticipated by planning or contractual arrangements in the exchange thereby leading to incomplete contracts (Williamson 1996). In response to mal-adaptations that might occur from these fluctuations, coordinated behavior is necessary to realign the exchange process with its environment. For example, exchange partners in a channel relationship might need to implement a logistics system (e.g., just-in-time) to meet the demands of a specific customer.

Here, the hierarchy relies on direction to reconfigure the exchange, whereas markets and hybrids engage in bargaining (Williamson 1996). In the example above, if

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<sup>9</sup> See Bernard (1938) for a treatment of such adaptation in the context of hierarchical exchange; esp. bureaucracies.

the exchange occurs between vertically integrated parties, the parties may be instructed to implement the logistics system. Yet, in markets, exchange parties would bargain about such issues as the distribution of the costs of implementing such a system, or the type of system used before implementing the logistics system. According to Williamson (1996, p. 104), bargaining efforts to achieve an alignment of the exchange with the environment is more costly than the reconfiguration within hierarchies because:

1. proposals to adapt require less documentation within hierarchies. In contrast to markets in which new agreements have to be worked out, hierarchies do not require new contracts in order to induce change.
2. resolving internal disputes by fiat rather than arbitration saves resources and facilitates adaptation. Dispute resolution via forbearance (hierarchy) is less costly than the external dispute resolution using the court system (market).
3. information that is deeply impacted<sup>10</sup> can be more easily and accurately accessed. Here, superior monitoring ability in hierarchies helps to overcome information impactedness through enhanced access to such information.<sup>11</sup> In particular, hierarchies, in contrast to markets, may monitor ongoing exchange behavior and, thus, uncover underlying circumstances that are important to the transaction that would otherwise be unidentified.

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<sup>10</sup> Information impactedness exists “when true underlying circumstances relevant to the transaction, or related set of transactions, are known to one or more parties but cannot be costlessly discerned by or displayed for others” (Williamson 1975, p. 31).

<sup>11</sup> Performance monitoring involves “establishing the extent to which contractual compliance has taken place” (Heide 1994). Such performance monitoring can target outcomes of behavior or the behavior itself. In contrast to markets, which are limited to the observation of exchange outcomes, hierarchies have the ability to also monitor ongoing behavior in the exchange (Celly and Frazier 1996).

4. internal dispute resolution enjoys the support of the informal organization.<sup>12</sup>

In hierarchies, reconfiguration of exchange may not only rely on direction but also on the informal organization. In particular, the application of directions to a particular exchange situation may create problems of judgment. Rather than referring a problem to the superior for decision, the subordinate might apply informal practices that provide a solution for the problem. Or, as Blau and Scott (1962, p. 217) describe:

Decisions not anticipated by official regulations must frequently be made, particularly in times of change, and here ... unofficial practices are likely to furnish guides for decisions long before these ... [directions] have been adapted to the changing circumstances.

Therefore, the ability to use such informal practices may enhance coordinated change within the hierarchy.

5. internal organization has access to additional incentive instruments such as career rewards that promote adaptation. Long-term and non-economic rewards and sanctions create greater willingness to change because they provide incentives for change in the long-run.

Thus, if cooperative adaptation is necessary, exchange partners would turn toward hierarchical forms of governance rather than markets because bargaining efforts to achieve an alignment of the exchange with the environment is more costly than the reconfiguration within hierarchies. Hybrids simulate the governance of hierarchies and are, accordingly, located between markets and hierarchies (Williamson 1996, p. 107).

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<sup>12</sup> Informal organization refers to network of informal relations that evolves within the framework of a formally established organization. Such informal relations involves the development of practices, norms, and social relations as members of the organization work together (Barnard 1938; Scott 1987).

*Distinguishing governance forms.* Based on the above discussion, the following pattern seems to emerge. If autonomous adaptation is required, exchange partners would favor markets over hierarchies to respond to new circumstances. However, if cooperative adaptation is necessary, exchange partners would turn toward hierarchical forms of governance rather than markets. Hybrids fall in both cases between markets and hierarchies (Williamson 1996, p. 107).

But to what degree does the criterion of adaptability distinguish alternative forms of governance? It appears that adaptability, as an outcome of governance, does not shed much light on the type of governance used to achieve a response to changing circumstances because:

1. Autonomous adaptation may equally well be handled across markets, hierarchies, and hybrids. Note that the above reasoning rests on the use of the price mechanism as efficient means to induce change. The price mechanism may also be implemented in hybrid and hierarchies, just like in markets. For example, a hierarchy may implement an internal market between subsidiaries that brings about autonomous change. Similarly, hybrid exchanges might rely on market prices to distribute returns from the exchange. Thus, autonomous adaptation may not be sufficient to distinguish different types of hybrid exchanges.
2. Cooperative adaptation, although it may distinguish markets from hierarchies, falls short in distinguishing hybrids from these governance structures. Hybrid exchanges simulate the governance of hierarchies and might be able to achieve very similar governance outcomes as hierarchies in terms of

cooperative adaptation. In fact, hybrids might even be better suited to respond to fluctuating business conditions than are hierarchies. For example, a firm may enter into joint venture to address changing business conditions that it cannot easily address on its own.

In summary, neither autonomous adaptation nor cooperative adaptation appears to discriminate well between markets, hybrids, and hierarchies. As the above discussion reveals, this is mainly due to the conceptualization of adaptability as an outcome of governance structure, rather than as a means to respond to change. As pointed out, similar responses to change might be achieved by all three forms of governance, causing adaptability to be an insufficient indicator of the particular governance mode employed.

### **Incentive and Control Mechanisms as Decisive Factor**

Other distinguishing aspects of governance forms are incentives and administrative controls (Williamson 1996, p. 107; 1985, p. 90; 1975, p. 29). As Ouchi (1979, p. 833) points out, "... control has many meanings and has been interpreted in many ways." For example, administrative control has been conceptualized as "rule enforcement and surveillance" (John 1984, p. 280). And organizational control refers to "mechanisms through which an organization can be managed so that it moves toward its objective" (Ouchi 1979, p. 833). The conceptualization of organizational control appears to not only capture administrative control but also the possibility that the hierarchy employs market mechanisms to reach its objective. Broadening this definition of organizational control to capture transactions that occur not only in hierarchies but also in hybrids and markets suggests defining control as mechanisms through which an exchange can be managed so that it moves toward its objective.

This conceptualization of control encompasses the use of incentives. Incentives can be conceptualized as rewards and sanctions used to motivate exchange partners to behave in the desired manner. They secure “compliance from channel members in return for rewards given to cooperating channel members or penalties (negative rewards) imposed on non-cooperative members” (Etgar 1977, p. 70). Therefore, incentives are another mechanism through which an exchange can be managed.

In the following section I will describe the incentive and control mechanisms in markets and then contrast these with hierarchies. In so doing I will show that the hierarchies have access to additional control and incentive mechanisms.

*Incentives and controls in markets.* In markets, prices are the central mechanism to coordinate exchange. On one hand, prices convey all the information needed by the exchange partner to make efficient decisions (Arrow 1974). In doing so, the price system in a market relieves the exchange partners of the need to consider details associated with changing market conditions (Williamson 1975, p. 25). On the other hand, prices provide a mechanism for solving goal incongruity. Goal incongruity in terms of differential willingness to contribute to the exchange can be alleviated through price adjustment. Each participant in a market exchange is simply rewarded in direct proportion to his contribution (Ouchi 1979).

*Hierarchies.* Hierarchies, in contrast, have access to more powerful control and incentive mechanisms because of their superior ability to measure and reward behavior as well as output (Rindfleisch and Heide 1997). In order to investigate this relationship, I will illustrate the hierarchy’s ability to control exchange behavior. Then, I will explain how this control capability leads to the ability to employ additional forms of incentives.

*Controls in Hierarchies.* Hierarchies have access to additional mechanisms to instruct, monitor, and evaluate members of the exchange (Ouchi 1979; Williamson 1975, p. 29). In particular, hierarchies have greater capability to:

- choose between selecting and training exchange partners;
- complement or substitute outcome-based performance monitoring with behavior-based performance monitoring; and
- achieve agreement through bargaining or direction.

1. Selecting and training exchange partners. In comparison to market exchanges in which firms select exchange partners who will be able to perform a task without training, the hierarchy has the choice between hiring such skilled employees or training unskilled workers to learn the organization's skills (Ouchi 1979).

If parties rely on selecting exchange partners, they might be vulnerable to adverse selection. Adverse selection refers to “the misrepresentation of ability” (Eisenhart 1989, p. 61) by the exchange partner. It might occur when an exchange partner claims to have certain skills that cannot completely be verified when the exchange is initiated or while the exchange is ongoing (Eisenhart 1989). Training employees, rather than relying on selection, gives the hierarchy better insight into the true ability of the employee. It therefore can be used to guard the hierarchy against adverse selection.

Performance monitoring. This involves “establishing the extent to which contractual compliance has taken place” (Heide 1994, p. 77). Performance monitoring can target outcomes of behavior or the behavior itself. In contrast to markets, which are limited to the observation of exchange outcomes, hierarchies

have the ability to also monitor ongoing behavior in the exchange (Celly and Frazier 1996).

A hierarchy derives this ability to assess information about exchange behavior from the employment contract (Anderson and Weitz 1986). Based on the employment relation, the hierarchy may audit activities, inputs, and performance (output) of employees. Thus, one mechanism of control in a hierarchy may involve ongoing monitoring of subordinates by superiors (Ouchi 1979).

2. Bargaining and direction. As outlined, market exchanges coordinate behavior by bargaining over price. In addition to using the price mechanism, hierarchy may direct exchange behavior (Anderson and Weitz 1986). In order to use direction effectively, a manager must be able to monitor and evaluate actual performance (Ouchi 1979; Eisenhart 1989). Here, the hierarchy's superior ability to monitor exchange behavior supports the use of direction. Thus, hierarchies may either complement or substitute the use of the price mechanism in exchange with the use of direction of exchange behavior.

*Incentives in Hierarchies*. The spectrum of rewards and sanctions in hierarchies appears finer grained than in markets. In particular, hierarchies may:

- complement or substitute outcome-based incentives with behavior-based incentives;
- defer incentives into the future;
- employ non-economic rewards and sanctions.

1. Outcome-based and behavior-based incentives. Unlike markets, which rely on outcome-based incentives, hierarchical exchanges may also structure incentives to

be linked to behavior in the exchange. Markets are limited to outcome-based incentives because they can only monitor exchange outcomes. Hierarchies, in comparison, are able to monitor both outcomes of behavior and the behavior itself. Thus, a hierarchy can employ an internal market mechanism to mimic the outcome-based incentives of a market exchange or it can complement or substitute the market mechanism by linking incentives to desired behavior in the exchange.

If incentives are linked to behaviors in the exchange, then changes in effort expanded are rewarded. Changes in outcome, however, have little or no immediate link to compensation. In contrast, if incentives are linked to outcomes of the exchange, then changes in output are rewarded. Changes in effort expanded do not affect the compensation received by the exchange partner. Unlike markets, hierarchical exchanges may structure rewards and sanctions in a way that changes in effort expended towards the exchange outcome have little or no immediate link to compensation (Williamson 1996, p. 99).

2. Deferring incentives and 3. non-economic incentives. Finally, a hierarchy may bring into play incentives that are long-term in nature (Rindfleisch and Heide 1997), or use incentives that are non-economic in nature (Anderson and Weitz 1986).<sup>13</sup> Long-term incentives reward or sanction exchange behavior in the long-run (e.g. promotion opportunities). Hierarchies can use long-term incentives because employees are associated with the firm for an extended period of time (e.g., through the employment relation). The long-term association between firm and employee also makes non-economic incentives, such as job security and

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<sup>13</sup> For an expanded treatment of the incentives available to hierarchies see Barnard (1938).

status in the hierarchy, available. However, the efficacy of these long-term and non-economic rewards is based on the assumption of a long-term association between the firm and the employee.

To summarize, hierarchies have access to additional control and incentive mechanisms, as compared to markets. Those control mechanisms include the ability to train, monitor, and evaluate members of the exchange. Additional incentive mechanisms are the use of behavior-based incentives, deferred incentives, and non-economic rewards and sanctions.

### **Identifying Monotonic Attributes**

After outlining the control and incentive mechanisms that may be used to conceptualize markets, hybrids, and hierarchies, the next step in the conceptualization of the market-hierarchy continuum is to investigate the degree to which each of these aspects describes the continuum from markets to hierarchies in a monotonic way. Only if attributes behave in a monotonic fashion across the continuum, can they be used to identify and distinguish alternative governance structures.<sup>14</sup>

#### **Market incentive and control mechanisms in hierarchies**

The first question that needs to be addressed is: Why can't a hierarchy do everything that a collection of market exchanges can do and more? In other words, can the aspects of the market mechanism be used in the context of a hierarchy? In response to this question, Williamson (1985, p. 135) replies that a hierarchy may be at a disadvantage in comparison to markets because selective intervention is not feasible. Selective

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<sup>14</sup> A monotonic function is one that either increases or decreases monotonically – without changing direction. An increase/decrease in monotonic attributes therefore always leads to an increase/decrease in the criterion variable.

intervention means that the hierarchy employs the market mechanism for some exchanges in the hierarchy and only intervenes if the exchange has to adapt to new circumstances (cooperative adaptation).<sup>15</sup> According to Williamson (1985), the main reasons why such selective intervention is not feasible are: (1) asset utilization losses, and (2) squeezing of net receipts.

First, it is assumed that exchange outcomes might be due to the exchange parties' efforts towards the outcome or due to the utilization of assets that support the attainment of outcomes. In a market exchange the exchange parties use assets that are owned by each party. In contrast, in hierarchies the ownership of assets is with the firm and exchange parties may not have ownership over assets that are used in the exchange. If an internal market is implemented in hierarchical exchange, exchange parties gain access to the benefits accruing from using those assets, but may not incur losses due to depreciation of these assets.

Here, employees might use assets to achieve exchange outcomes but at the same time may not reinvest into depleting assets. For example, a sales representative that works on commission may use the firm's existing customer contacts to earn commission, but may not invest into making new sales contacts for the firm. Therefore, as a consequence of implementing an internal market, depletion of firm's assets may occur (Williamson 1985, p. 138). In order to correct this effect, the hierarchy has to introduce non-market governance aspects, such as long-term incentives or accounting rules (Williamson 1985, p. 138). Thus, hierarchies can use outcome-based rewards only in a limited way. But, they still can be used.

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<sup>15</sup> Cooperative adaptation refers to situations in which exchange partners are in the need for coordinated changes that the exchange partners undergo to fit fluctuating business conditions.

Second, net receipts in internal market exchanges can be subject to manipulation in two ways. First, cutting transfer prices can reduce revenues.<sup>16</sup> Second, cost assessments can be raised (Williamson 1985, p. 139). These manipulations of the price mechanism are available in the internal market exchanges, because:

1. The hierarchy has ownership of the goods and services exchanged. Ownership allows the hierarchy to decide whether the exchange takes place for a given price or whether to refrain from the transaction.
2. The hierarchy has the ability to direct exchange behavior. For example, the hierarchy may direct how the costs of goods to be transacted are assessed. In doing so, the hierarchy may influence the price mechanism indirectly by changing the profitability of the transaction for the exchange parties.
3. The hierarchy may proscribe transfer prices in the exchange. Changes in transfer prices influence the profitability of the exchange and, thus, the incentive to transact at a given price. Also, if the hierarchy does not proscribe transfer prices directly, disagreements that might arise between the exchange parties about the appropriate transfer price are ultimately subject to decision of the superior to the exchange parties.
4. The hierarchy may direct whether exchange parties in internal markets may seek outside exchange partners. Exchange parties in the hierarchy may be directed to transact only within the hierarchy and, therefore, may be deprived of the option to “walk away” from the exchange. Further, exchange parties in the hierarchy may

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<sup>16</sup> Transfer prices are those prices charged for internal transactions. Changes in transfer prices affect both transfer partners within the organization. A reduction in transfer prices, for example, harms the department or subsidiary providing the goods or services because it reduces the profit margin it realizes on those products and services.

not be given the option to discontinue transactions with internal exchange partners. Therefore, internal market exchanges can use bargaining as means to coordinate behavior only in a restricted fashion.

In summary, Williamson (1985) holds that two aspects of market governance may not be fully be introduced in a internal markets. These are the use of outcome-based incentives and the use of bargaining to coordinate exchange behavior. If these mechanisms were solely relied upon in internal markets, “the governance costs of internal organization [would] exceed those of market organization ...” (Williamson 1985, p. 131).<sup>17</sup> Thus, internal markets need support from direction and behavior-based incentives.

### **Hierarchical incentives and control mechanisms in markets.**

A second question that arises is: Why can a market not replicate the governance mechanisms of the hierarchy? Here, Williamson (1985, p. 154) addresses one central aspect of hierarchies: the use of behavior-based rewards. He suggests that such behavior-based incentives are likely to fail in markets, because:

1. Interfirm monitoring cannot be presumed to be as effective as intrafirm monitoring. In particular, the ability to observe behaviors of the external exchange partner appears to be limited in market exchanges.
2. Conflict resolution outside the exchange (i.e., through the court system) is much less effective than within the exchange (forbearance).
3. Direction can be expected to receive a better reception within than across firm boundaries.

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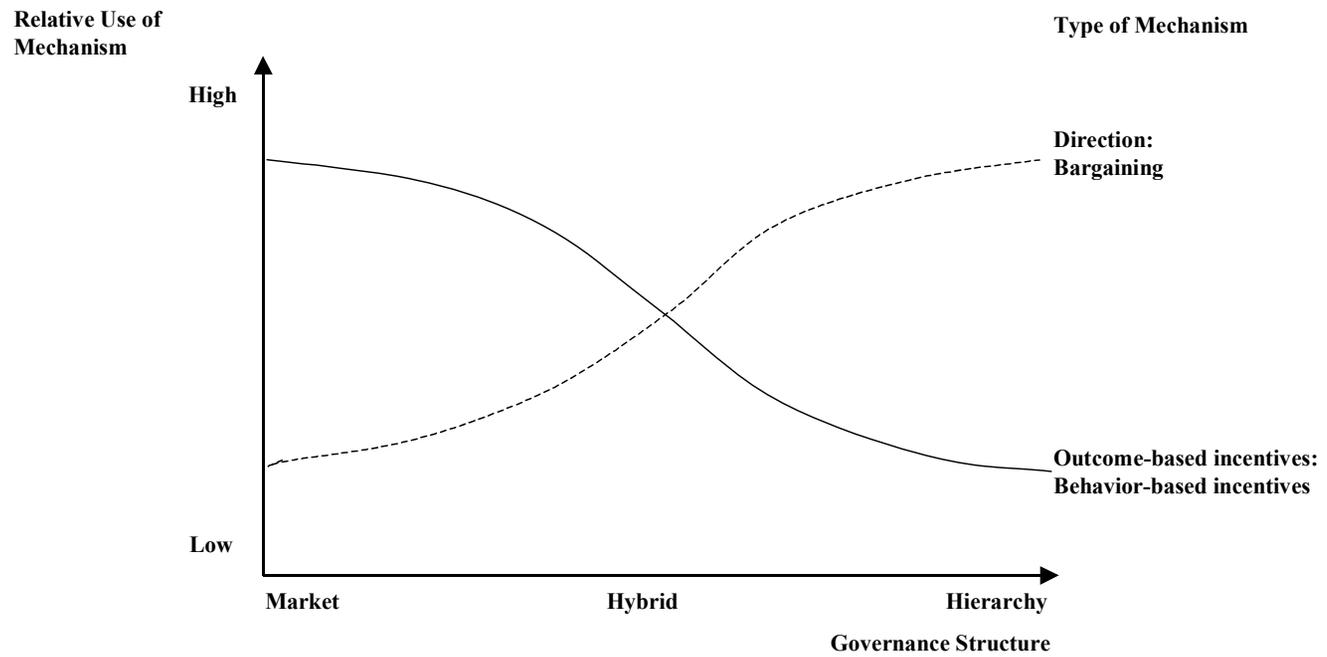
<sup>17</sup> Note that his argument (Williamson 1985) does not imply that these aspects may not be used at all. It is rather a matter of degree to which these aspects lead to inefficient coordination in hierarchies.

To summarize, there appear to be at least four aspects of market and hierarchies that vary in a monotonic way. These are:

- the use of outcome-based incentives (monotonically *decreasing* as one moves from markets to hybrids to hierarchies),
- the use of bargaining to coordinate exchange (monotonically *decreasing*),
- the use of behavior based incentives (monotonically *increasing*), and
- the use of direction to coordinate exchange (monotonically *increasing*).

These four aspects of control in exchange can be used to reflect the location of exchanges along the market-hierarchy continuum (see Figure II.1):

1. As discussed above, bargaining appears to be more common in market exchanges whereas direction seems to emerge in hierarchies. An exchange can therefore be said to be more hierarchical if coordination in the exchange is achieved through increasing levels of direction. That is, if coordination through bargaining is replaced or complemented with direction, hierarchy emerges. In other words, as the amount of direction observed in an exchange increases, that is the ratio of direction used in the exchange over bargaining used in the exchange increases, the exchange structure is said to be more hierarchical. This is depicted in Figure II.1 by the monotonic increase of the direction vs. bargaining ratio.
2. At the same time the type of incentive used to motivate exchange behavior transitions from outcome-based incentives to behavior-based incentives. Outcome-based incentives have been identified as typical for market exchanges. As the exchange structure moves along the market-hierarchy continuum towards the hierarchy end, these outcome-based incentives may increasingly be



**Figure II.1: Distribution of Governance Mechanisms for Market-Hierarchy Continuum**

supplemented or replaced with behavior-based incentives. Therefore, the relative use of outcome-based incentives in an exchange can be utilized as a second indicator to describe the location of exchanges along the continuum. In more formal terms, the ratio of outcome-based incentives over behavior-based incentives should decrease as the exchange structure becomes more hierarchical. This is depicted in Figure II.1 by the monotonic decrease of the outcome- vs. behavior-based incentive ratio.

### **Organizational Atmosphere**

These aspects of exchange may not be applicable to distinguish exchanges to an equal degree at different points of the continuum. In particular, outcome-based incentives and bargaining seem to be utilized most extensively at the market end of the continuum whereas behavior-based incentives and direction appear to be employed mostly at the hierarchy end of the continuum. In fact, research on hybrid forms of governance suggests that the distribution of incentives and control may be motivated differently in hybrid exchanges than in markets or hierarchies (Heide 1994).

*Relational governance mechanisms.* Ouchi (1979) and Macneil (1980) appear to support this perspective and suggest that hybrid modes use distinct, relational forms of control such as trust and relational norms. For example, Ouchi (1979, p. 838) suggests that direction may be replaced by “social agreement on a broad range of values of beliefs.” Similarly, Dwyer, Shurr, and Oh (1987) suggest that hybrid forms of exchange may rely more on relational exchange, than on the bargaining.

Although this research on relational forms of governance is important for the understanding of hybrid exchanges, the goal of the present section is to identify key

aspects from the TCA framework that can be used to array adequately exchanges on the markets and hierarchies continuum. I will therefore address these relational aspects of exchange that do not emerge from the TCA framework in the conceptualization of the transactional-relational continuum.

*Distinguishing markets from hierarchies.* Williamson (1975, p. 40) acknowledges such alternative governance mechanisms that he calls “organizational atmosphere.” Organizational atmosphere may create convergent goals between parties and reduce opportunism ex ante through the use of organizational culture and socialization processes (Rindfleisch and Heide 1997). This possible effect of hierarchies is addressed in Williamson’s (1975, p. 40) *Markets and Hierarchies*, in which he states that “convergent expectations are promoted, which reduces uncertainty”, and “a more satisfying trading atmosphere sometimes obtains.” However, this effect of hierarchies has received little subsequent attention in the TCA framework (e.g. Williamson 1985, 1986, 1990, 1991, 1996). Thus, organizational atmosphere will not be further investigated as a decisive factor for distinguishing markets, hybrids, and hierarchies.

### **Summary**

The main goal of the preceding sections was to derive underlying aspects of markets and hierarchies that can be used to distinguish markets, hybrids, and hierarchies. In the context of the TCA framework, the aspects that have been identified to be well suited for this task are (1) the use of outcome-based incentives (monotonically decreasing as the exchange becomes increasingly internalized), (2) the use of bargaining to coordinate exchange (monotonically decreasing), (3) the use of behavior based incentives (monotonically increasing), and (4) the use of direction to coordinate exchange

(monotonically increasing). These four aspects have been shown to monotonically increase or decrease across the spectrum of governance structures between markets and hierarchies (see Figure II.1).

Williamson (1996, p. 107) suggests that hybrids, in general, “fall in the middle” between markets and hierarchies in respect to these aspects (see Table II.1). Williamson (1996, p. 107) also emphasizes this point in respect to core aspects of markets and hierarchies by stating that:

the hybrid mode is located between market and hierarchy with respect to incentives, adaptability, and bureaucratic costs. As compared with the market, the hybrid sacrifices incentives in favor of superior coordination among the parts. As compared with the hierarchy, the hybrid sacrifices cooperativeness in favor of greater incentive intensity.

However, as the preceding discussion has revealed, only selected incentive and control aspects of markets and hierarchies are likely to successfully distinguish alternative governance structures.

### **Application**

In order to provide an initial application of the mapping of different hybrid forms of exchange onto the continuum between markets and hierarchies, the different forms of hybrid exchange arrangements outlined by Warren-Boulton (1978; see Table II.2) were arranged according to the previously identified criteria. Table II.3 provides the rationale for the ordering of these exchanges according to the aspects of the market-hierarchy continuum.

Attributes	Governance Structures		
	Market	Hybrid	Hierarchy
Incentive intensity	++	+	0
Administrative controls	0	+	++
Autonomous adaptation	++	+	0
Cooperative adaptation	0	+	++
Contract law	++	+	0

++ = strong; + = semi-strong; 0 = weak

**Table II.1: Distinguishing Attributes of Market, Hybrid, and Hierarchy Governance Structures**  
Adapted from Williamson (1996; p. 105)

<b>Form of Governance</b>	<b>Description</b>
vertical integration	"two or more stages of production are combined under common ownership"
tying arrangements	"the seller agrees to sell one product (the tying good) to the buyer only if the buyer also agrees to purchase another product or service (the tied good) from the seller"
exclusive dealing	"the buyer is required not to deal in the products of some other producers"
requirement contracts	"the buyer is required to purchase all of his requirements from the seller"
full-line forcing	"the buyer must purchase the seller's entire line of products as a condition of purchase of any one product"
royalty arrangements	"payment to the supplier of an input such as labor or technology is based on the quantity of output of the final product rather than on the quantity of the input"
profit-sharing agreements	"payment for one input is based on the profits made in the final-product market, or on the return to another input such as capital"
resale pricing setting	"the producer or wholesaler of a product, as a condition of sale, sets a minimum or maximum price for resale"
work rules	"the supplier of an input requires the purchaser to use the input in a given proportion either to output or to some other input"

**Table II.2: Examples of Alternative Governance Structures**  
Adapted from Warren-Boulton (1978, p. 2; contents included within the guidelines of fair use)

Form of Governance	Description	Rationale	Bargaining	Direction	Outcome-based Rewards	Behavior-based Rewards
vertical integration	"two or more stages of production are combined under common ownership"	Pure form of hierarchy.	---	+++	---	+++
work rules	"the supplier of an input requires the purchaser to use the input in a given proportion either to output or to some other input"	The requirements imply a high degree of direction by the supplier. Rewards are likely to be assigned according to the purchaser's compliance with these rules, rather than his output. There appears to be no bargaining over exchange behavior, however some bargaining about the distribution of exchange revenues appears possible.	--	+++	--	+++
requirement contracts	"the buyer is required to purchase all of his requirements from the seller"	The requirement contract implies high levels of direction by the supplier for exchange inputs. Rewards are likely to be contingent upon the purchaser's compliance with the contract. There appears to be no bargaining over exchange inputs, however bargaining about the distribution of exchange revenues is likely.	-	++	-	++
exclusive dealing	"the buyer is required not to deal in the products of some other producers"	The requirement contract implies medium levels of direction by the supplier for exchange inputs. Rewards are likely to be contingent upon the purchaser's compliance with the contract. Bargaining appears to be frequent in the exchange, however it is limited to products of the focal supplier.	+	0	+	+
full-line forcing	"the buyer must purchase the seller's entire line of products as a condition of purchase of any one product"	The requirement contract implies low levels of direction by the supplier for exchange inputs. Rewards are likely to be contingent upon the purchaser's compliance with the contract. Bargaining appear to be frequent in the exchange, it is not limited to products of the focal supplier.	++	-	+	+

**Table II.3: Characterization of Alternative Governance Structures**  
**Descriptions adapted from Warren-Boulton (1978, p. 2)**

Form of Governance	Description	Rationale	Bargaining	Direction	Outcome-based Rewards	Behavior-based Rewards
profit-sharing agreements	"payment for one input is based on the profits made in the final-product market, or on the return to another input such as capital"	The agreement does not limit the behavior of the buyer. Rewards are likely to be outcome based. Bargaining seems to be limited.	+	--	++	---
resale pricing setting	"the producer or wholesaler of a product, as a condition of sale, sets a minimum or maximum price for resale"	The requirement contact implies some degree of limiting the behavior of the buyer. Rewards are likely to be outcome based. Bargaining, rather than direction appears to be the dominant form of coordination.	+++	--	+++	--
tying arrangements	"the seller agrees to sell one product (the tying good) to the buyer only if the buyer also agrees to purchase another product or service (the tied good) from the seller"	The arrangement is based on outcome-based rewards, behavior based rewards appear negligible. Direction of behavior only addresses the goods of the exchange. Bargaining about outcomes seems to not be limited.	+++	--	+++	---
royalty arrangements	"payment to the supplier of an input such as labor or technology is based on the quantity of output of the final product rather than on the quantity of the input"	The arrangement is based on outcome-based rewards, behavior based rewards are ruled out. There is no direction of behavior. Bargaining about outcomes seems to not be limited.	+++	--	+++	---

**Legend: Use of governance mechanism: ++ = extensively used, + = added use, 0 = undecided, - = less use, -- = not used at all.**

**Table II.3: (cont.)**

## CHAPTER III

### THE RELATIONAL-TRANSACTIONAL CONTINUUM

#### Introduction

Stern and Reve (1980) first introduced the distinction between behavioral and economic orientations to research on business-to-business exchange in marketing. On the basis of the political economy approach to the study of social systems (e.g., Benson 1975; Wamsley and Zald 1973, 1976; Zald 1970a, 1970b), Stern and Reve (1980) distinguish the internal economy (the internal economic structure and processes) from the internal polity (the internal sociopolitical structure and process) of exchanges.

*Relational theory of exchange.* Since this early effort, the marketing field has made much progress toward developing a relational theory of exchange. This approach, termed relationship marketing, encompasses the concepts of relational contracting (Macneil 1980), relational marketing (Dwyer, Shurr, and Oh 1987), working partnerships (Anderson and Narus 1990), and others (Morgan and Hunt 1994). Morgan and Hunt (1994, p. 22), based on a review of existing conceptualizations, define relationship marketing as “all marketing activities directed toward establishing, developing, and maintaining successful relational exchanges.”

*Conceptualizing relational exchange.* This definition of relationship marketing is based on the concept of relational exchange. Exchange in social relationships are “interaction processes where the interaction is any set of observable behavior on the part of at least two individuals where there is reason to believe that some parts of these individuals are responding to each other” (Hallen, Johanson, Seyed-Mohamed 1991, p.

29). Previous conceptualizations of relational exchange have recognized a spectrum that ranges from discrete transactions to relational exchange as endpoints of a continuum of exchanges (Macneil 1983; Macaulay 1963). Morgan and Hunt (1994, p. 21) define these endpoints with reference to Dwyer, Shurr, and Oh (1987) as exchanges with “distinct beginning, short duration, and steep ending by performance,” (i.e., transactional exchange) and “exchange which traces to previous agreements and is longer in duration, reflecting an ongoing process” (i.e., relational exchange).

*Developing a working definition.* However, whether this and other conceptualizations of transactional and relational exchange clearly define what is described as “relationalism” in Macneil’s (1980) work is still in question (see Table III.1 for other definitions of relational exchange). For example, Robicheaux and Coleman (1994, p. 42) argue that such conceptualizations “have either failed to consider important aspects of the situation under study, or they have included aspects of both economic and sociopolitical structure, as well as attitudes toward the relationship, in a single formative construct.”

In order to derive a working definition for relational exchange I combine three main themes that appear to emerge from existing conceptualizations of relational exchange. These are:

- (1) the characterization of the exchange as cooperative<sup>18</sup> (e.g., Bradach and Eccles 1989; Garbarino and Johnson 1999; Heide 1994),

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<sup>18</sup> Cooperation may be defined as “similar or complementary actions taken by firms in interdependent relationships to achieve mutual outcomes or singular outcomes with expected reciprocity over time” (Anderson and Narus 1990, p. 45).

Study	Construct	Definition
Anderson and Narus (1990)	working partnership	"... The extent to which there is mutual recognition and understanding that the success of each firm depends in part on the other firm, with each firm consequently taking actions so as to provide a coordinated effort focused on jointly satisfying the requirements of the customer marketplace." (p. 42)
Bradach and Eccles (1989)	trust	"We implicitly mean that the probability that ... [the exchange partner] will perform an action that is beneficial or at least not detrimental to us is high enough for us to consider engaging in some form of cooperation..." (p. 104)
Brown, Dev and Lee (2000)	relational exchange	"... can be characterized by the exchange norms of role integrity, mutuality, solidarity, flexibility, bilateral information exchange, harmonious conflict resolution, and a long-term orientation." (p. 53)
Ganesan (1994)	relationalism	"... the probability of a future interaction between the retailer and vendor." (p. 3)
Garbarino and Johnson (1999)	relational exchange	"... characterized by cooperative actions and mutual adjustment of both parties, a sharing of benefits and burdens of the exchange, and planning for future exchanges." (p. 70)
Ghosh and John (1999)	relational governance	"... includes a host of diverse forms that combine elements of the previous types. ... The unique aspect of relational governance is its reliance on mutual partner-specific investments, paired with implicit social norms to safeguard claims to shares of the value created." (p. 134)
Gundlach and Murphy (1993)	relational exchange	"... Involves transactions linked together over an extended time frame." (p. 36)
Heide (1994)	bilateral relation	"... in which the parties jointly develop policies directed toward the achievement of certain goals." (p. 74)
Kaufman and Dant (1992)	relational focus	"... reflects the extent to which the exchange relationship is perceived as relatively more important to the parties than the individual transactions." (p. 173)
Mohr and Nevin (1990)	relational exchange	"...involve joint planning between parties; the relationship has a long-term orientation, and interdependence is high..." (p. 40)
Morgan and Hunt (1994)	relational exchange	"... which traces to previous agreements and is longer in duration, reflecting an ongoing process..." (p. 21)
Noordewier, John and Nevin (1990)	relational exchange	"... expectations of continuity in a relationship ..." (p. 83)
Nevin (1995)	relational contract	"... a contract to exchange is relational to the extent that the parties are incapable of reducing important terms of the arrangement to well-defined duties." (p. 330)
Ring and Van de Ven (1976)	inter-organizational relationship	"... is defined as a social action system on the premise that it exhibits the basic elements of any organized collective behavior." (p. 25)
Zaheer and Venkatraman (1995)	relational governance	"... interfirm exchange which includes significant relationship specific assets, combined with a high level of interorganizational trust..." (p. 374)

**Table III.1: Conceptualizations of relational exchange in previous studies**

(2) trust, commitment and long-term orientation underlying the exchange to support an ongoing exchange process<sup>19</sup> (e.g., Morgan and Hunt 1994; Mohr and Nevin 1990; Ganesan 1994; Lusch and Brown 1996).

A working definition of relational exchange that encompasses these aspects is: ongoing cooperative exchange that is based on relational norms, trust, commitment and long-term orientation. To further clarify what is meant by the concept of relational exchange, I will attempt to extract the “core” issues of transactional and relational exchange. Transactional forms of exchange will serve as a starting point for the discussion because they appear to be more clearly understood.

Then I will evaluate deviations from transactional exchange that identify central aspects of relational exchange. Finally, I will use a behaviorally grounded theory, the theory of reasoned action (TRA), as an integrative framework to more clearly understand those aspects that distinguish relational from transactional exchange. This framework will then be used to conceptualize a continuum from transactional to relational exchange that is congruent with, but expands on Macneil’s (1980, 1983) framework.

### **Transactional Exchange**

Macneil (1980, p. 4) defines a contract as “no more and no less than the relations among parties to the process of prolonging exchange into the future.” We can understand the purest form of transactions, those of neoclassical economics, through the concept of contracts. With reference to Goldberg (1976), Macneil (1980) describes three elements

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<sup>19</sup> Trust is described as one party’s confidence in an exchange partner’s credibility and benevolence (Ganesan 1994). Commitment is defined as an exchange partner believing that “an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it” (Morgan and Hunt 1994, p. 23). An exchange partner’s long-term orientation is the “perception of interdependence of outcomes in which both a ...[partner’s] outcomes and joint outcomes are expected to benefit the ...[partner] in the long-run” (Ganesan 1994, p. 2).

that characterize transactional exchange: (1) no duties exist between parties prior to the contract formation, (2) agreement is a joint single exercise of the partner's free choice, and (3) the completion of the promised performance terminates that party's obligation. These three elements have consistently been used to describe transactional exchange (see Table III.2).

*Defining transactional exchange.* Incorporating the above aspects, transactional exchange can be defined as: discrete buyer-seller exchanges with minimal consideration of personal relationships and no anticipation or obligation of future exchanges. Here, discrete exchange means that the exchange is independent from any other transaction; minimal personal relationships means that the personal relationships between the exchange parties are underdeveloped enough so as to have only nominal effect on the exchange; and no obligation for future exchange means that the exchange does not require future exchange.

### **Relational Exchange**

In contrast to characterizations of the transactional exchange, those of the relational exchange vary considerably (see Table III.1). In particular, three problems impinge on these different views of relational exchange. *First*, many existing conceptualizations of relational exchange only partially reflect the domain of the relational exchange construct. This can be inferred from conceptualizations of relational exchange that only include some aspects of relational exchange and, more importantly, disregard others without clear theoretical justification.

For example, Zaheer and Venkatraman (1995) describe relational exchange as exchanges characterized by high levels of interorganizational trust, but they fail to

<b>Study</b>	<b>Construct</b>	<b>Definition</b>
Garbarino and Johnson (1999, p. 70)	transactional exchange	"... discrete buyer-seller exchanges of a commodity or performance for money with minimal personal relationships and no anticipation or obligation of future exchanges."
Ghosh and John (1999, p. 133)	market governance	"... describes the rules of arm's length market exchanges..."
Gundlach and Murphy (1993, p. 36)	transactional exchange	"... involves single, short-term exchange events encompassing a distinct beginning and ending."
Heide (1994, p. 74)	discrete exchange	"... is consistent with the underlying assumptions of neoclassical economic theory, in which individual transactions are assumed to be independent of past and future relations between the contracting parties and constitute nothing more than the transfer of ownership to a product or service (Goldberg 1976)."
Mohr and Nevin (1990, p. 40)	discrete exchange	"... occur on an ad-hoc basis - the relationship between the parties has a short-term orientation and interdependence is low."
Morgan and Hunt (1994, p. 21)	discrete transaction	"... which has a distinct beginning, short duration, and sharp ending by performance..."
Noordewier, John and Nevin (1990, p. 83)	discrete transaction	"...no duties exist between the parties prior to formation of the exchange, and in which the duties of the parties are determined completely up front."

**Table III.2: Conceptualizations of discrete exchange in previous studies**

include commitment, long-term orientation and relational norms. Garbarino and Johnson (1999) characterize relational exchange by cooperative actions, but fail to include the underlying aspects driving these behaviors. Lusch and Brown (1996), Brown, Dev, and Lee (2000) as well as Ghosh and John (1999) describe relational exchange in terms of the exchange partner's reliance on implicit social norms to govern behavior, but disregard the influence of trust, commitment, and long-term orientation.

*Second*, existing conceptualizations of relational exchange lack a framework that identifies central aspects of relational exchange. Part of this problem stems from the reliance on Macneil's (1980) relational norms as descriptors of relational exchange. But, the norms he outlines are to be understood as "principles of right action" in the exchange relationship (Macneil 1980, p. 38).

Norms exist in any exchange, but their emphasis and interpretation varies depending on whether the exchange is more relational or more transactional (Macneil 1980). When norms become internal to a relationship they can be used to govern that exchange relationship. Internalization means that norms become "... binding upon the members of a group and [are] serving to guide, control, or regulate proper and acceptable behavior" (Macneil 1979, p. 38). In relational exchange it is these internalized norms that drive behavior, not incentives or fiat (Joshi and Stump 1999). Hence, it is the sentiment associated with normative behavior as well as the internalization of norms that reflects the degree of relational exchange and not the observed behavior (Kelman 1958).

In addition to norm-congruent behavior, research on relational exchange has suggested that relational forms of exchange can be differentiated from transactional exchange on the basis of differences in trust and commitment to the exchange partner

(e.g., Levy and Weitz 1995). Parallel to the conceptualization of the influence of relational norms, exchanges with strong relationships not only have higher levels of trust and commitment, but also trust and commitment have become central in the partner's attitude and belief structure (Morgan and Hunt 1994; Garbarino and Johnson 1999).

*Third*, many conceptualizations of relational exchange rely on the assumption that “lower-order” aspects of relational exchange can be combined into a one-dimensional continuum. For example, Noordewier, John, and Nevin (1990) use five elements, Heide and John (1992) use three facets, Lusch and Brown (1996) use three norms, and Kaufmann and Dant (1992) use seven dimensions as being reflective of the relational syndrome that influences relational behavior. However, as pointed out before, Macneil (1980) defines the relational norms that characterize relational exchange so broadly that regulated behaviors become part of the definition rather than a consequence. Thus, conceptualizations of relational exchange based on Macneil's (1980) relational norms make a leap of faith that the observed behaviors are in fact due to normative compliance of the exchange partners.

*In summary*, the previous discussion of existing conceptualizations of relational exchange reveals that at least the following three criteria need to be addressed by any conceptualization of relational exchange:

1. assess *all* of the characteristics and *only* the characteristics of the conceptual domain of relational exchange (e.g., Peter 1981);
2. provide a *conceptual basis* for convergent and discriminant validity among aspects of relational exchange (e.g., Fiske 1982); and

3. focus on particular aspects of the domain to operationalize the continuum between relational and transactional exchange (e.g., Churchill 1979).

### **The TRA Framework**

I first provide a general background on Theory of Reasoned Action. Then TRA's applicability in the context of relational exchange is examined. In the next section TRA will be described in detail as it applies to relational exchange. It is concluded that relational intentions seem most suitable for an examination of the motives that lie behind relational exchange behavior.

### **Background**

In order to address these challenges and conceptualize relational exchange, I use theory of reasoned action (e.g., Fishbein and Ajzen 1975; Ajzen and Fishbein 1980) as a conceptual framework. The Theory of Reasoned Action [TRA] was pioneered by Izek Ajzen and Martin Fishbein in 1975. The approach to behavior that these researchers propose centers on the notion of 'reasoned action.' They maintain that people are essentially rational, in that they "*make systematic use of information available to them*" and are not "*controlled by unconscious motives or overpowering desires*", neither is their behavior "*capricious or thoughtless*" (Ajzen and Fishbein 1980, p 5; see also Fishbein and Ajzen 1975, p. 15).

It is a model of the psychological processes that mediate observed relations between attitudes and behavior. TRA is composed of attitudinal, social influence, and intention variables to predict behavior (Figure III.1). According to the TRA, an individual's behavioral intention is the most immediate factor influencing his/her behavior. This intention is a function of the individual's attitude and subjective norm. The

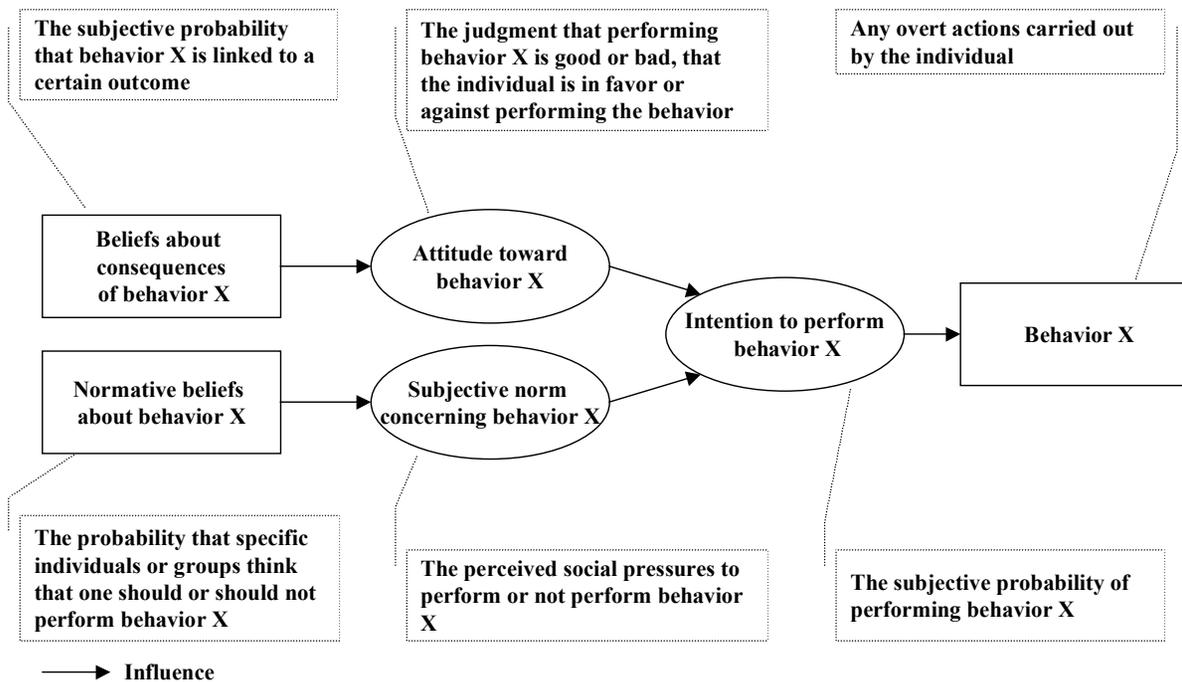
individual's attitude and subjective norm are both considered a function of the weighted sum of the appropriate beliefs (Ajzen and Fishbein 1980).

### **Applicability**

TRA is well suited to examine relational exchange behavior not only because it is generally concerned with the “prediction and understanding of ... behavior” (Ajzen and Fishbein 1980, p. 4), but also because TRA matches the conceptual domain of relationship marketing. It views the individual decision maker as embedded in structures of social relations, rather than solely as rational, self-interested behavior affected minimally by social relations (Granovetter 1985). TRA achieves this perspective by explicitly incorporating social influences, such as norms, into the set of considerations that drive behavior.

An important question for the adoption of TRA in the present context is: *Are the assumptions of TRA and TCA compatible?* Only if the assumptions of TRA are not contradictory to those of TCA and vice versa can TRA be used to meaningfully supplement the explanation exchange behavior addressed by TCA. Williamson (1985, p. 44) posits two behavioral assumptions that underlie TCA: bounded rationality and opportunism.

Bounded rationality refers to decision makers' limited cognitive competence to the extent that they behave “intendedly rational, but only limited so” (Williamson 1985, p. 45). This assumption is anticipated in TRA by the notion that individuals only anticipate a small number of salient beliefs that determine behavior (Ajzen and Fishbein 1980, p. 63).



**Figure III.1: Schematic Presentation of Conceptual Framework of the Theory of Reasoned Action  
Adapted from: Fishbein and Ajzen (1975), p. 16.**

Opportunism refers to self-interest seeking with guile (Williamson 1985, p. 47). The TCA framework explicitly takes into account the possibility of opportunism in exchange relationships. However, the TRA does not presume that decision makers behave opportunistically, yet it allows for opportunistic behavior to occur. In particular, TRA is built on the fundamental notion that behavior is volitional and “people consider the implications of their actions before they decide to engage or not to engage in a given behavior” (Ajzen and Fishbein 1980, p. 5).<sup>20</sup>

Finally, the TRA has demonstrated validity as a framework for understanding human behavior. Validity refers to “the best available approximation to the truth or falsity of propositions, including propositions about cause” (Cook and Campbell 1979, p. 37).

Four types of validity need to be distinguished (Cook and Campbell 1979):

1. statistical conclusion validity: the validity of conclusions about covariation made on the basis of statistical evidence;
2. internal validity: the validity with which relationships between variables can be inferred to be causal or that the lack of the relationship implies the absence of cause;
3. external validity: the validity with which causal relationships can be presumed to be generalized to and across different types of persons, settings, and times; and
4. construct validity: the validity with which generalizations about higher order constructs can be made from research operations.

Statistical conclusion validity and construct validity. Out of these four types of validity, statistical conclusion validity and construct validity are usually thought of at the

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<sup>20</sup> Ajzen and Fishbein (1980) do not subscribe to the view that “human social behavior is controlled by unconscious motives or overpowering desires, nor do ... [they] believe it can be characterized as capricious or thoughtless” (p. 5).

level of an individual study. Many studies (e.g., Sheppard, Hartwick, and Warshaw 1988) have documented statistical conclusion validity using various experimental and non-experimental approaches to test TRA. In addition, Sheppard, Hartwick, and Warshaw (1988) carefully examine studies included in their meta analysis for construct validity. Although the majority of studies examined evidenced correspondence of research operations with the constructs of TRA, some studies overstepped the conceptual bounds originally established for TRA<sup>21</sup>. In these cases the TRA still predicted well when the model had been used to investigate activities for which the model was not originally intended.

Internal validity. Essentially, internal validity is concerned with accounting for third-variable alternative interpretations of presumed relationships (Cook and Campbell 1979, p. 50). Such third-variable interpretations “can be dismissed with a special degree of confidence when the alternative interpretations seem unlikely on the basis of findings from a research tradition with a large number of relevant and replicated findings” (Cook and Campbell 1979, p. 56). Here, the fundamental idea is that randomization of alternative explanations across multiple studies reduces the threat that these explanations are causal for relationships that hold across multiple studies. A meta analysis conducted by Sheppard, Hartwick, and Warshaw (1988) that included 87 studies published in major marketing and psychology journals<sup>22</sup> finds strong overall support across studies for the

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<sup>21</sup> Examples of such overstepped boundaries are the investigation of (1) goal intentions instead of behavioral intentions and (2) estimates of whether a behavior will be performed versus intentions to perform the behavior (Sheppard, Hartwick, and Warshaw 1988).

<sup>22</sup> Sheppard, Hartwick, and Warshaw (1988) assessed the use of TRA including all studies dealing with TRA that were published in the Journal of Consumer Research, the Journal of Marketing, the Journal of Marketing Research, Advances in Consumer Research, the Journal of Personality and Social Psychology, the Journal of Experimental Social Psychology, the Journal of Social Psychology, the Journal of Applied Social Psychology, and the Journal of Applied Psychology. In addition the authors included all relevant articles cited or reported in Fishbein and Ajzen (1975) and Ajzen and Fishbein (1980).

relationships proposed by TRA.<sup>23</sup> Thus, given the large amount of studies lending support for the relationships in TRA, it appears likely that third-variable explanations can be ruled out to explain the relationships in TRA.

External validity. Essentially, external validity is concerned with the degree to which conclusions about the generalizability of a causal relationship can be drawn to and across populations of persons, settings, and times (Cook and Campbell 1979, p. 39). Here the TRA has mostly demonstrated external validity in the context of consumer behavior and social psychology. However, some recent studies have tested aspects of the model in the domain of buyer-seller exchange relationships (e.g., Dimnik and Johnston 1993; Cohen, Pant, and Sharp 1994; Becker, Randall, and Riegel 1995; Currall and Judge 1995; Bock and Kim 2002; Uddin and Gillett 2002). Although these initial tests of TRA in the context of buyer-seller exchange relationships lend general support for the relationships proposed in TRA they can only be seen as an initial step towards providing external validity of the framework in this context.

In addition to studies that explicitly test TRA in the context of buyer-seller exchange relationships, some behaviors that have been studied in the domain of consumer behavior are similar to the behaviors of interest in the current study (e.g., being absent from work, resigning from a job (Newman 1974); performing an illegal behavior (Warshaw and Davis 1984); cheating in college, such as copying answers from other's test, allowing others to copy from own test (DeVries and Ajzen 1971). Although these behaviors are not the same, their nature is similar to behaviors in buyer-seller exchange

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<sup>23</sup> In particular, the frequency-weighted average correlation for the intention-behavior relationship was .53 (sign. = .01; total sample size = 11,566). Further, the frequency-weighted average correlation for the relationship between individuals' attitudes and subjective norms with their intentions was .66 (sign. = .001; total sample size = 12,624).

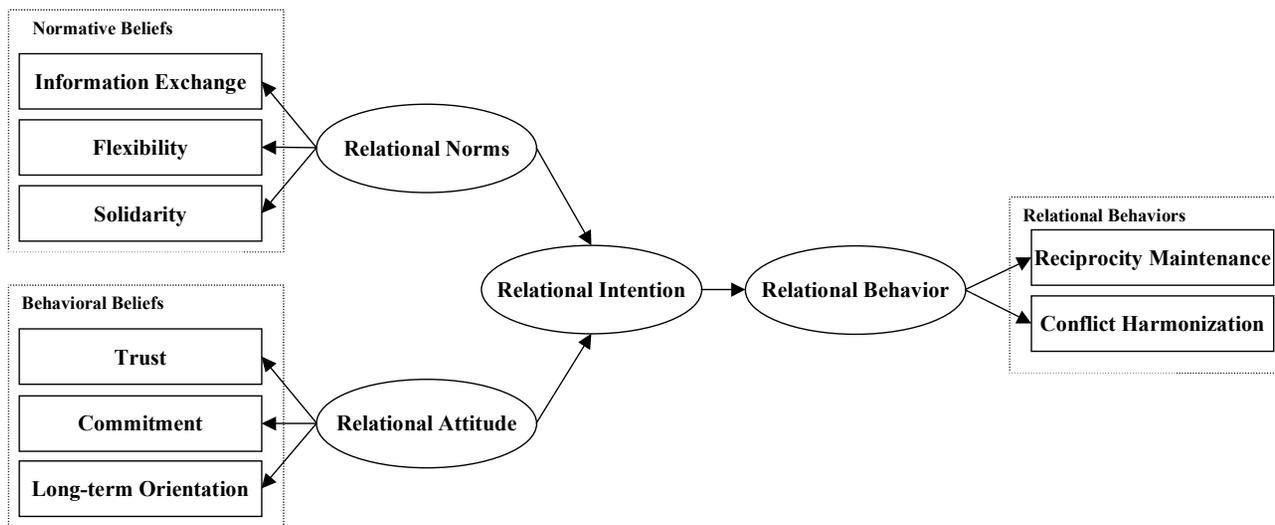
relationships (e.g., opportunism). Thus, these behaviors might be seen as additional support for the generalizability of TRA to behaviors in buyer-seller exchange relationships.

### **Applying the TRA to Relational Exchange**

In the following section I will outline how the TRA can be used as a framework to conceptualize relational exchange (see Figure III.2 as an overview). I will describe the application of the TRA by starting with the behavior. Then, I will proceed toward the antecedents of behavior. In doing so, each aspect of the TRA will first be discussed in general and then applied to the domain of relational exchange.

#### **Behavior**

The ultimate goal of applying TRA to relational exchange is the prediction and understanding of behavior in exchange relationships. Thus, the first step toward this goal is to define what is meant by behavior. Then, we can identify the behavior of interest. Behavior refers to any overt actions carried out by the exchange partners. As pointed out above, behavior in an exchange may be driven by multiple influences. For example, if an exchange partner extends the line of credit, this behavior might reflect confidence in the reliability of the exchange partner for paying outstanding debt. The same behavior, however, might reflect a hostage situation in the exchange in which the exchange partner has no choice but to extend the line of credit in order to avoid a greater loss.



**Figure III.2: Framework for Relational Exchange Based on the Theory of Reasoned Action**

As this example demonstrates, single actions in an exchange may be instances of general behavioral categories (e.g., relational or transactional exchange).<sup>24</sup>

However, it appears useful to characterize behavior in an exchange by the degree to which it reflects relational or transactional exchange. This perspective is helpful, because it does not presume that a given behavior can be classified as either transactional or relational. Rather, it allows for a continuum of exchange behavior that is the result of multiple motivations with the extreme points of transactional and relational behavior. For instance, the decision to extend the line of credit in the above example might reflect both, a need to extend the line of credit to promote future business as well as reliance on the honesty of the exchange partner.

*Categories of relational behaviors.* There appear to be multiple categories that describe relational behavior. Macneil (1979, 1981, 1983) identifies these categories in terms of norms that govern behavior in relational exchange. However, these norms “reflect both behavior and oughts emerging from it” (Macneil 1983, p. 346). Behavior that is described by norms governing relational exchange can be characterized as cooperative and is designed to “enhance the well-being of the relationship as a whole” (Heide and John 1992, p. 34). As noted earlier, cooperation refers to “similar or complementary actions taken by firms in interdependent relationships to achieve mutual outcomes or singular outcomes with expected reciprocity over time” (Anderson and Narus 1990, p. 45).

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<sup>24</sup> However, such behavioral categories cannot be directly observed (Ajzen and Fishbein 1980, p. 31). In the context of exchange relationships, single actions reflect varying degrees of transactional or relational exchange and classifying an exchange as relational or transactional is an arbitrary decision. For example, it is reasonable to ask whether an exchange partner does or does not extend the line of credit, but it may not be very meaningful to ask this question with respect to being in a relational exchange because the behavior will not conclusively identify the motivation.

Macneil (1980, p. 65) points toward two behaviors that are characteristic of relational exchange: continual maintenance of adequate reciprocity (in short: reciprocity maintenance) and continual harmonization of conflict (in short: conflict harmonization). Partners that maintain adequate reciprocity in the exchange relationship support the ongoing character of the exchange and preserve the exchange relationship (Macneil 1983, p. 363).

Reciprocity refers to situations in which an exchange partner who receives benefits from another is required to some return, so that giving and receiving are mutually contingent (Gouldner 1960). Gouldner (1960) further clarifies the meaning of reciprocity by distinguishing a general pattern of exchange from a normative element that defines “certain actions and obligations as repayments for benefits received.” This value element evokes exchange parties’ obligations toward others on the basis of past behavior and the notion that the exchange ought to be roughly equivalent in the long-run.

In the present context I view reciprocity as the *norm* referring to the “principle of getting something back for something given” that leads to an “evenness of exchange” (Macneil 1983, p. 347). In contrast, I refer to reciprocity maintenance as *behavior* that preserves reciprocity in the exchange by sustaining “effective future interdependence” (Macneil 1980, p. 91) between the exchange partners. Here, “effective future interdependence” can be understood as the situation in which exchange partners “desire to and are able to depend on the other” (Macneil 1980, p. 92). Such interdependence might arise, for example, from a division of labor between the exchange partners in which both partners engage in mutually satisfying patterns of exchanging goods and services (Gouldner 1960). Reciprocity and interdependence of outcomes support

continued relational exchange for the purpose of pursuing common or mutually beneficial goals or interests (Oliver 1990).

Conflict in exchange relationships can be understood as a process that includes exchange parties perceptions of conflict which might lead to manifest conflict in the exchange relationship (Brown and Day 1981). Perceptions of conflict refer to a psychological state of an exchange partner “that his goal attainment is being impeded, or blocked, by another ... [exchange partner]” (Gaski and Nevin 1985, p. 131). Manifest conflict, on the other hand, refers to “all overt behaviors which take place when one ... [exchange partner] is seen as frustrating other ... [exchange partners’] attempts to reach their goals, nurture their values, or pursue their interests” (Brown and Day 1981, p. 264). Conflict in the present context includes the whole process rather than individual stages of it (Macneil 1983; Kaufman and Dant 1992).

Conflict can produce either functional or dysfunctional consequences. Functional conflict refers to those effects of conflict that enhance the efficiency in the exchange whereas dysfunctional conflict refers to those effects of conflict that reduce the efficiency of the exchange (Rosenbloom 1973). In the context of marketing channels efficiency of the exchange means “the degree to which the total investments in the various inputs necessary to effect a given channel decision can be optimized in terms of outputs” (Rosenbloom 1973, p. 27).

In relational exchange, exchange partners strive to resolve conflict in a functional way in order to intensify and expand the exchange relationship (Macneil 1983). However, functional consequences might not be achievable in all situations (e.g., if one exchange partner cannot adopt a new logistics system). Yet, exchange partners can still avoid

dysfunctional consequences (e.g., duplication of effort, rigid adherence to contracts).

Thus, harmonization of conflict can be defined as behavior that supports the resolution of conflict in the exchange relationship that attempts to reach functional outcomes but avoids dysfunctional outcomes.

Although Macneil (1983, p. 362) suggests that in exchange relationships “peace is valued in its own right,” behavior to harmonize conflict can help to preserve the functioning of the exchange relationship. Harmonization of conflict is especially important for relational exchange because contracts are usually less complete than in discrete exchanges (Goetz and Scott 1981). If conflict arises from unspecified contingencies and is not resolved to the mutual satisfaction of the exchange partners, the relationship will sooner or later collapse (Macneil 1980, p. 67).

*Defining relational behavior.* Both behaviors described above are characterized by actions incurred by the exchange partners to maintaining a functional exchange that continues into the future. Therefore, I define relational behavior as actions taken by the exchange partners to achieve mutual separate outcomes that are aimed at maintaining, intensifying and expanding the exchange relationship. Here, mutual separate outcomes mean that relational behavior may produce outcomes for either or both exchange partners respectively.

Maintaining, intensifying and expanding the exchange relationship qualifies these actions as pertaining only to those actions that support and prolong relational exchange into the future. Note that this qualification distinguishes relational behavior from cooperative behavior because the later can also pertain to continued transactional

exchange and may not be aimed at supporting and prolonging an exchange relationship between the exchange partners.

### **Intention**

According to TRA, performance or non-performance of a given behavior is primarily a function of the person's intention to perform or not perform that behavior (Ajzen and Fishbein 1980).<sup>25</sup> The term intention has been used in different ways. For some, an intention is simply a weak statement of a wish or desire to perform a given behavior; for others, intentions have been as a commitment to carry out a behavior (Fishbein et. al. 2001). The problem is a distinction between viewing intention as categorical (the person either intends or does not intend to act) or as a continuous concept varying in strength or intensity.

In the field of social psychology, where the construct is used most widely, the concept is viewed as a continuous variable (Fishbein et al. 2001). In applying the concept of intention to describe intentions in exchange relationships, it appears useful to follow this perspective because observed behaviors in the exchange seem to reflect varying strength of intentions. Conceptualizing intention as a continuous variable further provides for correspondence with the conceptualization of behavior and, thus, enhances the accuracy of prediction (Ajzen and Fishbein 1980, p. 47).

*Defining relational intention.* In the context of exchange relationships, behavioral intention can be defined as the exchange partner's subjective probability or subjective likelihood to perform the behavior in question. A relational behavioral intention (in short:

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<sup>25</sup> The underlying assumption here is that the behavior is under volitional control of the exchange partner. This is an important assumption that will be further addressed by motivating the absence of environmental constraints, such as asymmetric dependence in the exchange relationship, as an antecedent to relational behavior in an exchange.

relational intention) can be defined as the exchange partner's subjective probability or subjective likelihood of engaging in relational behavior in the exchange.

### **Determinants of Intention**

As Ajzen and Fishbein (1980, p. 5, 6) note,

the notion that intentions predict behavior does not provide much information about the reasons for the behavior. ... Since our goal is to *understand* human behavior, not merely predict it, the second step ... requires that we investigate the determinants of intentions.

In TRA, the intention to perform a behavior is viewed as a function of two primary determinants: the individual's attitude toward performing that behavior and the perception of the social (or normative) pressure to perform the behavior (Ajzen and Fishbein 1980).

*Norms.* Subjective norms, in general, refer to "the perceived social pressures ... to perform or not perform [a] ... behavior" (Ajzen and Fishbein 1980, p. 6).<sup>26</sup> In sociology, the term "norm" refers to a rather broad range of permissible, but not necessarily required behaviors and is viewed as "socially agreed upon rules, the definition of what is right and proper" (Webster 1975, p. 16). However, the concept of subjective norms in the context of TRA is narrower and captures the person's perception that important others desire the performance or non-performance of a specific behavior. Thus, it may or may not reflect the actual expectations of the referent person or group (Ajzen and Fishbein 1980, p. 57). Applying this concept to the domain of business-to-business exchanges suggests refining the concept of subjective norms to the perceived "*expectation[s]* about behavior that ... [is] at least partially shared by a group of decision makers" (Heide and John 1992, p. 34).

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<sup>26</sup> Ajzen and Fishbein (1980, p. 57) point out that: "In our theory, "subjective norm" refers to a specific behavioral prescription attributed to a generalized social agent."

However, the quality of subjective norms in an exchange is suggested to vary depending on the degree to which an exchange is relational (Macneil 1980). TRA offers an explanation for such variation: subjective norms are a function of normative beliefs underlying those norms. Normative beliefs refer to “a person’s beliefs that specific individuals or groups think he/she should or should not perform the behavior” (Ajzen and Fishbein 1980, p. 7).<sup>27</sup> They represent the likelihood that important referent individuals or groups would approve or disapprove of performing the behavior. Such normative beliefs refer to specific behavioral expectations attributed to a given social agent (e.g., the exchange partner) rather than a broad range of permissible but not necessarily expected behaviors (Fishbein 1967).

Normative beliefs also determine the particular characteristic of the subjective norm. Or, as Fishbein and Ajzen (1980, p. 7) suggest:

... a person who believes that most referents with whom he is motivated to comply think he should perform the behavior will perceive social pressure to do so. Conversely, a person who believes that most referents with whom he is motivated to comply think he should not perform the behavior will have a subjective norm that puts pressure on him to avoid performing the behavior.

In the context of exchange relationships, different normative beliefs have been suggested to influence the norms emphasized in an exchange. For example, Macneil (1983) suggests that the values of precise form, following through on planning,

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<sup>27</sup> Generally speaking, beliefs associate behavior with “various characteristics, qualities, and attributes” (Fishbein 1980, p. 62).

efficiency, and consent are reflected in the discrete norm that is associated with transactional exchange. For relational exchange, Macneil (1983, 1978) identifies multiple norms (e.g., information exchange, flexibility, and solidarity) that describe the degree to which the exchange relationship is relatively more important than the individual transaction and characterize relational exchange (Kaufmann and Dant 1992).

Subsequent research has added much to the understanding of the characteristics of these norms (e.g., Kaufmann and Dant 1992; Heide and John 1992). In particular, this body of research suggests that relational norms can be appropriately viewed as reflecting "... an underlying syndrome or higher order norm..." (Heide and John 1992, p. 34) that characterizes relational exchange (see also, Noordewier, John, and Nevin 1990). This finding is important because it suggests that although there might be facets of a subjective norm that characterizes relational exchange, these facets can be combined into a unifying norm that is characteristic of exchange relationships.

Therefore, if a subjective norm in an exchange represents normative beliefs of exchange partners, then the different, though related facets of relational norms identified in various studies (see Table III.3) can be viewed as reflecting clusters of similar normative beliefs. It is the nature of those beliefs that are reflected in the subjective norm in the exchange that can be used to characterize the subjective norm as being either more relational or more transactional. If the norm of the exchange reflects normative beliefs that prescribe relational behavior, the norm of the exchange can be termed relational. Vice versa, if the norm of the exchange reflects transactional normative beliefs it can be considered transactional (Heide and John 1992).

*Attitudes.* According to TRA, the second determinant of intention refers to the individual's positive or negative evaluation of performing the behavior (Ajzen and Fishbein 1980). This factor is termed attitude toward the behavior and refers to "the ... judgment that performing the behavior is good or bad, that [the individual] ... is in favor

<b>Study</b>	<b>Facets of relational exchange</b>
Bello, Chelariu, and Zhang (2003)	solidarity, information exchange, flexibility
Boyle, Dwyer, Robicheaux, and Simpson (1992)	flexibility, solidarity, mutuality
Brown, Dev, and Lee (2000)	preservation of the relationship, role integrity, harmonization of conflict
Dwyer and Oh (1987)	formalization, centralization, control
Heide and John (1990)	joint actions, supplier verification, continuity expectations
Heide and John (1992)	flexibility, information exchange, solidarity
Kaufman and Dant (1992)	planning and consent, solidarity, limited power use, role integrity, harmonization of conflict, flexibility, mutuality
Lusch and Brown (1996)	flexibility, information exchange, solidarity
Macneil (1978, 1980, 1981, 1983)	solidarity, mutuality, flexibility, role integrity, restraint, conflict resolution
Noordewier, John and Nevin (1990)	flexibility, information exchange, assistances, monitoring, continuity expectations

**Table III.3: Facets of relational norms used in previous studies**

or against performing the behavior” (Ajzen and Fishbein 1980, p. 6). For instance, an exchange partner might decide that extending a line of credit is a good thing to do. However, the attitude toward performing a behavior in an exchange may vary depending on the degree to which an exchange is relational. According to TRA this variation is a function of underlying beliefs of the exchange partner (Ajzen and Fishbein 1980). Such beliefs that underlie an attitude toward the behavior are termed behavioral beliefs. Behavioral beliefs represent the subjective probability that a behavior is linked to a certain outcome (Ajzen and Fishbein 1980, p. 71).

For example, an exchange partner might believe that staying in an exchange relationship will result in superior future benefits from the relationship. As pointed out for relational behavior and relational intentions, attitudes and beliefs need to correspond in their level of generality in order to permit either prediction or understanding of those intentions and behaviors. The behavioral attitude of interest in the context of this research refers to the general category of relational behavior. Such attitude toward relational behavior (in short: relational attitude) is defined as the exchange partner’s judgment that performing *relational behavior* is good or bad, that he/she is in favor or against performing *relational behavior*.<sup>28</sup> Likewise, relational behavioral beliefs (in short: relational beliefs) refer to the subjective probability that specific relational behaviors enhance the well-being of the exchange relationship.

*Relational beliefs in relational exchange research.* Research on exchange relationships has identified various relational beliefs that characterize relational exchange such as trust, commitment (Morgan and Hunt (1994), and long-term orientation (Ganesan

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<sup>28</sup> Note that a relational attitude is conceptualized to be high or low. An exchange partner with a high relational attitude favors relational behavior; whereas a low relational attitude reflects aversion to relational behavior.

1994; Lusch and Brown 1996). These beliefs are central to relational exchange, because they capture the notion that such exchanges transpire over time (Dwyer, Schurr, and Oh 1987; Macneil 1980). Here, these beliefs toward behavior in the exchange are a function of past (e.g., trust) and future transactions (e.g., commitment), and are not limited to current transactions (e.g., long term orientation).

Commitment is defined as an exchange partner believing that “an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it” (Morgan and Hunt 1994, p. 23). This definition of commitment is very similar to other conceptualizations (e.g., Anderson and Weitz 1993; Moorman, Zaltman, Deshpande 1992), and corresponds closely with the description of the construct in the social exchange literature (e.g., Blau 1964; Thibaut and Kelley 1959). Note that commitment to the relationship is distinct from actual efforts to maintain the relationship. It refers to an exchange partner’s belief about the exchange but not the efforts or actions resulting from this belief. Such actions are described by relational behavior like reciprocity maintenance and conflict harmonization.

Trust is described as one party’s confidence in an exchange partner’s credibility and benevolence (Ganesan 1994). Morgan and Hunt (1994) upon reviewing various definitions of trust, suggest that trust should be conceptualized as one party’s confidence in an exchange partner’s qualities, such as reliability, integrity, honesty, fairness, benevolence, and others. This trusting belief, however, should neither be mixed with outcomes of such qualities (e.g., Anderson and Narus 1990), nor should the behavioral intention of willingness to rely be part of the definition of trust (e.g., Moorman,

Deshpande, and Zaltman 1993), because it is “unnecessary or redundant in its definition” (Morgan and Hunt 1994, p. 24).

*Sub-dimensions of trust and commitment.* In addition to these general conceptualizations of trust and commitment, research has identified various dimensions of these constructs. Based on the work of Allen and Mayer (1990a; 1990b) in organizational psychology, research on commitment seems to be evolving toward a three-component model (Brown, Lusch, and Nicholson 1995; Gundlach, Achrol, and Mentzer 1995; Kim and Frazier 1997). However, as these authors point out, “significant differences remain in the conceptualizations of these components (Gundlach, Achrol, and Mentzer 1995, p. 79) and “its conceptual scope and components in channel relationships remain equivocal” (Kim and Frazier 1997, p. 847).

The first component of commitment describes an instrumental (Gundlach, Achrol, and Mentzer 1995) or calculative (Allen and Mayer 1990a) view in which the committed party places a side bet on or beliefs in consistent future behavior of the exchange partner (Becker 1960). The second component has been described as attitudinal (Gundlach, Achrol, and Mentzer 1995) or affective. Here the exchange partner believes in the goals and values of an exchange in a “partisan” fashion. Finally, the third component of commitment is continuance commitment (Allen and Meyer 1990) which is a direct result of commitment inputs that create self-interest stakes in the relationship.<sup>29</sup>

As this brief summary of different aspects of commitment reveals, it is questionable to what degree these facets reflect separate and distinct constructs (for an empirical test, see Gundlach, Achrol, and Mentzer 1995; Brown, Lusch, and Nicholson

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<sup>29</sup> See Kim and Frazier (1997a) for a thorough review of different conceptualizations in the channel literature.

1995; Kim and Frazier 1997b). However, it is not in the scope of the present research to investigate the dimensionality of the commitment construct. Rather, it appears fruitful to focus on the general concept of commitment as a relational belief.

Just as for commitment, research on trust has identified two distinct dimensions (Kumar, Scheer, and Steenkamp 1995) (see Table III.4 for an overview of conceptualizations). The first component of trust pertains to the partner's reliability and dependability. This facet of trust has been labeled honesty or cognition based trust (McAlister 1995; Geyskens, Steenkamp, and Kumar 1998). The second component of trust has been termed affect-based trust (McAlister 1995) or benevolence (Geyskens, Steenkamp, and Kumar 1998). It pertains to the belief that the partner is interested in one's welfare.

Many researchers have included both benevolence and credibility in their conceptualization of trust. Others have only included one of these dimensions (e.g., Anderson and Narus 1990). Again, it is not in the scope of this study to investigate the dimensionality of the trust construct. Therefore, I will focus on the general concept of trusting beliefs and their implications for relational behavior.

A third belief that appears to be central to relational exchange is long-term orientation (Kelley and Thibaut 1978). An exchange partner's long-term orientation is the "perception of interdependence of outcomes in which both a ... [partner's] outcomes and joint outcomes are expected to benefit the ... [partner] in the long-run" (Ganesan 1994, p. 2). Long-term orientation refers to the belief that outcomes of the exchange are dependent on both partners and that these outcomes will be realized across multiple exchanges over time (Kelley and Thibaut 1978). Long-term orientation can therefore be classified as a

<b>Study</b>	<b>Operationalization</b>	<b>Conceptualization</b>
Anderson, Lodish, and Weitz (1987)	benevolence	Willingness to accept short-term disadvantages because of confidence that such disadvantages will balance out in the long run
Anderson and Weitz (1989)	trust	Firm's belief that its needs will be fulfilled in the future by actions undertaken by the partner
Anderson and Narus (1990)	trust	Firm's belief that partner will perform actions that will result in positive outcomes for the firm, as well as not take unexpected actions that would result in negative outcomes for the firm
Busch and Wilson (1976)	credibility	
Crosby, Evans, and Cowles (1990)	credibility, benevolence	Confident belief that the partner can be relied upon to behave in such a manner that one's long-term interests will be served
Dwyer and Oh (1987)	credibility, benevolence	A firm's expectations that partner desires coordination, will fulfill its obligations, and will pull its weight in the relationship
Ganesan (1994)	credibility, benevolence	Belief that partner is credible and benevolent
John and Reve (1982)	credibility	Extent to which firm feels confident that partner will adhere to channel decisions and agreements, and information is shared openly
Kumar, Scheer, and Steenkamp (1995)	credibility, benevolence	Belief that partner is honest and benevolent
Morgan and Hunt (1994)	credibility	Confidence in partner's reliability and integrity
Scheer and Stern (1992)	credibility	Belief that partner can be relied on to fulfill its future obligations and to behave in a manner that will serve the firm's needs and long-term interests
Schurr and Ozzane (1985)	credibility, benevolence	Belief that partner's word or promise is reliable and that partner will fulfill its obligations in an exchange relationship
Stern, Sternthal, and Craig (1973)	credibility, benevolence	

Source: Geyskens, Steenkamp, and Kumar (1998)

**Table III.4: Facets of trust identified in previous studies**

relational belief, because it is based on the belief that the exchange demands ongoing relational exchange to maximize outcomes (Ganesan 1994; Lusch and Brown 1996).

Note that long-term orientation is distinct from actual efforts (e.g. relational behavior) to maintain reciprocity in the relationship. It refers to a belief about the exchange relationship rather than actions that may result from that belief. Long-term orientation is also conceptually distinct from the belief of commitment because it targets the perception of interdependent outcomes in the exchange rather than the perception that the exchange is important. Although it is plausible to argue that interdependent outcomes might increase the value placed in the exchange, such interdependent outcomes might also be achievable in other relationships.

In addition, interdependent outcomes may not always lead to a higher importance of the exchange relationship because importance implies a comparison with other exchanges (e.g., the outcomes to be achieved in another exchange might be higher). Thus, although the conceptual domains of long-term orientation and commitment appear to be related, which supports their common classification as relational beliefs, the goal here is not to establish conceptual independence between the constructs but rather to identify important beliefs that can be described as relational.

Finally, research has shown that long duration of the exchange is neither a necessary nor sufficient condition for relational exchange (Lambe and Spekman 1997; Lambe, Spekman and Hunt 2000). Here it is important to distinguish the duration (past or future) of the exchange from the belief addressed by Kelley and Thibaut (1978) that outcomes of the exchange are not realized in a single exchange, but necessitate multiple exchanges over time. The conceptualization of long-term orientation anticipates this

ongoing nature by referring to the belief that outcomes will be realized across multiple exchanges over time (Kelley and Thibaut 1978).

In summary, current research on relational exchange has identified three key relational beliefs that characterize relational exchange. These are the partner's trust, commitment, and long-term orientation. Although these beliefs are important to the formation of relational attitudes, they may not be the only beliefs that influence the development of relational attitudes.<sup>30</sup> Nevertheless, if relational attitudes in an exchange relationship are formed by relational beliefs, strong relational attitudes reflect high levels of these relational beliefs.

### **Summary**

Applying TRA to behaviors that Macneil (1980) identifies as relational suggests, that such behaviors may originate from relational attitudes toward that behavior and the normative-social context of the exchange. Using TRA to integrate these research findings would suggest treating research on relational beliefs and resulting relational attitudes as one pillar to our understanding of relational intentions and relational behavior. Research on normative beliefs and relational norms constitutes the second pillar. Figure x depicts a summary of the above arguments and organizes existing perspectives of relational exchange along the constructs of the framework of TRA.

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<sup>30</sup> Although the number of beliefs identified here appears small, it is important to note that Ajzen and Fishbein (1980, p. 63) suggest that “under most circumstances, a small number of beliefs serve as the determinants of a person’s attitude. Clearly, salient beliefs are also subject to change; they may be strengthened or weakened or replaced by new beliefs.” Thus, given the attention that the identified beliefs here have received in research on relational exchange, it appears reasonable to assume that these three beliefs reflect the “key” beliefs for the formation of relational attitudes.

## Conceptual Definition of Relational Exchange

In order to capture the essence of the above discussion, I conceptualize relational exchange as the system of relational norms, beliefs, intentions, and behaviors.

Conceptualizing relational exchange as a system of interrelated characteristics that define an exchange as relational avoids the drawbacks of other definitions of relational exchange (Table III.1) outlined in the introduction to Chapter III and meets the three central criteria deduced from this discussion.

*First*, as pointed out above, many definitions of relational exchange either rely on some characteristics of relational exchange, but exclude others (e.g., Mohr and Nevin 1990; Noordewier, John and Nevin 1990) or use an ‘umbrella-definition’ without specification its elements (e.g., Morgan and Hunt 1994; Bradach and Eccles 1989) (see Table III.1). The conceptualization of relational exchange proposed here captures *all* characteristics of relational exchange that have been identified by previous research and *only* those characteristics of relational exchange. The four components of the system of relational exchange incorporate all of the relational characteristics that have been used to conceptualize relational exchange in previous studies. In addition, elements of conceptual definitions that are external to relational exchange can be identified as not being core to relational exchange but merely closely related. For example, Gosh and John (1999) use transaction specific assets to define relational exchange. Yet, such investments are not part of the system of relational exchange and are identified as ‘related’ to relational exchange (transaction specific investments can also exist in transactional exchanges; e.g., Heide and John, 1990).

*Second*, the proposed conceptualization of relational exchange provides a conceptual basis for convergent and discriminant validity among different aspects of relational exchange. As pointed out in the introduction to chapter III, distinguishing various aspects of relational exchange and recognizing their relationships is important, because it allows for the assessment of convergent and discriminant validity in existing future studies of relational exchange.

*Finally*, and perhaps most importantly, the proposed conceptualization of relational exchange allows a focused selection of particular aspects of the domain of relational exchange to operationalize the continuum of transactional to relational exchange in a way that is consistent with other aspects of the study in question. For example, a study that focuses on outcomes of relational exchange may operationalize relational exchange in terms of relational behaviors, because such behaviors would be most closely related to such outcomes. Similarly, a study that focuses on antecedents of relational exchange may prefer to operationalize relational exchange using relational norms and beliefs.

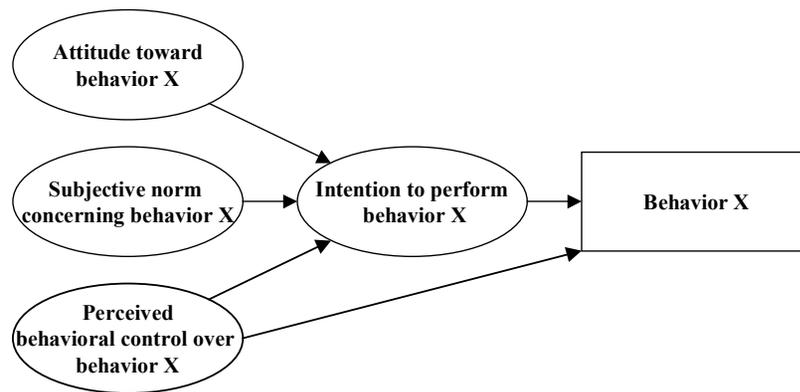
Following this logic, research that studies both, outcomes and antecedents, or investigates general aspects of relational exchange may choose to operationalize relational exchange in terms of relational intentions, because they are an important mediating variable in the proposed system of relational exchange. Here, relational intentions appear to be a good choice because they are closely linked to current and future behavior in the exchange, but are not confounded by other elements that might influence behavior (e.g., coercive influence strategies; see: Frazier and Rody 1991).

Another advantage of operationalizing relational exchange using relational intentions is its unidimensionality. Using a unidimensional variable to map the continuum between transactional and relational exchange facilitates the use of more complex testing methodologies such as structural equation modeling or moderated regression analysis. Here, traditional second-order operationalizations may increase demands on sample size or may introduce potential multi-collinearity.

### **Control Variables**

One important control variable that has led to an extension of the TRA (Theory of Planned Behavior) needs consideration. That is the degree to which the behavior of interest is under volitional control. The development and testing of TRA were predicated on the assumption that the behaviors being studied were under full volitional control (Madden, Ellen, and Ajzen 1992). Variables external to the model are assumed to influence intention only to the extent that they affect either attitudes or subjective norms (Fishbein and Ajzen 1975). Ajzen (1985) extends the boundary condition of pure volitional control specified in TRA (Figure III.3). Ajzen (1985) suggests that perceived behavioral control, "... the subjective degree of control over performance of the behavior..." (Ajzen 2002), influences behavioral intentions and observed behavior.

First, the indirect effect of perceived behavioral control on behavior, as mediated by intentions, is based on the assumption that perceived behavioral control has motivational implications for behavioral intentions. For example, when exchange partners believe they have little control over reducing conflict in the exchange relationship, then their intentions to engage in conflict reducing behavior may be low



**Figure III.3: Schematic Presentation of Conceptual Framework of Theory of Planned Behavior  
Adapted from: Madden, Ellen, and Ajzen (1992), p. 4**

even under conditions of favorable attitudes or subjective norms that convey performance of the behavior.

Second, the direct effect of perceived behavioral control on behavior is assumed to reflect the actual control an individual has over performing the behavior. For example, if an exchange partner has little control over the preservation of the relationship, then intentions to preserve the relationship may not lead to behavior that preserves the relationship. Therefore, one important variable that needs to be taken into account is the level of perceived behavioral control an exchange partner has over performing relational behavior in the exchange relationship.

### **Estimation of Attitude and Subjective Norm**

Following Ajzen and Fishbein (1980), research has conceptualized the link between behavioral beliefs and normative beliefs and attitude and subjective norms, as a function of the belief strength and the outcome evaluation or the motivation to comply respectively (Figure III.4A). In particular, Ajzen and Fishbein (1980, p. 67) suggest for attitudes:

attitudes are based on a total set of a person's salient beliefs. People usually believe that performing a given behavior will lead to both positive and negative consequences; their attitudes toward the behavior correspond to the favorability or unfavorability of the total set of consequences, each weighted by the strength of the person's beliefs that performing the behavior will lead to each of the consequences.

Similarly, subjective norm "can be predicted from the index we obtain if we multiply ... [the person's] normative beliefs by the corresponding motivations to comply and then sum the products." (Ajzen and Fishbein 1980, p. 75).

Yet, in the context of relational exchange, it seems preferable to view relational beliefs and normative beliefs as characteristics which progress from a latent state of

relational exchange that is described by relational attitudes, relational norms, and relational intentions (Figure III.4B):

1. Research on relational exchange suggests that the importance of relational behavioral beliefs may change over time as the exchange relationship develops (e.g., Wilson 1995; Dwyer, Schurr, and Oh 1987). Although the importance of behavioral beliefs may change over time, it is not likely that the favorability of outcomes related to these behavioral beliefs will change. For example, exchange partners may place high efforts in developing trust in early stages of the exchange relationship, but take trust as a given in later stages of the relationship. At the same time, exchange partners are likely to evaluate trust as favorable across all relationship stages (e.g., Figure III.4B). Separating out various states of the relationship may be a very difficult task (e.g., Jap 1999). In order to capture the bandwidth of relational beliefs, Ajzen and Fishbein (1980, p. 68) suggest deriving a set of modal behavioral beliefs. Such a set of behavioral beliefs includes at least some beliefs important to any respondent in the sample. In the context of exchange relationships, modal relational beliefs can be viewed as those beliefs that are central across various relationship stages. Only if the beliefs represent the dominant beliefs that influence relational attitudes and relational norms across relationship stages, does the latent order conceptualization capture the degree of relational exchange (e.g., Figure III.4B).

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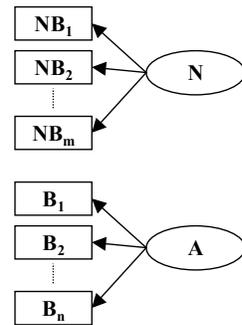
(A)

$$B \sim BI = f(A, N)$$

$$A = \sum_{i=1}^n B_i * a_i$$

$$N = \sum_{j=1}^m NB_j * mc_j$$

(B)



where:

**B= Overt behavior**

**BI= Behavioral intention**

**A= Attitude toward the behavior**

**N= Subjective norm toward the behavior**

**B<sub>i</sub>= Behavioral belief**

**a<sub>i</sub>= Outcome evaluation**

**i= a number of salient behavioral beliefs about the behavior**

**NB<sub>j</sub>= Normative belief governing the behavior**

**mc<sub>j</sub>= Motivation to comply with the normative belief**

**j= a number of salient normative beliefs about the behavior**

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**Figure III.4: Estimation of Attitude and Subjective Norm**

2. Research suggests that the normative beliefs selected in this research to underlie relational norms are central to relational exchange (Heide and John 1992; Noordewier, John, and Nevin 1990). Further, the relational beliefs selected to underlie relational attitudes have been prominently and consistently applied to describe relational exchange across relationship stages (e.g., Morgan and Hunt 1994; Ganesan 1994; Dwyer, Schurr, and Oh 1987; Wilson 1995).
3. The latent variable conceptualization is consistent with research on relational exchange (e.g., Heide and John 1992; Noordewier, John, and Nevin 1990; Stinchcombe and Heimer 1985) and recent research in TRA (e.g., Ajzen 2002). For example, Noordewier, John and Nevin (1990, p. 84) model elements of relational exchange "... as comprising a syndrome of relational governance ..., which can be thought of as a single higher order construct." Similarly, Heide and John (1992, p. 36) advocate that though the "...three dimensions [of relational norms] have distinct elements, they originate from a single, higher order relational norm."

## **CHAPTER IV**

### **BOUNDARY CONDITIONS OF RELATIONAL EXCHANGE**

#### **Introduction**

This chapter evaluates the past research on relational exchange with the goal of identifying boundary conditions of relational exchange. This chapter is organized along types of antecedents rather than in chronological order of their development in the literature on relational exchange. A qualitative integration of the literature has been attempted and moderator variables have been identified where applicable. The manner in which each antecedent is linked to relational exchange is discussed in detail, as this is a central element of this research effort.

#### **Roadmap**

The issues addressed in this section relate to:

1. Antecedents of vertical integration. It is important to have a clear understanding of the antecedents of vertical integration and the mechanisms that operate to support vertical integration. This can be seen as the point of departure for the development of antecedents of relational exchange, because this research effort posits that vertical integration and relational exchange differ systematically in terms of antecedents.
2. Antecedents of relational exchange. This section reviews how and under what circumstances (frequent and bi-directional communication) antecedents of vertical integration may also lead to relational exchange. In addition antecedents that are idiosyncratic to relational exchange and go beyond those identified for vertical

integration extend this narrow set of antecedents. Again, a moderating condition (symmetric interdependence) is introduced for these antecedents. Finally, another moderator (outcome uncertainty) is identified that is likely to influence the development of relational exchange under conditions of vertical integration and suggests that both types of exchange structures may function in a complementary manner to govern exchange relationships.

3. Performance outcomes of vertical integration and relational exchange are outlined and the manner in which each form of exchange structure affects exchange effectiveness and efficiency is described. Further, the level of opportunism in the exchange is suggested to mediate the link between vertical integration, relational exchange and performance outcomes.

### **Antecedents of Vertical Integration**

The TCA framework identifies three principal attributes of transactions (asset specificity, uncertainty, and transaction frequency) that determine the “costs of running the system” of an exchange (Williamson 1975, 1985, 1996). These costs inherent in an exchange determine if it is more appropriately conducted within integrated firm boundaries than within markets. Although all three antecedents are important for the degree of vertical integration in an exchange, asset specificity is the most important property for TCA and the study of vertical integration (Williamson 1985), and “many refutable implications of transaction cost economics turn on ... [asset specificity]” (Williamson 1996, p. 59).

## Asset Specificity

Transaction specific investments are “assets [that] cannot be redeployed without sacrifice of productive value if contracts should be interrupted or prematurely terminated” (Williamson 1985, p. 54). Transaction specific assets lack transferability across different transactions (Rindfleisch and Heide 1997). Transferability of assets means that the assets used in an exchange can be used in other exchanges without sacrifice of productive value (Williamson 1996, p. 105).

Williamson (1996, p. 105) identifies six main types of asset specificity:

- (1) Site specificity: the choice of a location for the transaction that is exclusive to the exchange partner;
- (2) Physical asset specificity: machines and equipment that are only used to support the transaction with the exchange partner;
- (3) Human asset specificity: arises from jobs that involve some specific skills (Williamson 1975, p. 62) that exchange partners need to acquire to be effective (Anderson 1985).
- (4) Brand name specificity: brand equity<sup>31</sup> that is associated with an exchange partner;
- (5) Dedicated assets: investments in non-specific assets that are made in order to exchange with a particular partner; and
- (6) Temporal specificity: arises from technological non-separability of the exchange and “can be thought of as a type of site specificity in which timely responsiveness by on-site human assets is vital has been added” (Williamson 1996, p. 106).

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<sup>31</sup> Brand equity is the value a brand name adds to a product (Farquhar 1989).

As the description of temporal specificity reveals, Williamson (1996) does not appear to view these types of asset specificity as mutually exclusive categories, but rather as overlapping types of specific assets that support an exchange. In addition, not all types of asset specificity have received equal attention in the marketing literature. Here, Rindfleisch and Heide (1997, p. 41) suggest that human specific assets “represent the type of asset specificity most commonly assessed in both the empirical studies included in our review and TCA applications in general.”

But how are transaction specific assets related to vertical integration? Transactions that are supported by investments in durable, transaction-specific assets experience “lock-in” effects. Lock-in effects refer to situations in which exchange partners are bound to exchange with each other, because leaving the exchange would result in a loss of productive value of assets employed in the exchange.

Such “lock-in” effect takes on importance in the presence of uncertainty (Rindfleisch and Heide 1997). Here, Williamson (1975) suggests that asset specificity paired with uncertainty may lead to opportunism. In the following sections I will describe how two types of uncertainty in an exchange (environmental uncertainty and behavioral uncertainty) are linked to opportunism and how vertical integration can help reduce such opportunism.

### **Behavioral Uncertainty**

*Behavioral uncertainty* can be defined as “the degree of difficulty associated with assessing the performance of transaction partners” (Rindfleisch and Heide 1997, p. 43). Behavioral uncertainty is essentially a problem of performance assessment that is “attributable to opportunism” (Williamson 1985, p. 58). Exchange partners might behave

opportunistically, because it is difficult to determine how well activities were performed (Rindfleisch and Heide 1997).

Opportunism refers to “self-interest seeking with guile” (Williamson 1985, p. 47) and means “...given the opportunity, decision makers may unscrupulously seek to serve their self-interests...” (Rindfleisch and Heide 1997, p. 31). Here, the essence of opportunism is the deceit involved in the behavior of the exchange partner (Macneil 1981).

However, some authors point out that opportunism may not be characteristic of all exchange partners (e.g., John 1984, Madhok 1996). As John (1984, p. 278) suggests:

A considerable body of research into human interaction behavior suggests that such unrestrained self-interest maximization is not characteristic of human behavior... . Though people are not always completely honest, it is probably too pessimistic to consider them to be always dishonest.

Yet, prior to entering into an exchange it may be difficult to determine whether an exchange partner will behave opportunistically (Akerlof 1970). Even in ongoing exchanges, it might be unclear if exchange partners defraud (Eisenhardt 1989). Thus, it is not a matter of whether opportunistic tendencies exist in the exchange, but rather how to reduce the potential of actual opportunistic behavior.

*Forms of opportunism.* As Anderson and Weitz (1986, p. 9) point out, “such opportunism can take many forms: withholding or distorting relevant information, favorably reinterpreting explicit or implicit contract provisions, shirking, and so forth.” Wathne and Heide (2000) develop a conceptual framework that recognizes different types of behaviors that are understood as opportunism (Figure IV.1). Forms of opportunism that are due to behavioral uncertainty are likely to emerge in existing exchanges and can be classified as evasion and violation.

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		Circumstances	
		Existing	New
Behavior	Passive	Evasion	Refusal to Adapt
	Active	Violation	Forced Renegotiation

---

**Figure IV.1: Forms of Opportunism**  
Adapted from: Wathne and Heide (2000), p. 41

Evasion is a passive form of opportunism in which the exchange party avoids obligations, which is also called shirking. For example, a franchisee might fail to comply with the franchisor's quality standard. Violation is an active form of opportunism and means that an exchange party is engaging in behaviors that were explicitly or implicitly prohibited. For example, a franchisee may sell beyond the assigned territory.

In the presence of asset specificity parties are motivated to create governance structures that possess sufficient safeguards to secure these valuable but vulnerable investments from opportunism (Williamson 1985, p. 32). Vertical integration can reduce opportunistic behavior in at least two ways.

1. With increasing vertical integration a firm has expanded monitoring capabilities that enable the evaluation of behavior as well as outcomes. To the extent that information asymmetry exists in an exchange, it is possible for a party to act opportunistically without being detected. Firms that vertically integrate exchange are better able to detect opportunistic behavior in the exchange, because they are able to monitor a partner's behavior and its outcomes (Celly and Frazier 1996). Here, monitoring can reveal the exchange partner's actions and overcome opportunism (Eisenhardt 1989). Monitoring may also reduce opportunism by placing uncomfortable social pressure on an exchange partner and thereby increase compliance with the terms of the exchange (Wathne and Heide 2000; Murry and Heide 1998).
2. With increased vertical integration a firm is also able to administer incentives that reduce the payoff from opportunistic behavior. The general mechanism that reduces opportunism is the creation of an "incentive-structure that makes

long-term gains from cooperative behavior exceed the short-term payoff from opportunism” (Wathne and Heide 2000, p. 44). For example, vertically integrated exchanges may employ behavior-based incentives. Behavior based incentives reduce the payoff from opportunistic behavior because changes in effort towards the exchange outcome have little or no immediate link to compensation (Eisenhardt 1989; Williamson 1996, p. 99).

In summary, exchange partners may reduce the risk of opportunistic behavior emerging from behavioral uncertainty through vertical integration because of increased ability to monitor exchange partners and administer incentives.

### **Environmental Uncertainty**

*Environmental uncertainty* refers to “unanticipated changes in circumstances surrounding an exchange” (Noordewier, John, and Nevin 1990, p.82). Such environmental uncertainty, for example, may result from complexity and turbulence in the environment of the exchange (e.g., Anderson and Weitz 1986; Dwyer and Welsh 1985). At least two aspects of environmental uncertainty can be distinguished (heterogeneity and volatility). These are considered in turn.

Heterogeneity reflects “the extent to which the environmental entities facing a channel are dissimilar to one another and the minimal extent to which these entities are coordinated or structured” (Dwyer and Welsh 1985, p. 399). For example, an exchange might face different possible levels of competition in a new market that may have different implications on the exchange partner’s market strategy. Here, at the point of market entry or subsequently as the market develops the exchange parties might be unable to predict competitor actions and therefore face uncertainty in the circumstances

surrounding the exchange. The effect of environmental heterogeneity is to make prediction difficult, which “makes it hard to specify the tasks that must be performed, in what manner, and at what level” (Anderson and Weitz 1986, p. 10).

Volatility refers to “unanticipated changes in the forecasted volume requirements and the mix of items needed” (Noordewier, John, and Nevin 1990). For example, exchange parties may face unsystematically fluctuating levels of demand for a product or product category. In comparison to heterogeneity, volatility seems to be more frequently studied in marketing channels of distribution (e.g., Anderson and Weitz 1986; Klein, Frazier, and Roth 1990; Noordewier, John, and Nevin 1990; Heide and John 1990; Walker and Weber 1991; Buchanan 1992; Ganesan 1994; Antia and Frazier 2001; Bello, Chelariu, and Zhang 2002). The effect of environmental volatility is to make prediction difficult for the volume of products needed, at what time, and at which location.

If circumstances surrounding an exchange cannot be specified ex ante, exchange partners need to adapt to changing circumstances during the exchange. When assets are specific to a nontrivial degree and the degree of environmental uncertainty grows, contractual gaps are likely to be larger and the occasions for adaptations will increase in number and importance. Such situations make it more imperative that parties devise a machinery to “work things out” in order to reduce the possibility of opportunism (Williamson 1975).

*Forms of opportunism.* According to Wathne and Heide’s (2000) framework (Figure IV.1) opportunism that arises if circumstances of the exchange are difficult to predict are: refusal to adapt and forced renegotiation. Refusal to adapt is a passive form of opportunism in which an exchange party behaves inflexibly and prevents the

relationship from being modified to reflect new circumstances. Forced renegotiation refers to situations in which “one exchange party uses the new circumstances to extract concessions from the other” (Wathne and Heide 2000, p. 42).

According to Williamson (1996, p. 104), firms that vertically integrate can reduce these types of opportunism and, therefore, respond better to fluctuating business conditions. As explained in the previous chapter, this is because:

1. Proposals to adapt require less documentation within vertically integrated exchange;
2. Resolving internal disputes by fiat rather than arbitration saves resources and facilitates adaptation;
3. Information that is deeply impacted can be more easily and accurately accessed;
4. Internal dispute resolution enjoys the support of the informal organization; and
5. Internal organization has access to additional incentive instruments that promote adaptation.

Thus, vertical integration supports the adaptability of an exchange when coordinated changes are required.

In summary, exchange partners may reduce the difficulty in obtaining and assimilating information as well as responding to changes in the environment emerging from environmental uncertainty through vertical integration because of increased ability to direct change and administer incentives.

## **Transaction Frequency**

The third transactional dimension in the TCA framework is transaction frequency. Here, Rindfleisch and Heide (1997, p. 31) with reference to Williamson (1985, p. 60) suggest that:

high levels of transaction frequency provide an incentive for firms to employ hierarchical governance, because the cost of specialized governance structure will be easier to recover for large transactions of recurring kind.

Rindfleisch and Heide (1997, p. 31), on the basis of their literature review, also point out that “TCA researchers have been largely unsuccessful in confirming the hypothetical effects of frequency, in that several studies have failed to find any positive association between transaction frequency and hierarchical governance.” Such failure to find supporting evidence for the influence of transaction frequency on vertical integration may be due to the research context of marketing channels. In marketing channels, infrequent transactions are rare and high levels of transaction frequency appear to be the norm. Thus, the lack of support for transaction frequency as antecedent to vertical integration in marketing channels may be an empirical problem of restricted range in the sampling context. In the light of this consideration and previous research findings I will not further explore the issue of transaction frequency as it relates to vertical integration. Rather, I control for transaction frequency by examining only recurring exchanges as previous research has done (e.g., John and Weitz 1988; Klein, Frazier and Roth 1990).

## **Antecedents of Relational Exchange**

This section directly addresses the goal of this research effort. Based on a review of literature on conditions for the development of relational exchange and the pertinent

literature in sociology (e.g., Macneil 1980; Kelley and Thiebaut 1978; Kelley 1959; Blau 1960; Homans 1950), multiple phenomena have been identified that appear to facilitate the development of relational exchange. Rather than outlining these in a chronological fashion of their emergence in the literature, an attempt is made to systematize these antecedents and identify central themes that appear to underlie these aspects.

*Overview of antecedents.* In brief, the antecedents identified appear to represent two central themes of safeguarding against opportunistic behavior and interdependence between the exchange parties. Here, antecedents that can be classified as providing exchange hazards appear to be congruent with those of vertical integration. However, the mechanism through which relational exchange safeguards against opportunism appears to be fundamentally different. This difference seems to be reflected in and motivates the moderator condition for using relational exchange as a safeguard against opportunistic behavior: frequent and bi-directional communication. This reasoning is outlined in the following section labeled “safeguarding.”

Antecedents that go beyond the safeguarding function are those that appear to emerge from interdependence between the exchange parties. Here, three antecedents seem to fall into this category: goal congruence, complementary resources, and switching costs. Although these antecedents can cause interdependence between the exchange parties, symmetry of interdependence appears to facilitate the development of relational exchange. Again, this reasoning is outlined in greater detail in the following section labeled “interdependence.”

## **Safeguarding**

Scholars in relational marketing posit that relational exchange might be used in similar situations as vertical integration (e.g., Ouchi 1979; Dwyer, Shurr, and Oh 1987).

As described above, vertical integration is suggested to occur when:

1. Transaction specific investments exist under conditions of behavioral uncertainty, and
2. Transaction specific investments exist under conditions of environmental uncertainty.

Yet, relational exchange appears to deal with the safeguarding problem through different mechanisms than vertical integration. In the following section I will therefore discuss how relational exchange can be used to safeguard transaction specific investments in both situations. I will then suggest that frequent, bi-directional communication can be seen as a facilitating condition that enhances the ability of relational exchange to deal with the safeguarding problem. Finally, I will point toward situations in which vertical integration is likely to be supplemented by relational exchange (outcome uncertainty).

*Behavioral uncertainty.* As described above, exchanges characterized by high levels of transaction specific investments may experience opportunistic behavior if it is difficult to assess the performance of transaction partners. Such opportunistic behavior can take the form of evasion and violation (Wathne and Heide 2000). In relational exchange, such opportunistic behavior may be reduced through (1) sharing of relational norms and (2) behavioral beliefs that lead to a negative evaluation of opportunistic behavior:

1. Relational norms limit opportunistic behavior through shared values (Brown, Dev, and Lee 2000). As Heide and John (1992, p. 35) describe:

A particular property of relational norms is their prescription of behaviors directed toward maintaining the ... relationship as a whole and curtailing behavior promoting the goals of individual parties. By their very nature, relational norms constitute a safeguard against exploitative use of decision rights.

As relational norms evolve, they become internalized by the exchange partners (Kelman, 1958) and come to serve as moral controls that proscribe opportunism. They guide and regulate the behavior in exchange and, thus, provide general protection against opportunistic behaviors (Gundlach, Achrol, and Mentzer 1995; Heide and John 1992).

For example, with the solidarity norm, exchange partners place high value on the exchange relationship and engage in behaviors that are directed toward relationship maintenance (Heide and John 1992). Therefore, the solidarity norm reduces the likelihood of evasion and violation because exchange partners actively engage in behaviors that support the exchange relationship.

The information exchange norm refers to the proactive provision of information useful to the partner (Heide and John 1992). This norm safeguards against evasion and violation, because exchange parties receive information in an on ongoing manner to cope better with the vulnerability associated with behavioral uncertainty (Heide and John 1992).

2. Relational beliefs. Recall that relational beliefs describe the subjective probability that relational behavior enhances the well-being of the relationship. Exchange partners who evaluate relational behaviors as positive are likely to evaluate

conflicting behaviors, such as evasion and violation, as negative. Relational beliefs therefore reduce the likelihood of evasion and violation, because exchange partners are unlikely to engage in behaviors that they consider negative.

For example, if a relationship is characterized by high levels of trust, exchange partners can rely on each other and share the belief that the other party will not act opportunistically if given the chance to do so (Andaleeb 1992, Anderson and Narus 1990; Deutsch 1958). Further, in a relationship that is characterized by high levels of long-term orientation, exchange partners believe that the exchange provides beneficial outcomes to both partners that manifest themselves across multiple exchanges (Kelley and Thibaut 1978; Ganesan 1994). While evasion and violation have the potential to create short-term benefits for an exchange partner, when the exchange partner holds an expectation that the relationship will endure for an extensive period, this “shadow of the future” (Axelrod 1984, p. 124) can curb exchange partners behavior at present.

Partners that attempt to “maximize their profits over a series of transactions” (Ganesan 1994, p. 3) are likely to be hesitant to evade their responsibilities or violate their decision rights, because they may lose outcomes that are to be realized with the exchange partner (Parkhe 1993). Thus, the higher the exchange partners’ long-term orientation, the greater should be the reduction of opportunistic behavior in the exchange.

In summary, the preceding discussion suggests that in relational exchange shared relational norms and relational beliefs reduce the likelihood that exchange partners engage in evasion or violation. Therefore, exchange partners that are able to develop high

levels of relational norms and relational beliefs in the exchange are likely to experience a low level of opportunistic behavior.

*Environmental uncertainty.* As described above, exchanges characterized by high levels of transaction specific investments may experience opportunistic behavior if it is difficult to anticipate changes in circumstances surrounding an exchange. Here, opportunism may take the form of refusals to adapt and forced renegotiation (Wathne and Heide 2000). Further, environmental uncertainty may cause evasion and violation, because environmental uncertainty may make it difficult to attribute poor outcomes to the environment or the partner's opportunism (Dev and Brown 1990). However, the main problem occurring under environmental uncertainty, according to Williamson (1985) is the failure of the exchange partners to anticipate and adapt to changes in the environment. Relational exchange can reduce these opportunistic behaviors:

1. Relational norms imply that both parties behave in a manner that suggests they understand that they must work together to be successful (Anderson and Narus 1990; Cannon and Perreault 1999). For example, as exchanges develop relational norms, parties are expected to be more flexible in responding to requests for changes. With flexibility, exchange parties respond favorably to requests for change and adjust more readily to changes in circumstances surrounding the exchange (Noordewier, John and Nevin 1990).

Also, relational norms prescribe that exchange parties provide information that may help the exchange partner such as information on long-term forecasting, future product designs, production planning and the like (Noordewier, John and Nevin 1990). Here, the type of information exchanged, as prescribed by relational

norms, supports the anticipation of change and the adaptation to changing circumstances in the exchange. In addition, solidarity prescribes behaviors specifically directed toward relationship maintenance and, therefore, limits forced renegotiation and refusals to adapt.

2. Relational beliefs. Hallen, Johanson and Seyed-Mohamed (1991) suggest that building trust is an important element for adaptation in exchange relationships. Trust may motivate exchange parties to express areas of disagreement at times with the purpose of effectively resolving them and making the exchange stronger, for example by adopting to new circumstances (Frazier and Rody 1991; Shurr and Ozanne 1985).

Exchange partners also demonstrate trustworthiness by adapting to one another, because relationship specific adaptations may have little value outside the exchange and may contribute to switching costs to the extent that they create value for the exchange parties (Cannon and Perreault 1999). Here, adaptations may be signals of the willingness to make short-term sacrifices, to maintain the relationship, and an expression of the belief that the relationship is important and warrants efforts to maintain it. Therefore, adaptations may be viewed as an element of the reinforcing cycle of pledges and commitment in relational exchange (Anderson and Weitz 1992).

Finally, the expectation of future exchange between the exchange parties appears to facilitate adaptation and reduce refusals to adapt or forced renegotiations in exchange relationships. Here, exchanges tend to occur over longer periods of time and have less definite termination dates (Noordewier, John and Nevin 1990). Such ongoing exchange appears to facilitate adaptation to

environmental uncertainty, because it supports participative decision-making (Dwyer and Welsh 1985). Therefore, exchange parties that develop a long-term orientation are likely to initiate and participate in changes that are necessary to cope with changes in the exchange environment.

In summary, the preceding discussion suggests that in relational exchange shared norms and relational beliefs reduce exchange parties' likelihood to refuse to adapt or force renegotiation of the terms of the exchange. In addition, exchange parties may evade their responsibilities or violate the terms of the exchange relationship. Exchange parties that are able to develop high levels of relational norms and relational beliefs are able to curb this opportunism in the exchange relationship.

*Communication.* In the preceding section, both vertical integration and relational exchange have been suggested to curb opportunism that arises in conjunction of transaction specific investments and uncertainty. Yet, the question remains under what conditions exchange parties may favor relational exchange over vertical integration. One such condition that may moderate the use of relational exchange as a safeguarding mechanism is the quality and quantity of interactions between the parties in an exchange. As Homans (1950, p. 242) observes for interpersonal relationships, "the more frequently persons interact with one another, the greater the general affection for one another." Similarly, in the context of business exchanges interaction between exchange partners is suggested to support relational exchange (Bradach and Eccles 1989). For example, Dwyer, Shurr and Oh (1987) suggest that relational exchange develops over time and through multiple interactions between the exchange partners. And, Ring and Van de Ven (1994) point out that if the flow of interactions between exchange partners is interrupted,

for example through turnover, it may have the effect of “restarting the clock” for relational exchange.

Research on relational exchange further posits that closer interactions may facilitate decision-making and coordination across the dyad in relational exchange (e.g., Jap 1999). For example, closer interaction may foster opportunities to learn about and manage future developments (Cannon and Perreault 1999). And, numerous interactions may support unitary action and agreement about expected consequences of a relationship (Ring and Van de Ven 1994). But what exactly is it about interaction that facilitates relational exchange?

*Defining communication.* Research suggests that one important aspect of interactions between exchange partners is communication. Communication can broadly be defined as the formal as well as informal sharing of meaningful and timely information between firms (Anderson and Narus 1990). It has been described as “the glue that holds together ... [an exchange]” (Mohr and Nevin 1990, p. 36) and may produce a convergence in expectations and consent about exchange goals and processes. These shared interpretations of the exchange emerge gradually and incrementally (Ring and Van de Ven 1994). Duncan and Moriarty (1998, p. 3) even suggests that “relationships ... are impossible without communication.”

*Facets of communication.* Communication can be thought of as having various facets including frequency, direction, modality, and content (Mohr and Nevin 1990). Communication frequency refers to the amount of contact between exchange partners (Mohr and Nevin 1990), and reflects how often the exchange parties have contact with each other (Mohr and Sohi 1995). Direction of communication refers to “the vertical and

horizontal movement of communication within the ... [exchange]" (Mohr and Nevin 1990, p. 39), where bi-directional communication is "the extent to which each party gives feedback and input to the other (two-way flows)" (Mohr and Sohi 1995, p. 395). Finally, modality of communication refers to "the method used to transmit information," and communication content refers to "the message that is transmitted – or what is said" (both: Mohr and Nevin 1990, p. 39).

*Communication's effect on relational exchange.* Out of these four facets, communication frequency and bi-directional communication appear to capture best the notion of interactions referred to above. In addition, frequency and bi-directionality of communication have been found to be important antecedents to satisfaction with communication in exchange relationships (Mohr and Sohi 1995).<sup>32</sup> Finally, communication frequency and bi-directionality have been conceptualized to vary systematically with the degree of relational exchange (e.g., Mohr and Nevin 1990; Ring and Van de Ven 1994; Nicholson, Compeau and Sethi 2001; Duncan and Moriarty 1998; Mohr and Sohi 1995). I will now describe how these aspects of communication affect the development and maintenance of relational exchange in terms of relational beliefs and relational norms:

1. Relational beliefs. Communication behaviors in exchange relationships have been linked to the development of trust between the exchange partners (e.g., Anderson and Narus 1990; Anderson and Weitz 1989; Anderson, Lodish and Weitz 1987; Dwyer, Shurr, and Oh 1987). Frequent contact between exchange parties is important for trust to develop (e.g., Nicholson, Compeau and Sethi 2001; Kelley

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<sup>32</sup> Satisfaction with communication refers to the exchange party's "overall affect regarding communication with a focal ...[exchange partner]" (Mohr and Sohi 1995, p. 396).

and Thiebaut 1978). For example, with increased communication frequency, parties in an exchange can more easily exchange information and they can more easily predict each other's behavior due to the increased history spent together across various situations (Anderson and Narus 1984).

Through frequent and bi-directional communication, exchange parties are also likely to have a good understanding of behavior-outcome contingencies that are operating in the exchange (Kelley and Thiebaut 1978). The extent to which exchange parties have current perceptions of the state of the relationship is likely to lead to the development of confidence in the ability to predict exchange partner's behavior and facilitates coordination in the exchange (Anderson and Narus 1984). Here, Cannon and Homburg (2001), for example, find that more frequent and bi-directional communications with suppliers during product development can result in more efficient new product development.

The extent to which distinct benefits from acting upon the information obtained through communication occur depends upon the correspondence between the exchange parties' goals. If complementary goals exist, increased communication is likely to increase the value a partner places in the exchange relationship and, hence, commitment to the exchange, because the full potential of such common goal achievement reveals itself. Anderson and Narus (1990, p. 44) term this effect "reciprocal facilitation, whereby attaining outcomes that surpass the comparison level facilitate good communication between firms and

communication facilitates achieving outcomes that surpass the comparison level.”<sup>33</sup>

Finally, communication frequency is likely to enhance exchange partner’s long-term orientation because it provides the opportunity to establish and maintain reciprocity in the exchange. For example, exchange partners who communicate frequently get a good sense of each other’s goals and receive feedback for their behavior. Both can be used to support efforts to maintain reciprocity in the exchange. Here, Anderson and Weitz (1989, p. 313) suggest that “intensive communication should lead to better informed parties, which in turn should make each party more confident in the relationship and more willing to keep it alive.” For example, Anderson and Weitz (1989) describe that new car dealers considering which manufacturer to represent rely on the accessibility of management to make their selection.

2. Relational norms. The development of relational norms may be facilitated by frequent communication, because frequent communication repeatedly reveals behaviors and expectations about behaviors in the exchange. For example, Homans (1950, p. 265) suggests that “the more often behavior is repeated, the more easily it is recognized and enshrined in group norms... [and] ... when behavior has occurred enough times, its continued occurrence comes to be expected.”

Therefore, frequent and bi-directional communication about behaviors may facilitate the implementation of these behaviors as norms for the exchange.

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<sup>33</sup> The comparison level refers to “a standard that represents the overall quality of outcomes ... available to the firm from the best alternative exchange relationship” (Anderson and Narus 1990, p. 43).

For example, frequent exchange of information of bi-directional nature may result in the expectation that information that may be helpful to one party is provided by the other. Such expectations represent the norm of information exchange that prescribes that partners proactively provide information useful to each other (Heide and John 1992).

In addition, much behavior that is prescribed by relational norms implicitly assumes bi-directional communication between exchange parties. For example, the norm of flexibility prescribes that exchange parties make adaptations as circumstances change (Heide and John 1992). In order for such adaptations to be made effectively and in a timely manner, exchange parties need to engage in frequent and bi-directional communication (Anderson and Narus 1990).

In summary, the preceding discussion suggests that for the development of relational exchange, frequent and bi-directional communication appears to be an important moderating condition of the relationship between the need to safeguard against opportunistic behavior and relational exchange. Therefore, if exchange parties communicate frequently and share information in a bi-directional manner, the use of relational exchange to reduce opportunism in the exchange is likely to be facilitated.

*Outcome uncertainty.* "...the nature of the interdependent relationship is not always fully and accurately understood by participants" (Thiebaut 1978, p. 3). For example, behavioral uncertainty does not capture and address the uncertainty in the sustained coordination of difficult or novel tasks (Ring and Van de Ven 1989). More precisely, Ouchi (1979, p. 844) suggests that there may be situations in which "we are unable to use either behavior or output measurement, thus leaving us with no "rational"

form of ... [performance monitoring].” Such situations arise if there is a lack of ability to define behavior that, if followed, will lead to desired exchange outcomes and if simultaneously outcomes of exchange tasks cannot be specified to determine if the exchange is completed (Ouchi 1979). Outcome uncertainty, therefore, describes exchange conditions in which both behavior and outcome measurement are not sufficient to assess exchange partner performance.

*Opportunism due to outcome uncertainty.* As described above, exchange partners may incur investments that enhance exchange performance but are nontransferable to other exchanges without loss in productive value. If such transaction specific investments are present, outcome uncertainty may cause a need to safeguard these valuable but vulnerable investments against opportunistic behavior.

First, if it is not possible to distinguish whether exchange outcomes are due to exchange partner efforts or payoffs from transaction specific investments, an exchange partner may shirk its obligations or engage in behaviors that were explicitly or implicitly prohibited without being detected. Second, if it is not possible to specify outcomes that are expected from an exchange, an exchange partner may use transaction specific investments as hostage while refusing to adapt to changing circumstances during the exchange or forcing renegotiations in order to extract concessions from the other (Wathne and Heide 2000).

*Vertical integration as response.* Recall, that exchange partners may increase the level of vertical integration in an exchange to reduce the potential of opportunistic behavior if there exists a need to safeguard transaction specific investments. The advantage of vertical integration is that direction and behavior-based incentives become

available to control behavior in the exchange. Yet, exchange parties that rely on direction and behavior-based incentives need to have an explicit understanding of the exchange process, contingencies and consequential duties and responsibilities that lead to the desired exchange outcome. If such understanding is lacking and if exchange outcomes are not well specified, direction and behavior-based incentives may not be sufficient to control behavior in the exchange.

*Relational exchange as response.* In such cases, Ouchi (1979) suggests that exchange parties may supplement vertical integration with relational exchange. Similarly, Macauley (1963) observes that parties often fail to plan exchange relationships completely, and that such planning may have undesirable consequences. Undesirable consequences may come about from systematically rewarding a narrow range of maladaptive behavior (according to plan), leading ultimately to a decline in exchange performance (Ouchi 1979). If exchange partners are unable to reduce important terms of the exchange into well defined duties, relational exchange may emerge (Goetz and Scott 1981; Gundach and Murphy 1993). But how does relational exchange help exchange partners safeguard transaction specific investments in situations of combined behavioral and outcome uncertainty?

1. Relational beliefs. Behavioral and outcome uncertainty make it more difficult for exchange partners to evaluate exchange behavior or even performance because they might be unknown prior to entering the exchange (Ouchi 1979). As Ouchi (1979, p. 844) describes:

suppose we are running a research laboratory at a multibillion dollar corporation. We have no ability to define the rules of behavior which, if followed, will lead to the desired scientific breakthroughs which will, in turn, lead to marketable new products

for the company. We can measure the ultimate success of a scientific discovery, but it may take ten, twenty, or even fifty years for an apparently arcane discover to be fully appreciated.

Such uncertainty can create considerable possibilities for opportunism in the exchange (Ring and Van de Ven 1992). Relational exchange may reduces this risk through the development of trust between the exchange partners. If the parties have confidence in each other's reliability and benevolence they might be more inclined to enter exchanges that are characterized by behavioral and outcome uncertainty. Further, exchange parties that are committed to the exchange are more likely to engage into activities and display values which are likely to lead to organizational success, because committed parties have a good understanding of what they are supposed to be trying to achieve (Ouchi 1979).

2. Relational norms may include relatively unspecific guidelines for behavior in the exchange. Such general normative guidelines are well suited to control behavior in exchanges involving complex exchange tasks because they can act as aids or frames of reference that can be applied to decisions that were not anticipated during relationship formation. Such flexibility under conditions of behavioral and outcome uncertainty can enhance performance of the exchange (Noordewier, John, and Nevin 1990). Thus, exchange partners that are faced with behavioral and outcome uncertainty are likely to rely on relational norms to guide behavior in the exchange.

Further, an exchange that evaluates performance based on compliance with relational norms can tolerate wide differences in styles of exchange behavior (Ouchi 1979). This is what may be desirable under conditions of ambiguity, when

exchange processes are only poorly understood. Therefore, reliance on relational norms may encourage experimentation and variety.

In summary, the preceding discussion suggests that under conditions of combined behavioral and outcome uncertainty relational exchange can be used to complement vertical integration and safeguard from opportunistic behavior in the exchange relationship. Here, relational beliefs can reduce the perceived risk of opportunistic behavior and guide exchange behavior without explicit direction. Further, relational norms appear to support the ongoing exchange process by guiding proper exchange behavior.

### **Interdependence**

“Social integration prevails in a group if bonds of attraction unite its members“ (Blau 1960, p. 545). In the context of exchange relationships, attraction may result from “the degree to which ...[exchange partners] achieve – in their interaction with each other - ... outcomes in excess of some minimum level” (Dwyer, Shurr, and Oh 1987, p. 22). Similarly, Foa and Foa (1974) suggest that exchange relationships begin when members of the firm perceive the need and have a motive to form an exchange relationship. Exchange partners who are able to attain superior outcomes from an exchange and need to maintain an exchange relationship to achieve desired goals can be viewed as dependent (Gundlach and Cadotte 1994; Kumar, Scheer and Steenkamp 1995; Frazier 1983; Emerson 1962).

*Defining interdependence.* Dependence can be defined as “the extent to which ...[an exchange partner’s] goals and objectives are attained in the relationship with ...[another exchange partner] in comparison with the extent to which those goals and

objectives could be attained in alternative relationships” (Keith, Jackson, and Crosby 1990).<sup>34</sup> If both partners experience some dependence in the exchange, the exchange may be described as interdependent. Interdependence refers to mutual dependence of parties in an exchange (Kumar, Scheer, and Steenkamp 1995; Gundlach and Cadotte 1994).

Gundlach and Cadotte (1994, p. 517) suggest that during the process of relationship development, as outlined by Dwyer, Shurr and Oh (1987), the level of interdependence in an exchange may increase. Such increasingly interdependent relationships will be referred to as relationships with increasing magnitude of interdependence. Interdependence magnitude refers to the degree to which exchange partners rely on each other to achieve their marketing goals and objectives (sum of each exchange partner’s individual dependence in the exchange relationship).

There are two variables that jointly describe the degree of dependence in an exchange (Emerson 1962, p. 32):

The dependence of actor A upon actor B is (1) directly proportional to A’s motivational investment in goals mediated by B, and (2) inversely

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<sup>34</sup> Dependence is considered the obverse of power (Gundlach and Cadotte 1994; Emerson 1962). That is, when one party is highly dependent on another party, the later is more powerful (Emerson 1962). Power has been defined in multiple ways. For example, power can be understood as “one ... [partner’s] potential for influence on another ... [partner’s] decision making behavior” (Frazier and Rody 1991, p. 54), “the ability of one party ... to get another party ... to undertake an activity that ... [it] would not normally do” (Anderson and Weitz 1989, p. 312), or “the ability to evoke change in another’s behavior, that is, the capability to get someone to do something he or she would not have done otherwise” (Gaski and Nevin 1985, p. 130). These definitions can be integrated to the “the ability of one ...[party] to influence decision variables of another ... [party], a potential for influence on another firm’s beliefs and behavior” (Frazier 1983, p. 158).

proportional to the availability of those goals to A outside of the A-B relationship.<sup>35</sup>

These two aspects - goal mediation and replaceability of exchange parties - are also reflected in important conditions underlying exchange relationship formation. In particular, Ring and Van de Ven (1976, p. 28) suggest that (1) a commitment to an external problem or opportunity or (2) an internal need for resources are two reasons that "... appear to be sufficiently compelling for [exchange relationships] to emerge." Here, a commitment to an external problem or opportunity arises from "inter-organizational planning and change" and "is stimulated with information about problems, needs or opportunities in the overlapping domains of organizations" (Ring and Van de Ven 1976, p. 29).

*Sub-dimensions of interdependence.* In the following section I will describe how these two aspects are related to interdependence in the exchange relationship and under what conditions these aspects lead to relational exchange. In addition, I will discuss a third aspect, the cost of switching, which Emerson (1962, p. 32) suggests "... must be included in any assessment of dependency."

*Resources.* An exchange needs motives for cooperation (Homans 1950, p. 235). Resources can be such motives, because firms often establish links or exchanges with other organizations to attain outcomes it could not easily achieve independently (Ring and Van de Ven 1976). Resources are "any tangible or intangible entity (e.g., physical assets and/or capabilities) available for use by ... [exchange partners] to compete in its marketplace" (Lambe, Spekman, and Hunt 2002, p. 141). Complementary resources are

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<sup>35</sup> In the context of exchange relationships the term actor can be interpreted as referring to exchange parties. Emerson (1962, p. 32) interprets goals "in the broadest possible sense to refer to gratifications consciously sought as well as rewards unconsciously obtained through the relationship" and availability as "alternative avenues of goal-achievement."

those resources that can be used by exchange parties to “eliminate deficiencies in each other's portfolio of resources (and, hence, enhance each other’s ability to achieve business goals) by supplying distinct capabilities, knowledge, and other entities” (Lambe, Spekman, and Hunt 2002, p.144). To reach desired outcomes, firms may need to combine complementary resources that are contained within autonomous organizations (Ring and Van de Ven 1976) and to do so, they enter exchange relationships.

Synergy in resources between exchange partners can alter costs and benefits in an exchange relationship without affecting transaction costs (Ghosh and John 1999). These effects are distinct from the effect of transaction specific assets as conceptualized in the TCA framework (e.g., Anderson, Lodish, and Weitz 1987; Robicheaux and Coleman 1994; Hunt and Morgan 1995). In particular, two organizations are more likely to develop an exchange relationship when they must use each other’s tacit know-how or indivisible assets than when they employ tangible assets or codified know-how (Ring and Van de Ven 1994). In this case it is not just skills in one domain, but rather the complementary combination of skills from several domains that allows the partnership to generate more value for both firms than might have been feasible if either firm had operated independently (Keep, Hollander, and Dickinson 1998; Ghosh and John 1999).

But how do complementary resources affect the development of relational beliefs and norms?

1. Relational beliefs. As described, partners who explore resources that they cannot easily attain for themselves may perceive themselves to be interdependent. Such perception of interdependence can improve the level of trust that develops because exchange partners have an incentive to behave reliably in the exchange

relationship in order to not jeopardize their access to valuable resources.

Exchange parties who believe that the exchange partner is not trustworthy may be hesitant to provide access to valuable resources.

Further, as Morgan and Hunt (1994, p. 24) suggest that “because partners that deliver superior benefits will be highly valued, firms will commit themselves to establishing, developing, and maintaining relationships with such partners.”

Finally, interdependence created by complementary resources enhances the perception of reciprocal outcomes from the exchange and, thus, enhances the partner’s long-term orientation in the exchange (Ganesan 1994).

2. Relational norms may facilitate the use of partner resources in the exchange because they provide an effective mechanism to protect these resources from opportunistic exploitation. Relational norms are supportive of providing access to complementary resources because they define acceptable ways to exploit the partner firm’s resources (Dwyer, Shurr, and Oh 1987). If no protection is arranged, exchange partners may be hesitant to grant access to their firm’s resources out of fear of opportunism. Thus, in situations in which exchange partners depend on a partner’s complementary resources they are motivated to develop relational norms to facilitate the joint exploitation of these resources.

In summary, the preceding discussion suggests that complementary resources, as an aspect of interdependence between the exchange parties, is likely to lead to the development of relational beliefs and norms in the exchange. In particular, complementary resources appear to be powerful incentives for developing closer ties and therefore facilitating the development of relational beliefs and norms.

*Goals.* A goal “refers to a future position an organization wishes to occupy and exists only if the desired position differs from the actual or expected state at the inception of action” (Cadotte and Stern 1979, p. 130). Eliashberg and Michie (1984) identify two major sets of organizational goals: system and operative. System goals are those goals that the system is designed to achieve through, for example, the functional differentiation (specialization) and interdependence of its members (Reve and Stern 1979). Operative goals “typically contain[s] a small number of goals that are being pursued actively by the organization’s members” (Eliashberg and Michie 1984, p. 76).

Goals may lead to interdependence among firms in at least three ways: First, the goal achievement of one firm might be contingent on the goal achievement of another firm. For example, a manufacturer’s goal to increase sales for a product may depend on a retailer’s goal to expand its number of outlets (e.g., P&G and Wal-Mart). Second, goal achievement for one firm might be equal to goal achievement for another firm. For example, two competing retailers might be equally interested in improving customer’s access to a location in which both retailers are situated (e.g., an auto mall). And, third, goal achievement of one firm might be contingent on another firm’s failure to achieve its goal. For example, if two competing retailers cater to the same market segment with similar products, an increase in sales for one retailer might only be possible with a decrease in sales for the other (e.g., McDonalds vs. Wendy’s vs. Burger King).

The higher the aspiration in terms of goals for the exchange, the higher is the motivation for making the exchange relationship a success (Frazier 1983; Homans 1974). Although goals may create interdependence, conflict may arise from goals that are incompatible between exchange partners (Cadotte and Stern 1979). In fact, goals pursued

by the parties may be one of the chief determinants of the prevailing level of conflict (Pondy 1967). For example, when organizations enter into an exchange relationship with similar, but not complementary goals, conflict may arise because of the clash of interest (Sividas and Dwyer 2000; Song, Xie, and Dyer 2000).

Goal incongruity, “the degree to which the various specific goals are incompatible with the member’s business philosophy, and hence unattainable as a result of the decisions made by the ... members” (Eliashberg and Michie 1984, p. 77), can originate in either set of goals. The degree to which conflict emerges in the exchange depends on the exchange partners’ level of benefits received relative to costs incurred from the exchange relationship. As a result, exchange partners may attempt to influence their exchange partner’s goals and behaviors (Cadotte and Stern 1979).

The existence of conflicting goals will lead to a greater number of influence attempts than if goals were compatible, because little need exists to increase the partners efforts toward an exchange goal if the partner’s motivation to make the exchange successful is already high (Frazier 1983). Further, an alignment of goals assures partners that the other party will not pursue activities that are advantageous to its competitive position at the expense of the other (Jap 1999). Goal congruence refers to “the extent to which firms perceive the possibility of common goal accomplishment” (Jap 1999, p. 465).

However, goal congruence allows for two types of goal configurations. First, exchange parties may have overlapping or identical goals. This goal arrangement may reduce the level of potential conflict in the exchange relationship (Jap 1999), but it still may arise, because exchange parties who have similar goals may disagree on the means

of goal achievement. Second, goal congruence may exist if exchange parties have different, but complementary goals. Goal complementarity can be understood as the degree to which exchange parties goals are compatible and individual goal pursuit positively influences the other party's goal achievement. Here, conflict is reduced and relational beliefs and norms between the exchange partners can develop (Anderson and Weitz 1989):

1. Relational beliefs. Partners who perceive the possibility of complementary goal achievement more likely to behave reliably and benevolent because such behavior may enhance the partners willingness to support the achievement of these goals (Jap 1999). Further, exchange partners who have compatible goals are likely to perceive the exchange as important and valuable because it enhances the achievement of their goals. The perception of superior benefits from an exchange in comparison to other exchanges leads to a commitment to the exchange relationship (Morgan and Hunt 1994). Further, such benefits might not be easily achievable by one exchange partner alone leading to a willingness to stay in the relationship (Ring and Van de Ven 1976).

Finally, the mutual achievement of goals tends to create reciprocal outcomes in the exchange. That is, if the goals of one exchange partner are achieved in the exchange, then it is likely that at least some of the goals of the other exchange partner are being achieved simultaneously. Such reciprocal outcomes of the exchange are important for the development of long-term orientation in the exchange. Exchange partners who perceive an interdependence

in outcomes in an exchange that benefit the exchange partners in the long run have a long-term orientation toward the exchange (Ganesan 1994).

2. Relational norms are supportive of complementary goal achievement because they define acceptable ways to achieve these goals. For example, Dwyer, Shurr, and Oh (1987, p. 24 with reference to Fox 1974) suggest that exchange partners “who share common goals are capable of allocating roles among themselves in the light of what they perceive as ‘functional necessities.’” Relational norms define these roles by specifying acceptable behaviors for each exchange partner. Therefore, exchange partners with complementary goals have an incentive and are likely to support the development of relational norms in the exchange relationship.

Exchange partners with complementary goals may also benefit from developing relational norms for at least three reasons. First, exchange partners with complementary goals may need to develop an understanding of each other’s goals to arrange for a complementary pursuit of these goals. Here, relational norms may help developing such an understanding by enhancing transparency and information exchange between both partners.

Second, exchange partners pursuing complementary goals may periodically be in the need to adjust their individual set of goals due to achievement of previous goals or changing circumstances surrounding the exchange. Here, relational norms may facilitate such adjustment by increasing exchange partners’ flexibility and preserving a functional exchange relationship.

Finally, exchange partners pursuing complementary goals may face problems in distributing outcomes of the exchange. Such difficulties may arise because each partner may pursue a complementary, but different set of goals. As some of these goals are reached, it may not be clear how much an exchange partner contributed to achieving these outcomes and how much of these outcomes is due to the partner's own efforts. Here, relational norms may ease potential stress in the relationship by highlighting the long-term benefits of the exchange rather than the distribution of short-term profits.

In summary, the preceding discussion suggests that complementary goals, as an aspect of interdependence between the exchange parties, are likely to lead to the development of relational beliefs and norms in the exchange. In particular, complementary goals tend to create reciprocity of outcomes in the exchange and facilitate the allocation of roles and outcomes among the exchange parties.

*Switching costs* refer to an exchange partner's perceived costs of changing from the existing exchange partner to a new partner (Weiss and Anderson 1992). Such switching costs may arise from prior partner specific investments in the exchange. If such transaction specific investments exist, switching costs represent a disincentive to leave the exchange relationship (Anderson and Narus 1990). Here, to the extent that investments are idiosyncratic to an exchange partner, switching means giving up future returns (Wathne, Biong, and Heide 2001). In addition to losses due to switching, exchange parties may also incur direct search and evaluation costs in finding a new exchange partner (Zajac and Olsen 1993). As a result, Dwyer, Shurr, and Oh (1987, p. 14) propose that "the buyer's anticipation of high switching costs gives rise to the buyer's

interest in maintaining a quality relationship.” But how do switching costs affect the development of relational beliefs and norms?

1. Relational beliefs. As pointed out, switching costs are a disincentive to leave the exchange because exchange partners expect that terminating an existing exchange will lead to expenses (e.g., direct dissolution expenses, lack of comparable potential alternative partners, and/or substantial cost of switching to another partner; Morgan and Hunt 1994). A result of high switching costs is that alternative exchange partners lose attractiveness even if they are otherwise an appealing alternative to the existing exchange arrangement. Here, the trade-off between the benefits of staying in the relationship (e.g., avoiding switching costs) and the opportunity costs of switching to the new partner (e.g., marginal added outcomes) will give rise to an exchange partner’s interest in maintaining a quality relationship. Thus, if this trade-off favors the continuation of the exchange relationship for an exchange partner, this exchange partner is likely to be more reliable and trustworthy.

Likewise, if switching costs are high an ongoing relationship may be viewed as important to maintain. Here, exchange partners may try to avoid dissolution expenses or costs associated with finding a comparable alternative exchange arrangement. Exchange partners may have also made idiosyncratic investments that are difficult to switch to another relationship (Heide and John 1988) and, therefore, would be lost if the relationship were to end. As Morgan and Hunt (1994, p.24) demonstrate, these expected termination costs “lead to an ongoing relationship being viewed as important, thus generating commitment to

the relationship.” Finally, exchange parties that perceive switching costs to be high may also expect future returns from the exchange relationship and therefore may develop a long-term orientation toward the exchange relationship.

2. Relational norms. An exchange partner who perceives switching costs to be high may fear that (1) the exchange arrangement will end leading to a realization of potential termination costs and/or lost future returns or (2) that these switching costs may be used as a bargaining device to extract additional benefits from the exchange. In both situations, exchange partners may choose to develop relational norms in order to define acceptable ways for exchange partners to exploit their decision rights (Dwyer, Shurr, and Oh 1987).

First, relational norms may help in avoiding premature termination of the exchange, because they provide exchange partners with enhanced insight into each other’s perception of the exchange (via information exchange). Such insights may be used to modify and/or develop the exchange in ways that preserve the exchange. Further, relational norms may help in dealing with potential reasons for termination by inducing “good-faith modification” of the exchange if a “particular practice proves detrimental in the light of changed circumstances” (Heide and John 1992, p.35).

Second, relational norms may reduce the likelihood of exchange partners using their partner’s switching costs in an opportunistic manner. Here, relational norms prescribe behaviors “directed specifically toward relationship maintenance” and deter exchange partners from “using decision control in a way that would be detrimental to the relationship as a whole” (Heide and John 1992, p.

36). Therefore, exchange parties that face high switching costs are likely to support the development of relational norms in the exchange relationship.

In summary, the preceding discussion suggests that switching costs, as an aspect of interdependence between the exchange parties, is likely to lead to the development of relational beliefs and norms in the exchange. On one hand, switching costs appear to be powerful incentives to develop closer ties, because such ties reduce the likelihood of having to realize these direct costs of relationship dissolution. On the other hand, switching costs can create a ‘relational climate’ in the exchange by acting as a disincentive to exploit an exchange partner and/or leaving the exchange.

*Symmetric interdependence.* As described above, complementary resources, congruent goals and switching costs support the recognition that a party is a feasible exchange partner and support the development of an exchange relationship. Yet, “... the rule that association breeds affection hold only when things are equal, that is only under certain circumstances ...” (Homans 1950, p. 242). That is to say, in the context of exchange relationships, the actual decision to enter relational exchange may be a function of power-dependence considerations among the exchange partners (Dwyer and Oh 1987).

Although there might be high levels of interdependence in an exchange, this interdependence might be unevenly divided among the exchange partners. Here interdependence asymmetry refers to “the difference between the firm’s dependence on its partner and the partner’s dependence on the firm” (Kumar, Scheer, and Steenkamp 1995, p. 349).<sup>36</sup> Conversely, symmetric interdependence is thought to exist when “the firm and its partner are equally dependent on each other” (Kumar, Scheer, and

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<sup>36</sup> This difference has also been referred to as the more dependent firm’s relative dependence (Anderson and Narus 1990) or the less dependent partner’s relative power (Emerson 1962; Frazier and Rody 1991).

Steenkamp 1995, p. 349). The concept of asymmetric interdependence parallels Emerson's (1962) notion of "power advantage."

Under symmetric interdependence the "usable" power of one party is limited by the other's equal power (Thibaut and Kelley 1959, p. 107; Gundlach and Cadotte 1994). Here, exchange parties have "...scant authority over each other; [and] no one gives orders much more often than ... [the other]" (Homans 1950, p. 243). In fact, Frazier and Rody (1991, p. 61) find that an exchange partner "has less need for or at least resists the tendency to use coercive strategies when an ...[exchange partner] is an important resource."<sup>37</sup> Finally, Emerson (1962, p. 34) notes "it might even be meaningful to talk about the parties being controlled by the relationship itself."

In the following section I will describe how the symmetry of interdependence influences the development of relational beliefs and norms in exchange relationships.

1. Relational beliefs. Bilateral deterrence theory suggests that, *ceteris paribus*, greater total dependence results in lower conflict (Kumar, Scheer, and Steenkamp 1995). Here, deterrence refers to the process by which exchange partners coerce each other into conformity through potential sanctions (Gibbs 1975). As Gibbs (1975) suggests, the greater the certainty and severity of punishment for deviant behavior, the more exchange partners are deterred from that behavior. This implies that exchange partners may reduce the potential for conflict by increasing its partner's perceived size of penalty. As described above, one way of increasing the perceived size of penalty is to increase interdependence. Therefore, if interdependence is high and symmetric both exchange partners are deterred from

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<sup>37</sup> Coercive influence strategies are defined as "mechanisms for gaining ... compliance that reference or mediate negative consequences for noncompliance" (Gundlach and Cadotte 1994).

increasing conflict, because both partners have the perception of high potential penalties for such behavior.

Further more, exchange partners may gain faith in the relationship, because their interdependence functions as a mutual safeguard against opportunism. Here, if the cost of opportunistic behavior is equally high for both parties, opportunism is less likely to occur (Williamson 1983, 1985). If the likelihood for conflict and opportunistic behavior in an exchange is low, exchange partners are more likely to trust each other (Anderson and Weitz 1989) and commit to the exchange relationship (Fein and Anderson 1997; Heide and John 1988).

Balanced dependence can act as a shared incentive to preserve the relationship (Oliver 1990). Here, both partners may receive reciprocal outcomes from the exchange that are not easily achieved with other exchange partners (Heide and John 1988). Or, dependence may influence the outcomes to be had from other relationships (Heide and John 1988). In either case, balanced dependence is likely to induce long-term orientation because of the expected reciprocity of outcomes from the exchange.

Also, mutually interdependent exchange partners are less likely to use coercive influence, because such coercion can be reciprocated by the other, equally powerful partner. Therefore, high levels of symmetric interdependence may support a long-term orientation in the exchange, because exchange partners have less fear of exploitation (Oliver 1990).

As interdependence becomes increasingly asymmetric, relational exchange may still occur. But in these situations, the initiation of relational exchange is likely to be driven by one party's desire to initiate and maintain relational exchange (Dwyer, Shurr, and Oh 1987). Such one-sided investment in the relationship is likely to lead to lower levels of relational exchange, because the efforts of one party are not reciprocated at the same level by the other party (Dwyer and Walker 1981).

In cases in which exchange relationships are highly asymmetric, relational exchange is unlikely to flourish. Whereas symmetric interdependence is associated with relational behavior from both parties, unbalanced dependence may encourage the more powerful party to engage in coercion. This is, because such coercion is less likely to be reciprocated by the other, less powerful party (Frazier and Rody 1991; Dwyer and Oh 1987; Gaski 1984; Anderson and Narus 1984).

Coercive behavior is likely to reduce the amount of trust, commitment, and long-term orientation exhibited by the less powerful partner (e.g., Kumar, Scheer, and Steenkamp 1995). The fear of exploitation (e.g., coercive influence) is likely to reduce exchange partner's trust and commitment to the exchange, because the low-power exchange party may have less faith in the reliability and benevolence of the exchange partner. A lack of trust may reduce the willingness to commit to the exchange relationship and may trigger defensive behavior of the low-power exchange partner (Morgan and Hunt 1994). Thus, imbalanced channel

relationships are characterized by less relational beliefs (Dwyer, Schurr, and Oh 1987; Robicheaux and El-Ansary 1975; Stern and Reve 1980).

Relational norms. "... the symmetry or asymmetry of dependence sets boundaries on the extent to which relational norms can be developed" (Lusch and Brown 1996, p. 24). A high level of balanced dependence may provide a motivation for the development of relational norms because both exchange partners have a large stake in the relationship (Dwyer, Schurr, and Oh 1987). Gundlach, Achrol and Mentzer (1995, p. 81) suggest that interdependence "establishes the foundation for mutuality and cooperation, which are key elements of ... [relational norms]." Interdependence between the exchange partners promotes convergent interest (Venkatraman 1991) and therefore makes it more likely that the partners view the relationship as a "win-win" opportunity and that, through information exchange, solidarity and flexibility will pay off for the partners (Kumar, Scheer, and Steenkamp 1995).

In contrast, a high level of asymmetric dependence may inhibit the development of relational norms because the incentives for the two parties differ (Buchanan 1992). For example, power asymmetry hinders joint problem solving and information exchange because the weaker party guards against exploitation while the stronger party tends to probe the boundaries of exploitation or guard against the appearance of intentions to exploit (Sividas and Dwyer 2000; Anderson and Weitz 1989). Finally, if balanced interdependence is lacking, incentives for each party to internalize the values of an exchange partner are limited (Gundlach, Achrol and Mentzer 1995).

In summary, the preceding discussion suggests that for interdependence to trigger the development of relational exchange, symmetry of interdependence acts as an important moderating condition. Therefore, if exchange parties are symmetrically dependent on each other, the incentive to develop relational beliefs and relational norms is enhanced (Klein, Frazier, and Roth 1990).

### **Outcomes of Vertical Integration and Relational Exchange**

Research suggests that vertical integration and relational exchange have positive influence on exchange performance. Performance, in general, refers to the achievement of exchange objectives. Based on four theoretical models (rational goal model, human relations model, internal process model, and open system model), Kumar, Stern and Achrol (1992) distinguish four overlapping types of exchange performance (Table IV.1).

*Conceptualizing exchange performance.* As can be seen from Table IV.1, much research has focused on two types of performance that are congruent with the rational goal model and the open systems model. The rational goal model views exchange as occurring between a set of rational decision makers who are pursuing a specific set of goals (Gouldner 1959). Therefore, goal attainment, the reflection of performance in the rational goal model, is viewed as:

... the activity directed to satisfy system goals through interaction with the task environment. This connection to the environment can be conceptualized as maximizing the outputs of the system in relation to costs and obstacles, which is consistent with the rational goal model's emphasis on efficiency and productivity (Kumar, Stern and Achrol 1992, p. 241).

Yet, defining performance only as *goal attainment* falls short of recognizing other beneficial outcomes of vertical integration (e.g., Buvik and John 2000; Hallen, Johanson

and Seyed-Mohamed 1991). Vertical integration may also influence the way in which exchange partners achieve their goals. Williamson (1996) suggests that vertical integration may aid exchange partners in responding to exchange situations that require a coordinated response by both exchange partners. Such exchange conditions may arise from fluctuating business conditions that demand a change in the way exchange partners achieve their exchange goals. Thus, a fuller conceptualization of performance in the context of this research also needs to capture these performance aspects that are congruent with the open systems model.

The open systems model views the exchange partners as engaging in processes that expand the exchange, such as growth, learning and differentiation (Buckley 1967). Therefore, cooperative adaptation reflects performance in the open systems model. “It is the dominant theme running through major open system theories such as population ecology and resource dependence” (Kumar, Stern and Achrol 1992, p. 241).

Both views, the rational goal model and the open system model appear to support two related aspects of performance: effectiveness and efficiency. Exchange effectiveness can be defined in terms of achieving a desired or preferred end state (Katz and Kahn 1978). Such end-states in exchange relationships may be determined by goals and preferences of the exchange partners and their customers. Efficiency in the exchange demonstrates how well the exchange parties use the resources at their disposal, how much resource investment is necessary to achieve a certain exchange output (Katz and Kahn 1978). Efficiency, thus, pertains to the internal workings of the exchange.

Analyzing exchange performance in terms of effectiveness and efficiency is congruent with Kaufman’s (1987) and Ghosh and John’s (1999) perspective that an

Study	Conceptualization of Performance			
	Goal Attainment	Pattern Maintenance	Integration	Adaptation
	"... is the activity directed to satisfy system goals through interaction with the task environment. This connection to the environment can be conceptualized as maximizing the outputs of the system in relation to costs and obstacles, which is consistent with the rational goal model's emphasis on efficiency and productivity." *	"... is reconstituting the capacities of the system by restoring, maintaining, or creating the energies, motives, and values of the cooperating units. It is essentially similar to the human relations model with its concern for the morale of organizational participants and its focus on human resource development as an organizational goal." *	"... refers to mutual adjustment of system components necessary for holding the cooperating units in line and maintaining solidarity. It is analogous to the primary importance placed by the internal process model on evoking coordinated action from interdependent parts of the organizational system" *	"... is perceiving and manipulating the "object world" to mobilize the means or resources necessary for the attainment of system goals. It is the dominant theme running through major open system theories such as population ecology and resource dependence." *
Anderson and Weitz (1986)	X			
Buchanan (1992)	X			
Bucklin and Sengupta (1993)	X			
Dahlstrom and Nygaard (1999)	X	X		X
Gaski and Nevin (1985)	X			
Heide and John (1988)	X			
Hibbard, Kumar, Stern (2001)	X	X		X
Houston and Johnson (2000)	X			
Jap (1999)	X			
Lusch and Brown (1996)	X			
Noordewier, John, and Nevin (1990)	X			
Rosenbloom (1973)	X			
Scheer and Stern (1992)	X			
Smith and Barclay (1997)	X			
Walker and Poppo (1991)	X			X

\* Kumar, Stern, and Achrol (1992), p. 241

X: denotes that the performance measure included this type of performance

**Table IV.1: Conceptualizations of Performance in Previous Studies**

exchange relationship should be analyzed from the dual perspective of (1) creating joint value (i.e., goal attainment, or total gains) and (2) claiming a share of it (i.e., wealth distribution). Here, value refers to the difference between benefits derived from the exchange and the costs of achieving these benefits (Ghosh and John 1999). In the following section I will describe how vertical integration and relational exchange contribute to exchange performance in terms of effectiveness and efficiency.

### **Performance and Opportunism**

One important mediator of the link between vertical integration and exchange performance is the level of opportunistic behavior in the exchange relationship. As the preceding discussion has demonstrated, both, vertical integration and relational exchange may reduce opportunistic behavior in the exchange. In this section I will outline how the reduction of opportunism in the exchange is linked to enhanced efficiency and effectiveness.

1. *Efficiency*. Reduced opportunism enhances the efficiency of the exchange relationship through reduced bargaining, monitoring, and maladaptation costs (Dahlstrom and Nygaard 1999). Bargaining costs are “expenditures associated with negotiation between transacting parties” (Dahlstrom and Nygaard 1999, p. 161). Parties in ongoing exchange relationships may encounter new circumstances that require changes in the way the exchange is conducted. Consequently, parties to long-term relationships periodically negotiate to modify contractual terms or otherwise adapt to changes in the exchange environment. Here, opportunism may take the form of forced renegotiation (Wathne and Heide 2000) and should complicate bargaining over adaptations significantly. Vice versa, if opportunism

is low, exchange parties may devote more energy toward working out the necessary changes rather than toward developing proposals that decrease the likelihood that they are subject to opportunism.

Monitoring costs are expenditures made to observe contractual performance by the exchange parties. Such monitoring costs are incurred to insure that exchange partners act in the best interest of the exchange (Lal 1990). If the possibility of opportunistic behavior, such as evasion or violation is high, exchange parties have to put forth considerable efforts to assure compliance with the terms of the exchange. Consequently, the level of potential opportunism in the exchange has a strong influence on monitoring costs (Dahlstrom and Nygaard 1999). Increasing monitoring costs due to opportunism reduce exchange efficiency because exchange partners need to put forth more resources to achieve their exchange output or may use their resources for monitoring rather than enhancing exchange output.

Maladaptation costs are “embodied in communication and coordination failures between parties to a contract” (Dahlstrom and Nygaard 1999, p. 162) and arise from the failure of exchange parties to achieve fit with changing circumstances of the exchange. Maladaptation costs are essentially opportunity costs accrued when decision-making is sub-optimal (Williamson 1985) and allocation of resources is not efficient (Anderson, Lodish and Weitz 1987). Opportunistic behavior, such as refusals to adapt, may significantly increase these maladaptation costs in an exchange (Wathne and Heide 2000). Therefore, reduced opportunism is likely to enhance the efficiency of the exchange.

2. *Effectiveness*. Reduced opportunism can also enhance the performance of the exchange because “any form of opportunistic behavior has the potential to both restrict value creation and cause redistribution” (Wathne and Heide 2000, p. 41; Hibbard, Kumar and Stern 2001) and therefore affects the effectiveness of the exchange relationship. Depending on the specific form of opportunistic behavior, the manner in which effectiveness is affected differs (e.g., Wathne and Heide 2000).

For example, goal attainment (e.g. customer satisfaction) may be enhanced by reduced opportunism, because exchange partners are less likely to evade their obligations (e.g., shirking). Vice versa, if an exchange partner avoids performing quality control procedures in order to gain benefits of cost savings, the effectiveness of the exchange may decline because lower quality may reduce customer satisfaction.

In addition, effectiveness may be enhanced because exchange partners are less likely to refuse to adapt to new circumstances or behave inflexibly (Wathne and Heide 2000). Partners that do not adapt may incur direct cost effects from unrealized opportunities (Wathne and Heide 2000) and losses may also occur in the long-term due to an inferior fit with the business environment. Therefore, reduced opportunism may improve effectiveness in the exchange.

In summary, the preceding discussion suggests that high levels of opportunism reduce the efficiency and effectiveness of the exchange relationship. In particular, opportunism may create additional costs that negatively affect efficiency of the exchange and also may restrict value creation thereby reducing effectiveness of the exchange.

Therefore, relational exchange and vertical integration may enhance effectiveness and efficiency indirectly by reducing the level of opportunism in the exchange.

### **Performance and Vertical Integration**

Extending the logic of TCA, research suggests that vertical integration has also direct influence on performance. Vertical integration enhances performance through (1) supporting the use of transaction specific investments, (2) cooperative adaptation, and (3) the enhanced ability of exchange partners to accumulate resources. In addition, vertical integration can have negative effects on performance, such as (4) an increase in administrative costs. These will be considered in turn.

1. Asset specificity refers to “assets [that] cannot be redeployed without sacrifice of productive value if contracts should be interrupted or prematurely terminated” (Williamson 1985, p. 54). The productive value of transaction specific investments is higher in the focal exchange, because specific assets uniquely support the focal exchange (Williamson 1985). Transaction specific investments may even be required to support an exchange relationship (Heide and John 1988).

Transaction specific investments can be used to increase the efficiency and effectiveness in the exchange (Williamson 1983, 1984), because they may lead to economies of scale and scope. Exchange partners may realize economies of scale, because transaction specific investments support the exchange process. For example, an investment into a logistics system may uniquely support the transactions between the exchange parties making the exchange between these parties more efficient and effective.

Exchange partners may also realize economies of scope, because transaction specific investments yield additional exchange outcomes that would not be possible without these investments (Ghosh and John 1999). For example, a retailer may invest in training of personnel that is necessary to represent, sell, and maintain a particular manufacture's products.

As described in more detail above, transaction specific investments may be at risk if uncertainty exists in the exchange (environmental and/or behavioral uncertainty). Here, vertical integration may help reduce these risks and thereby increase exchange performance (e.g., Williamson 1985). As Heide and John (1988, p. 20) find, "... performance was improved ... provided specific investments were relatively high."

2. Cooperative adaptation. According to Williamson (1996, p. 104), firms that vertically integrate can react better changing business environments. Under such conditions, vertical integration supports a coordinated response from the exchange parties, because:
  - a. Proposals to adapt require less documentation within vertically integrated exchange;
  - b. Resolving internal disputes by fiat rather than arbitration saves resources and facilitates adaptation;
  - c. Information that is deeply impacted<sup>38</sup> can be more easily and accurately accessed;

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<sup>38</sup> Information impactedness exists "when true underlying circumstances relevant to the transaction, or related set of transactions, are known to one or more parties but cannot be costlessly discerned by or displayed for others" (Williamson 1975, p. 31).

- d. Internal dispute resolution enjoys the support of the informal organization;  
and
  - e. Internal organization has access to additional incentive instruments that  
promote adaptation.
  - f. Thus, vertical integration supports the effectiveness of an exchange when  
coordinated changes are required.
3. Resource management. In addition to viewing vertically integrated exchanges as a set of internalized transactions, they can also be viewed as a bundle of resources (e.g., Madhok 1996, Williamson 1999). Resources are "any tangible or intangible entity (e.g., physical assets and/or capabilities) available for use by ... [exchange partners] to compete in its marketplace" (Lambe, Spekman, and Hunt 2002, p. 141). Resource management refers to "the process and routines by which a firm's ...[resource] base is developed and integrated into the functioning organization, the value of current ...[resources] is enhanced through new combinations, and its ...[resource] base is deployed in order to exploit its rent-earning potential" (Madhok 1997, p. 42).

The process of resource management draws on a set of resources that might be embedded in the exchange partners' firm and may have limited transferability across firm boundaries. Also, resources may be complementary in achieving exchange goals. Hence, exchange partners may choose to increase the level of vertical integration to gain better access to complementary resources. Increasing the level of vertical integration helps resource management, because firms gain better access to deeply impacted information. Therefore, vertical

integration can increase exchange effectiveness if exchange outcomes can be improved by using such complementary resources. Also, it can improve exchange efficiency if complementary resources can be used to achieve exchange outcomes with less resource input.

4. Administrative costs. Vertical integration does not only have performance enhancing positive outcomes. In particular, administrative costs originate in efforts of aligning decisions within an exchange under conditions of vertical integration (Williamson 1996, p. 66). In other words, vertical integration may lead to costs that arise from monitoring exchange behavior and directing such behavior that may not arise in market exchanges. In addition, vertical integration may lead to potentially higher costs due to capacity balancing problems. For example, a firm may need to build excess upstream capacity to ensure that its downstream operations have sufficient supply under varying demand conditions.

However, exchange partners that vertically integrate may do so in order to reduce the costs of conducting exchange. Thus, the total costs of the exchange, including administrative costs, must be considered (Williamson 1975; Rindfleisch and Heide 1997). Therefore, administrative costs in vertically integrated exchange must be counterbalanced with cost savings that are due to vertical integration (e.g., obstacles to the formulation and monitoring of contracts, taxes and regulations on market transactions, reluctance of other firms to make investments specific to the transaction, sufficiently large production quantities so that the firm can benefit from economies of scale).

In summary, the preceding discussion suggests that vertical integration may also have a direct effect on performance in exchange relationships. In particular, these performance benefits may stem from the use of transaction specific investments under conditions of uncertainty, more effective cooperative adaptation, and enhanced resource management.

### **Performance and Relational Exchange**

In relational exchange, performance may be enhanced by all components of the system of relational exchange (relational beliefs, norms, intentions and behaviors). Yet, outcomes of relational exchange can be viewed as those states of the relationship that come about from relational behavior of the exchange parties. However, some research on marketing channel relationships has studied outcomes of relational exchange as a function of other components of the system of relational exchange such as relational beliefs and norms (e.g., Siguaw, Simpson, and Baker 1998; Lusch and Brown 1996).

Here, the implicit assumption underlying the choice of antecedents of relational behavior is that such beliefs and norms influence the exchange parties' relational intentions and behavior. For example, as Siguaw, Simpson, and Baker (1998, p. 103, 104) describe "... a distributor might work more diligently to enhance performance with a partner it believes is more credible and benevolent than alternative partners," or in respect to commitment, "... behavior designated to indicate commitment to the relationship will improve ... performance."

Therefore, I will first describe the link between relational behavior (e.g., reciprocity maintenance and conflict harmonization) and performance, because it appears to be the most direct connection between the system of relational exchange and

performance. Then, I will describe the results of previous studies that focus on relational beliefs and norms, because these results may provide further indication of the proposed links within the system of relational exchange and its effect on exchange performance.

1. Reciprocity maintenance affects exchange effectiveness through the continued maintenance of effective future interdependence. Here, efforts to maintain an exchange in which both partners can effectively contribute to shared exchange goals or interests are likely to enhance exchange effectiveness. Although shared exchange goals may be achieved in many different ways, reciprocity maintenance aims at selecting those means to the shared ends that are mutually agreeable (Gouldner 1960).
2. Here, the pursuit of mutually beneficial goals or interests in the exchange is likely to support the effectiveness of the exchange, because it is likely to provide goal attainment to each exchange partner. For example, if exchange partners successfully engage in activities that are intended to bring both partners closer to their exchange goals, then the evaluation of exchange outcomes should improve.
3. Conflict harmonization attempts to reach functional outcomes of conflict in the exchange. Such functional outcomes have been linked to enhanced channel efficiency (e.g., Rosenbloom 1973; Bucklin and Sengupta 1993), satisfaction (Hibbard, Kumar, and Stern 2001), and effectiveness (Song, Xie, and Dyer 2000). Therefore, exchange partners that engage in conflict harmonization are likely to enhance the performance of the exchange.
4. Relational beliefs are suggested to influence performance positively, however empirical evidence is scarce (e.g., Sigauw, Simpson, and Baker 1998; El-Ansary

1990). Trust has been found to directly (Dion, Easterling, and Miller 1995; Siguaw, Simpson, and Baker 1998) and indirectly (e.g., McAlister 1995) influence exchange performance. Commitment, esp. affective commitment (Kumar, Hibbard, and Stern 1994), has been found to affect organizational performance. And Heide and Stump's (1995) study indicates that long-term orientation influences performance.

5. Relational norms. The link between relational norms and performance has mostly received attention in terms of normative behavioral control. That is, relational norms have been found to affect exchange performance through their ability to curb opportunistic behavior in the exchange relationship (e.g., Cannon, Achrol, and Gundlach 2000). However, the direct link between relational norms and performance has received relatively little attention (Siguaw, Simpson, and Baker 1998). Here, empirical studies have found null effects (Lusch and Brown 1996) or even a negative relationship with performance (Siguaw, Simpson, and Baker 1998).

In summary, exchange effectiveness and efficiency in relational exchange are enhanced through relational behavior that provides for beneficial exchange outcomes. Such behaviors can be seen as ongoing efforts to exploit synergies and idiosyncratic opportunities between the exchange partners (Jap 1999). Exchange partners who jointly supply and exploit idiosyncratic assets are likely to gain synergies that may not have been achievable in transactional exchange (Ganesan 1994). Therefore, relational exchange is well suited to maintain and enhance the performance of the exchange. Relational beliefs and norms contribute to the relationship between relational exchange and exchange

performance indirectly through their influence on relational behavior of the exchange partners.

## CHAPTER V

### HYPOTHESES

This chapter develops the conceptual arguments culminating in research hypotheses. As mentioned before, the purpose of this research is to understand boundary conditions for relational exchange in business-to-business exchanges. The chief issues and points developed in Chapters II-IV toward this goal and are important for the theoretical deduction of the research hypotheses are briefly summarized below.

1. Relational exchange and vertical integration are distinct concepts that jointly describe the exchange structure in business-to-business exchange relationships. Relational exchange was conceptualized as the system of relational beliefs, norms, intentions and behaviors (Figure III.2). And vertical integration was conceptualized in terms of (1) the use of outcome-based incentives (monotonically *decreasing* from market to hybrid to hierarchical exchange), (2) the use of bargaining to coordinate exchange (monotonically *decreasing*), (3) the use of behavior-based incentives (monotonically *increasing*), and (4) the use of direction to coordinate exchange (monotonically *increasing*). These four aspects have been suggested to monotonically increase or decrease across the spectrum of governance structures between markets and hierarchies (Figure 3).
2. Two types of antecedents have been developed that lead to aspects of relational exchange. In particular, it has been described how antecedents that lead to interdependence magnitude in exchange relationships (complementary goals, complementary resources, and switching costs) lead to the development of relational beliefs (trust, commitment, and long-term orientation) as well as

relational norms (information exchange, flexibility, and solidarity). In addition, the degree to which interdependence is symmetric within the exchange has been suggested to moderate this relationship.

3. It has also been described how antecedents of vertical integration that emerge from the transaction cost framework (asset specificity x behavioral uncertainty and asset specificity x environmental uncertainty) also should lead to the development of relational beliefs and relational norms. Here it has been suggested that frequent and bi-directional communication may facilitate this process, positioning it as a moderating condition. Finally, it has been suggested that the combination of behavioral and outcome uncertainty may cause exchange partners to both, vertically integrate and develop relational beliefs and norms.
4. Finally, the system of relational exchange (mostly through relational behaviors of reciprocity maintenance and conflict harmonization) and vertical integration have been suggested to enhance exchange performance (effectiveness and efficiency) both directly and indirectly through the reduction of opportunism.

The goal of the present chapter is to develop testable research hypotheses that link the system of relational exchange to its antecedents and outcomes. However, before the rationale for the research hypotheses can be discussed, it is necessary to further outline the unit of analysis for this study.

### **Unit of Analysis**

*Dyad vs. Firm.* Typically, studies of exchange dyads have relied upon the perspective of one exchange partner (John and Reve 1982). However, some recent studies have taken

a dyadic approach that simultaneously taps both exchange partners (e.g., Jap 1999). Thus, a question arises as to which approach is appropriate for the research purpose of the current research. Or, in other words, to what degree does information from one side of the dyad reflect the relationship between both exchange partners? Here, the two theoretical frameworks used in this research [TCA and RM] pose distinct challenges.

1. TCA. The degree of vertical integration was conceptualized in terms of alternative integration choices along the integration continuum anchored by the options of market and hierarchy (Gatignon and Anderson 1988; see figure II.1). Given that these modes of vertical integration are based on degrees of ownership and control that are formalized between both firms, either exchange partner will be in a position to give reliable insight into the specific arrangement chosen in the dyad. In addition to conceptualizing vertical integration in terms of alternative ownership and control arrangements, specific influence strategies used along the continuum of vertical integration were identified. As with any influence attempt, the source and the target of the influence attempt may disagree about the degree to which specific types of influence are exerted. However, this study is concerned with the governance effects that can be derived from the use of these influence strategies. Here, the target of the influence attempt is in a better position to report on the degree to which such influence strategies are perceived to influence the target's behavior. Only if influence strategies are perceived by the target as an attempt to alter its behavior can they be viewed as influence attempt in the dyad. Two types of integrative influence strategies were identified in this study: the use

of outcome- and behavior-based incentives, and the use of bargaining or direction in the exchange. Each will be considered below.

- a. Incentives. In respect to incentives exchange partners are opposite ends of the same exchange with one party receiving and the other party granting the incentive. Although exchange parties may disagree on the specific incentives used in the dyad, the target of the incentive can be viewed as being in a better position to identify and evaluate incentives that may influence its actions. For example, a supplier may initiate a program that rewards dealers for selling a particular line of tires. Dealers, however, may not take notice of this promotion, may not perceive the promotion as setting an incentive to sell this line of tires, or may even attribute other than the intended behaviors with the promotion. Here, it is not the supplier's intent to set an incentive but rather the dealer's perception of supplier activities that constitutes a conceptually meaningful influence attempt.
- b. Bargaining and direction. Bargaining involves the process of reaching an agreement on the terms of the exchange. Here, both parties are likely to be actively involved in establishing a mutually acceptable trade. In contrast, direction builds on a system of super- and subordination in which it is expected to comply with the decisions of the superior. Both parties need to be aware of the degree of super- and subordination for direction to receive compliance. Therefore, it is likely that both exchange partners are equally

well informed about the degree to which bargaining and direction are used in the exchange.

2. Relational exchange is conceptualized in this research as the relational intentions of the exchange partners. As described above, these relational intentions are based on relational beliefs and normative beliefs of the exchange partners. Research on relational exchange suggests that important relational and normative beliefs are mutually shared by the exchange partners:
  - a. Trust. The principle of reciprocity suggests that trusting beliefs of exchange partners need to be mutual for relational exchange to persist (Blau 1964; Anderson and Weitz 1989; Burgess and Huston 1983). This theoretical notion is supported by empirical studies on dyadic buyer-seller relationships that find similar levels of trusting beliefs across the exchange dyad (e.g., Ganesan 1994; Smith and Barclay 1997).
  - b. Commitment. Anderson and Weitz (1992) suggest that each channel member's commitment to the relationship is based in part on its perception of the other party's commitment. This reciprocal nature of commitment is suggested to lead to cycles of positive reinforcement of commitment among exchange partners (Anderson and Weitz 1992). Although, reciprocal commitments to the exchange relationship may not lead to identical levels of commitment across the exchange relationship, they should be highly correlated. Empirical studies on buyer-seller exchange dyads support this notion and suggest that the perception of the level of commitment by the exchange parties is comparable across the exchange

dyad (e.g., John and Reve 1982; Anderson and Weitz 1992; Gundlach, Achrol, and Mentzer 1995; Fein and Anderson 1997).

- c. Long-term Orientation. The principle of reciprocity also suggests that long-term orientation of exchange partners is mutual in relational exchange (Blau 1964). Long-term orientation refers to the belief that outcomes of the exchange are dependent on both partners and that these outcomes will be realized across multiple exchanges over time (Kelley and Thibaut 1978). Here, it is necessary that both partners perceive balanced interdependence because one-sided dependence of one partner would not lead to long-term orientation for both partners (Ganesan 1994). Assuming similar evaluation of exchange outcomes, balanced interdependence in exchange is likely to lead to similar levels of long-term orientation across the exchange dyad.
- d. Norms. Norms are conceptualized as at least partially shared by the decision-makers in the exchange dyad (Thibaut and Kelley 1959; Heide and John 1992). Norms that govern an exchange relationship are internal to that relationship, that is they become "... binding upon the members of a group and serving to guide, control, or regulate proper and acceptable behavior" (Macneil 1979, p. 38). This view of norms in an exchange relationship suggests that the decision-makers share normative beliefs across the exchange dyad. However, to my knowledge, empirical evidence for this notion in the context of buyer-seller exchange relationships is lacking.

In summary, the examination of important aspects of vertical integration and relational exchange suggests that information from one side of the dyad reflects the exchange dyad spanning both exchange partners.

*Firm vs. Individual.* In the context of marketing channels, ongoing exchanges can be studied at the level of individual boundary personnel (e.g., sales personnel-customer dyad) or at the firm level incorporating multiple points of contact between the firms (e.g., wholesaler-retailer dyad). In the context of the current research a firm-level perspective appears appropriate, because:

1. Interfirm-governance decisions may not be based on the perception of individual sales personnel or single points of contact between the exchange parties.

Therefore, the study needs to tap decision-makers at the firm level that have access to information regarding multiple points of contact between exchange partners and are knowledgeable about the exchange relationship as a whole (John and Reve 1982).

2. The decision-making behavior of interest requires firm-level authority that may not be available at the level of individual sales personnel. Such authority includes, for example, the decision to forward integrate into retailing. Although sales personnel might be able to report on the actual decision made by a firm-level decision maker, they might not be able to report on alternatives available to the decision maker or considerations that lead to the observed choice. These are likely to be fully disclosed only to decision makers with firm-level authority.
3. The current study does not only investigate the exchange dyad in isolation, but rather takes into account firm-level variables such as the partner's resources,

goals, and interdependence. Information about these variables may not be available at the level of individual sales personnel.

In summary, insufficient information about the exchange dyad, the process of decision-making, as well as firm level aspects that influence decisions limit the usefulness of taking the perspective of boundary personnel for this research. Therefore, a firm-level perspective of the exchange dyad is taken.

### **The System of Relational Exchange**

Building on the conceptualization of relational exchange as the system of relational beliefs, norms, intentions and behaviors, the discussion of boundary conditions for relational exchange is based on the following premises. First, antecedents of relational exchange are those constructs that primarily influence aspects of the system of relational exchange. In particular, antecedent constructs influence the development and maintenance of relational beliefs and relational norms. Some research on antecedents of relational exchange has conceptualized relational exchange as relational behaviors (e.g., Lusch and Brown 1996). The implicit assumption in these studies is that the antecedents influence the formation of relational beliefs and/or relational norms, which then leads to relational intentions and relational behavior.

Second, outcomes of relational exchange are those constructs that are primarily affected by the system of relational exchange. Particularly, outcomes of relational exchange are those states of the relationship that come about from the relational behavior of the exchange parties. Some research on marketing channel relationships has studied outcomes of relational exchange as a function of relational beliefs and norms (e.g., Siguaw, Simpson, and Baker 1998). Again, the implicit assumption of these studies is

that such beliefs and norms influence the exchange parties' relational intentions and behavior.

Third, to the best of my knowledge, no study has empirically investigated the system of relational exchange as conceptualized above. A notable exception is Lusch and Brown's (1996) study which finds a positive relationship between long-term orientation and relational behaviors. Therefore, it is important for the validity of this study to empirically test the theoretical links in this conceptualization.

Relational beliefs can lead to a positive attitude toward relational behavior (Fishbein and Ajzen 1975; Ajzen and Fishbein 1980) and shared expectations about acceptable behavior in the exchange relationship are likely to develop relational norms that prescribe relational behavior in the exchange relationship (Fishbein and Ajzen 1975; Ajzen and Fishbein 1980; Heide and John 1992). Further, relational attitudes and relational norms both are supportive of relational behavioral intentions in the exchange relationship (Fishbein and Ajzen 1975; Ajzen and Fishbein 1980). Relational intentions are likely to lead to relational behaviors (Fishbein and Ajzen 1975; Ajzen and Fishbein 1980).

The system of relational exchange can be expressed in the following hypotheses.

H<sub>1</sub>: Relational intentions mediate the link between relational beliefs, relational norms and relational behavior:

(a) The greater the degree of relational beliefs of an exchange partner, the greater his/her relational intentions.

Relational Beliefs                       $\longrightarrow$                       Relational Intentions

(b) The greater the degree of relational norms of an exchange partner, the greater his/her relational intentions.

Relational Norms                       $\longrightarrow$                       Relational Intentions

- (c) The greater the degree of relational intentions of an exchange partner, the greater his/her relational behavior.

Relational Intentions       $\longrightarrow$       Relational Behavior

### **Antecedents of Governance Structure**

The remainder of this section is organized as follows. I will first describe the antecedents of vertical integration as they are proposed in the transaction cost literature. This description will be used as a starting point for the development of antecedents of relational exchange. Here, I will motivate the particular antecedent conditions of relational exchange that emerge from the need for safeguarding and the magnitude of interdependence. As it is feasible I will introduce the moderating conditions that have been suggested to influence these relationships. I will then motivate performance outcomes of vertical integration and relational exchange as well as the mediating condition of opportunism. Hypotheses that summarize each step are presented when appropriate (see Table V.1 and Figure V.1 for an overview).

#### **Need for Safeguarding as Antecedent to Vertical Integration**

Conventional marketing channel systems have been viewed traditionally as series of interrelated markets (Etgar 1976). Such systems are coordinated through the operation of prices and arms-length transactions. A basic premise fundamental to classical economic theory is that market outcomes tend to be efficient if certain assumptions such as strong competition are met (e.g., Marshall 1890). In the context of marketing channels, market outcomes refer to outcomes achieved from exchanges among channel members who employ the market mechanism. Efficiency refers to how much investment is necessary to achieve a certain exchange output (Katz and Kahn 1978).

**Table V.1: Summary of Research Hypotheses**

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*The System of Relational Exchange*

H1: Relational intentions mediate the link between relational beliefs, relational norms and relational behavior:

- (a) The greater the degree of relational beliefs of an exchange partner, the greater his/her relational intentions.
- (b) The greater the degree of relational norms of an exchange partner, the greater his/her relational intentions.
- (c) The greater the degree of relational intentions of an exchange partner, the greater his/her relational behavior.

*Need for Safeguarding as Antecedent*

H2: The greater the degree to which exchange parties need to safeguard transaction specific investments, the higher the degree of vertical integration in the exchange.

H3: The greater the degree to which exchange parties need to safeguard transaction specific investments, the higher the degree of relational exchange in the exchange.

H4: The greater the degree to which communication between the exchange partners is collaborative, the greater the degree to which the need to safeguard transaction specific investments leads to relational exchange.

H5: The greater the degree of vertical integration in the exchange, the greater the degree of relational exchange in the dyad.

*Interdependence as Antecedent*

H6: The greater the magnitude of interdependence between the exchange partners, the greater the degree of relational exchange in the exchange relationship.

H7: The greater the degree to which interdependence between the exchange partners is asymmetric, the lower the degree of relational exchange in the exchange relationship.

*Performance and Opportunism as Outcomes*

H8: The higher the degree of relational exchange, the higher the performance of the exchange relationship.

H9: The higher the degree of vertical integration, the higher the performance of the exchange relationship.

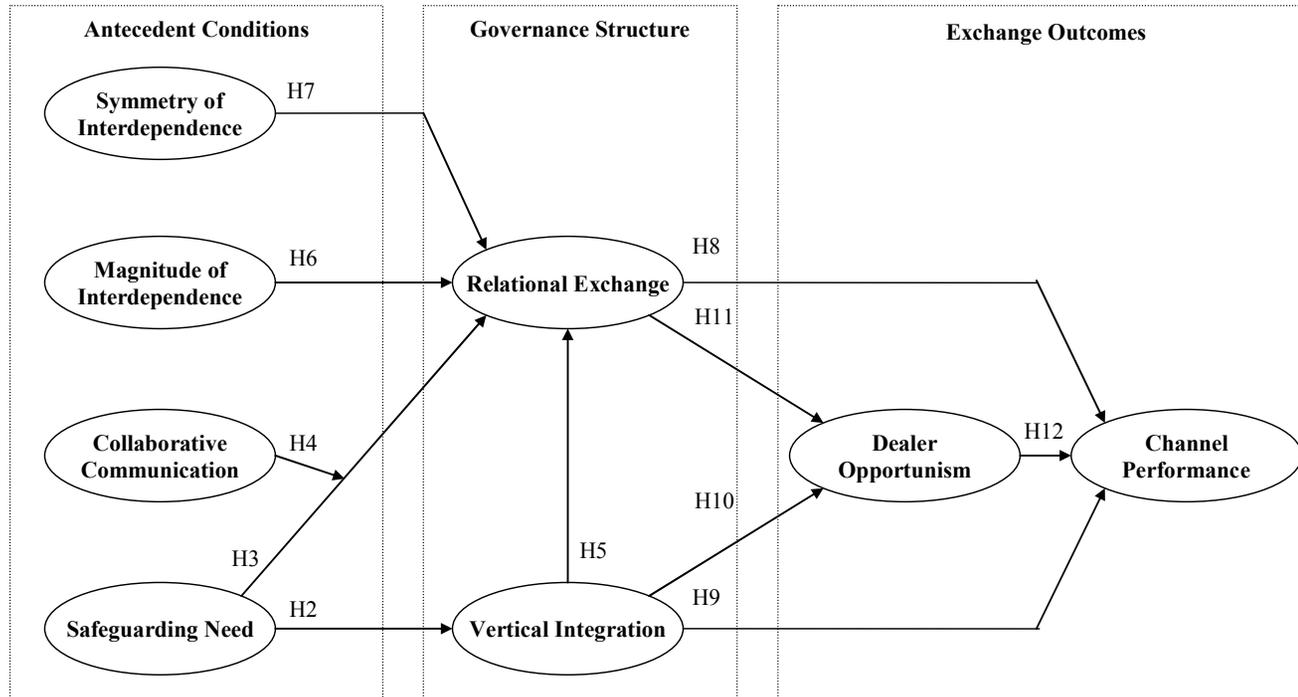
H10: The higher the degree vertical integration, the lower the degree of opportunism in the exchange relationship.

H11: The higher the degree of relational exchange, the lower the degree of opportunism in the exchange relationship.

H12: The higher the degree of opportunism, the lower the performance of the exchange relationship.

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**Figure V.1: Research Model**



In marketing channels, firms frequently make investments that are specific to the exchange with a particular channel member in order to enhance channel outcomes. Such transaction specific investments, those investments that cannot be redeployed without loss in productive value, may cause channel members to prefer other forms of coordination than market exchanges (Coase 1937, Williamson 1975, 1979). Here, Williamson (1975, 1979) has persuasively argued that transaction cost considerations underlie firms' reasons for seeking alternative exchange forms such as vertical integration. In particular, Williamson and others have focused on the role of opportunism and the limited capacity of firms in processing information as determinants of transaction costs, the cost of organizing the exchange between firms (Arrow 1969).<sup>39</sup> Following transaction cost scholars, transaction costs associated with the potential for opportunism vary across alternative exchange forms (Klein, Crawford, and Alchian 1978) and deviations from market exchanges as form of coordination between channel members follow the general premise that explicit control mechanisms must be deployed to manage potential opportunism in the exchange (Stump and Heide 1996).

Taking Ghosh and John's (1999) perspective, opportunism has the potential to both restrict value creation and cause its redistribution in an exchange. In market exchanges, opportunism-related transaction costs arise from (1) the need to design contracts that specify in advance all possibilities for expropriation of transaction specific investments, (2) bargaining over the value created by transaction specific investments, and (3) expropriation itself (Wathne and Heide 2000). Despite the costs associated with

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<sup>39</sup> As described in more detail in the previous chapter, opportunism may arise when exchange partners are able to take advantage of 'lock-in' situations created by a firm's investment in transaction specific assets. Such 'ex-post' opportunism, and a firm's need to safeguard against it, is likely to arise under conditions of behavioral and environmental uncertainty (Williamson 1975, 1985; Rindfleisch and Heide 1997).

vertical integration (e.g., Penrose 1959; Williamson 1970), transaction specific investments are often better safeguarded through vertical integration (Brown, Dev and Lee 2000; Anderson 1988; John and Weitz 1988; Williamson 1975, 1985).

Vertical integration, and its associated rights of ownership, gives channel members a richer system of rewards and punishments to manage potential opportunism (Brown, Dev and Lee 2000, p.52; Rindfleisch and Heide 1997). The rights of ownership allow for enhanced monitoring abilities through the use of fiat as well as the capacity to direct exchange behavior and to employ behavior-based incentives (Williamson 1996, 1985, 1975). The ability of extensive monitoring in vertically integrated exchanges enhances the potential for detection of opportunistic behavior (Celly and Frazier 1996), may place pressure on an exchange partner to comply with the terms of the exchange (Murry and Heide 1998), and enables the direction of behavior that is consistent with the firm's interests (Williamson 1996; Rindfleisch and Heide 1997). The ability reward behavior, not only the outcomes of behavior, enables exchange partners to create incentive structures that reduce the payoffs from opportunistic behavior (Wathne and Heide 2000; Williamson 1996; Eisenhardt 1989; Oliver and Anderson 1987).

In summary, the preceding discussion suggests that as the amount of transaction specific assets at risk in an exchange increase, the transaction costs of market exchanges increase. Under vertical integration, however, transaction specific assets are well protected and increasing levels of transaction specific investments will not increase transaction costs as much as in market exchanges. Therefore, as the need to safeguard transaction specific assets increases, exchange partners are likely to favor vertical integration over market exchanges. Therefore:

H<sub>2</sub>: The greater the degree to which exchange parties need to safeguard transaction specific investments, the higher the degree of vertical integration in the exchange.

Need for Safeguarding      —————>      Vertical Integration

### **Need for Safeguarding as Antecedent to Relational Exchange**

In addition to increasing the degree of vertical integration in marketing channels, research on has identified alternative governance forms that appear to be capable of safeguarding transaction specific investments against potential opportunism. Relational exchange is one such governance mechanism that may also be used in marketing channels to provide protection from potential opportunism, because of shared relational norms and relational beliefs in the exchange (Brown, Dev, and Lee 2000; Ouchi 1979; Kelman 1958). Relational norms limit opportunism in exchange relationships, because they prescribe relational behavior in the exchange and by their very nature restrain the exploitative use of decision rights (Heide and John 1992). They inhibit opportunism to the extent that they guide and regulate behavior in the exchange as they become internalized by the exchange partners (Brown, Dev, and Lee 2000; Gundlach, Achrol, and Menzter 1995).

Also, establishing a social structure characterized by relational beliefs such as trust, commitment and long-term orientation is likely to protect exchange parties from potential opportunism (John 1984). In contrast to relational norms, the safeguarding role of relational beliefs is not to restrain individual goal pursuit and to prescribe non-opportunistic behaviors. Rather, relational beliefs can be viewed as representing a shared belief system that makes opportunistic behavior less likely because it “coalesces the objectives of buyer and seller and establishes an environment in which neither party

benefits from opportunism” (Dahlstrom and Nygaard 1999, p. 164). As Heide and John (1992, p.32) point out, in exchanges that have developed a social structure “opportunism is the exception, rather than the rule.”

For example, trusting exchange parties share the belief that the other party will not act opportunistically when given the chance (Deutsch 1958; Anderson and Narus 1990; Hallen, Johanson, and Seyed-Mohamed 1991). Similarly, committed exchange partners are less likely to engage in opportunistic behaviors, because they believe that an exchange is important and warrants maximum effort to maintain it (Morgan and Hunt 1994; Anderson and Weitz 1992). Further, the perception of future interaction among the exchange parties reduces the payoff of opportunistic behavior, because channel outcomes that are to be realized with the exchange partner may be lost (Ganesan 1994; Heide and John 1990; Kelley and Thiebaut 1978). Relational beliefs thus represent an exchange environment that is characterized by low potential for opportunistic behavior. Therefore:

H<sub>3</sub>: The greater the degree to which exchange parties need to safeguard transaction specific investments, the higher the degree of relational exchange in the exchange.

Need for Safeguarding       $\longrightarrow$       Relational Exchange

### **Moderating Influence of Frequent and Bi-directional Communication**

Marketing channel members frequently rely on multiple forms of governance to reduce the potential for opportunism in the channel (Brown, Dev and Lee 2000). An important question, however, is under what conditions relational exchange offers a useful alternative to markets and vertical integration (e.g., Heide and John 1990). In order to answer this question, the way in which relational exchange provide protection against opportunism needs to be compared to markets and vertical integration. A systematic way

of examining these differences is to distinguish phases of initial implementation, maintenance, and potential failure of relational exchange (e.g., Heide 1994).

One main distinction of relational exchange is the time necessary to fully develop its governance benefits (Dwyer, Schurr and Oh 1987). Central to this developmental process is a continuity of interactions among channel members (Young and Wilkinson 1989; Spekman 1988; Heide and John 1980) during which relational norms and relational beliefs are formed (Homans 1950; MacNeil 1980; Bradach and Eccles 1989). During these interactions, channel members use collaborative communication (Reve 1980; John and Reve 1982) to develop converging expectations about exchange processes (Mohr and Nevin 1990) and reduce role ambiguity (Anderson and Weitz 1989), because it repeatedly reveals behaviors and expectations about behaviors in the exchange (Duncan and Moriarty 1998; Ring and Van de Venn 1994; Etgar 1979). Collaborative communication further facilitates the development of trust because channel members gain a deeper understanding of partner activities and are better able to anticipate each others' behavior (Nicholson, Compeau, and Sethi 2001; Anderson and Narus 1990; Anderson, Lodish and Weitz 1987; Narus and Anderson 1986).<sup>40</sup> Similarly, exchange partners learn about partner competencies (Anderson and Narus 1990) and gain confidence in the value creation potential of the partnership through collaborative communication (Anderson and Weitz 1989) which are important building blocks of commitment (Morgan and Hunt 1994; Anderson and Weitz 1992) and long-term orientation (Ganesan 1994). Overall, as

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<sup>40</sup> Note that some authors (e.g., Dwyer, Schurr and Oh 1987) who take a more dynamic point of view suggest that relational beliefs such as trust may also cause collaborative communication. Similar to Anderson and Narus (1990), the present study represents a working partnership at a single point in time and therefore any (inherently past) communication is posited to cause (present) relational beliefs.

Dwyer, Schurr and Oh (1987, p. 17) suggest, “a relationship seems unlikely to form without bilateral communication of wants, issues, inputs, and priorities.”

Ongoing exchange relationships differ from markets and vertical integration in their jointly coordinated exchange activities across multiple transactions (e.g., Heide 1994). In order to achieve such coordination and to facilitate continued reliance on relational exchange as a safeguard against opportunism, a high level of collaborative communication may be necessary (Mohr and Nevin 1990). Relational norms, for example, prescribe or implicitly assume ongoing collaborative communication in the exchange (Heide and John 1992). Collaborative communication further verifies that an exchange partner is able to perform as expected and provides critical, often proprietary information to one’s partner (Mohr and Spekman 1994; Anderson and Weitz 1992). This is necessary to maintain high levels of relational beliefs that otherwise tend to weaken and dissolve (Dwyer, Schurr and Oh 1987) because formal mechanisms to continually verify partner compliance tend to be weaker than under vertical integration (Heide 1994; Williamson 1985). Therefore, in ongoing exchange relationships collaborative communication serves as “the glue that holds together a channel of distribution” (Mohr and Nevin 1990, p. 36).

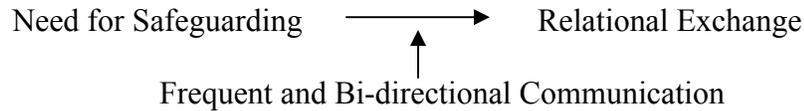
Finally, relational exchange may fail as a safeguard against opportunism if the relationship is disrupted (Ring and Van de Ven 1994) or channel members become dissatisfied (Grayson and Ambler 1999). Interruptions in channel relationships such as emerging channel conflict reduce its ability to safeguard against opportunism (e.g., Hibbard, Kumar and Stern 2001) or may even cause opportunistic behavior (Gaski 1984; Deutsch 1969) because disagreements tend to block achievement of channel goals and

elicit frustration among channel members who may lose their incentive to cooperate (Anderson and Narus 1990). Here, collaborative communication serves to detect and reduce misunderstandings that may cause channel conflict and is viewed as central to its constructive resolution (Anderson and Weitz 1992; Mohr and Nevin 1990; Mohr and Spekman 1985; Frazier and Summers 1984).

Dissatisfied channel members are likely to switch partners and start other, more promising exchange relationships (Grayson and Ambler 1999; Dwyer, Schurr and Oh 1987). Network effects such as negative reputation aside (Anderson and Weitz 1992; Macauley 1963), channel members with the intention to switch have an increased potential for opportunism because they may try to extract individual gains before the relationship ends. In order to avoid this pitfall, channel members need to engage in collaborative communication to maximize channel outcomes and increase channel member satisfaction (Mohr, Fisher and Nevin 1996; Mohr and Spekman 1994; Krapfel, Salmond and Spekman 1991; Mohr and Nevin 1990; Anderson and Narus 1990; Anderson and Weitz 1989) as well as to maintain a current perception of the likelihood of a bilateral expectation of continued exchange (Heide and John 1990; Anderson and Narus 1990; Kelley and Thiebaut 1978).

In summary, even though collaborative communication in itself may not be a sufficient reason for relational exchange, collaborative communication is a critical dimension in relationship building and maintenance (Duncan and Moriarty 1998; Dwyer, Schurr and Oh 1987) and protects against its potential failure as a safeguard against opportunism (Grayson and Ambler 1999; Ring and Van de Ven 1994). Therefore:

H<sub>4</sub>: The greater the degree to which communication between the exchange partners is collaborative, the greater the degree to which the need to safeguard transaction specific investments leads to relational exchange.



### **Vertical Integration as Antecedent of Relational Exchange**

Relational exchange and vertical integration can be viewed as alternative strategies for managing channel member opportunism (Heide 1994). Often, these governance forms are combined to take advantage of their inherently different approaches to reducing opportunism in the channel (Brown, Dev and Lee 2000). Brown et al. suggest that two temporal perspectives may be taken to understand the simultaneous use of relational exchange and vertical integration in a marketing channel. On one hand, channel members that employ relational exchange may choose to vertically integrate. On the other hand, vertically integrated channel members may supplement hierarchical governance with relational exchange. Although theoretical support can be found for either view, of particular importance in this study is the latter because it may yield insights on the emergence of relational exchange in the channel.

At least three distinct reasons for supplementing vertical integration with relational exchange have been proposed. First, some scholars maintain that vertical integration creates an organizational atmosphere that promotes the development of relational exchange (e.g., Granovetter 1985; Etgar 1976; Williamson 1975, p. 40). Organizational atmosphere in this context refers to a socialization process that aligns goals and expectations within vertically integrated exchanges (Williamson 1975). In addition, Dwyer and Oh (1987) and Dahlstrom and Nygaard (1999) suggest that

formalization<sup>41</sup> in vertically integrated exchanges can identify complementary responsibilities and objectives of channel members leading to convergent goals of exchange partners. Similar to complementary goals in non-integrated marketing channels (see above), converging goals in vertically integrated exchanges may support relational norms and beliefs among exchange partners because of a common interest in maintaining a functional (hierarchical) exchange. Converging goals help channel members define objectives as well as to develop shared expectations of each channel member's role in the exchange. In addition, Williamson (1975) suggests that convergent expectations reduce uncertainty, which may lead to higher levels of trust in the dyad.

Second, recent research appears to diverge from Williamson's (1975) view that vertical integration inherently promotes relational exchange. Following Ouchi (1979), this compensatory view suggests that vertically integrated channel members attempt to balance potential disadvantages of hierarchical governance with relational exchange (e.g., Brown, Dev and Lee 2000). The fundamental premise of this compensatory view is that ownership does not guarantee that vertically integrated channel members will share channel-wide goals and objectives because internal transactions can be structured in decentralized ways that emphasize individual gains and therefore do not inherently promote an organizational climate of trust and shared norms (e.g., internal markets or profit centers; Brown, Dev and Lee 2000).

In addition, other research suggests that more centralized channel structures such as those using high levels of bureaucratization (see: Weber 1947) may promote reactive opportunism in response to unilateral decisions and mandated behaviors, because the

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<sup>41</sup> Formalization refers to "the degree to which rules prescribing behavior are formulated, as well as the extent to which role responsibilities are prescribed" (Dahlstrom and Nygaard 1999, p. 163).

receiving party is deprived of self-control and autonomy (Ramaswanmi 1996; John 1984; Dwyer and Oh 1987). In order to address these potential drawbacks of vertical integration, Brown, Dev and Lee (2000) persuasively argue that channel members may use relational exchange to compensate for these weaknesses of vertical integration and enhance the overall protection against potential opportunism, because relational norms elevate the interests of the relationship above those of individual channel members.

Finally, a third perspective that has received less attention than the previous maintains that vertically integrated channel members develop relational exchange to address specific exchange conditions that may lead to opportunism, but are not sufficiently safeguarded by vertical integration (Kraft 1999; Ring and Van de Ven 1992; Ouchi 1979). One such exchange condition is environmental diversity, an exchange environment characterized by multiple sources of uncertainty such as continually changing competitor actions and rapidly evolving customer preferences (Klein, Frazier and Roth 1990; Joshi and Campbell 2003). Klein et al. suggest that as the number of sources of uncertainty increase a firm will have growing difficulty in obtaining and processing information about changes in the environment and will find it challenging to formulate effective responses to these changes. Following the basic transaction-cost logic, channel members may choose to vertically integrate in order to protect transaction specific assets from opportunism under conditions of such environmental uncertainty (Williamson 1975; Rindfleisch and Heide 1997). However, increasing the level of vertical integration may not sufficiently protect channel members from opportunism in diverse channel environments, because desired exchange activities cannot be fully

specified and subsequent performance verification remains incomplete rendering hierarchical control at least partially ineffective (Kraft 1999).

Here, exchange parties may supplement vertical integration with relational exchange, because relational beliefs and relational norms may act as a more flexible control mechanism in the exchange (Joshi and Campbell 2003; Jap 1999; Uzzi 1997; Ring and Van de Ven 1992; Ouchi 1979). Flexibility is important under conditions of environmental diversity, because it requires less specific guidance of exchange behavior and gives exchange parties the opportunity to engage into activities that they anticipate will lead to the achievement of the desired exchange outcome (Joshi and Campbell 2003; Ouchi 1979). Thus, it supplements the ability of vertical integration to curb opportunistic tendencies in diverse environments, because it can tolerate unanticipated changes in the exchange environment and wider differences in styles of exchange behavior (Uzzi 1997; Ouchi 1979).

To summarize, all three perspectives offer different and partially disagreeing views on why vertically integrated channel members may increase the level of relational exchange in the dyad. Given that empirical support mainly supports the positive relationship between vertical integration and relational exchange, it remains unclear when exactly each mechanism is operating. Given that all three streams of thought agree that the level of vertical integration in the channel may have a positive effect on the level of relational exchange in the channel, I propose that:

H<sub>5</sub>: The greater the degree of vertical integration in the exchange, the greater the degree of relational exchange in the dyad.

Vertical Integration       $\longrightarrow$       Relational Exchange

## **Interdependence Magnitude as Antecedent of Relational Exchange**

Relational exchange has not only been advocated as means for curbing opportunism in marketing channels, but also as an efficient governance form to manage interdependence among channel members (e.g., Heide 1994; Ring and Van de Ven 1992; Oliver 1990; Dwyer, Schurr and Oh 1987; MacNeil 1980; Van de Ven 1976).<sup>42</sup>

Interdependence in marketing channels can emerge from complementary goals, resources, and switching costs among channel members (Emerson 1962; Ring and Van de Ven 1976). Research contends that interdependence in marketing channels needs to be viewed in terms of two distinct, but related aspects of interdependence magnitude and symmetry (e.g. Lusch and Brown 1996; Kumar, Scheer and Steenkamp 1995; Gundlach and Cadotte 1994; Buchanan 1992; Oliver 1990; Emerson 1962).<sup>43</sup> Despite some debate (see: Frazier 1999) and methodological advances (e.g., Kim and Hsieh 2003), agreement on the positive effect of interdependence magnitude on relational exchange appears to emerge. This positive relationship is based on the fundamental premise that channel members attempt to establish good relationships with firms that mediate channel outcomes.

Highly interdependent channel relationships in which both channel members mediate channel outcomes are likely to produce relational norms and beliefs because of common interest in maintaining a functional exchange (Frazier 1999; Lusch and Brown 1996; Kumar, Scheer and Steenkamp 1995; Gundlach and Cadotte 1994; Heide and John 1990; Dwyer, Schurr and Oh 1987). Here, channel members have the incentive to

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<sup>42</sup> Interdependence refers to situations in which firms engage in exchange relationships to obtain resources outside their control but necessary to their goal achievement (Gundlach and Cadotte 1994).

<sup>43</sup> Interdependence magnitude refers to the level of overall dependence in the relationship. Interdependence symmetry refers to the balance of dependence in the relationship (Kumar, Scheer, and Steenkamp 1995).

develop a good understanding of channel roles as well as high levels of trust in order to facilitate the joint exploitation of complementary resources (Jap 1999; Oliver 1990). Further, complementary goals in the channel help channel members to define channel objectives (Anderson and Weitz 1989) as well as to develop shared expectations of each channel member's role in the exchange (Lusch and Brown 1996). Finally, mutual, high switching costs facilitate the development of trust in the channel because they elevate the drawbacks of alternative exchange partners and promote relationship commitment (Morgan and Hunt 1994).

Consistent with this logic relational exchange can also be expected to develop, in symmetrical, moderately interdependent marketing channels, even though at a lower level. In contrast, a more powerful channel member in asymmetrical, moderately interdependent marketing channels may decide to use its power advantage to influence and extract concessions from the less powerful channel member (Gundlach, Achrol and Mentzer 1995; Lusch and Brown 1996). A high level of relational exchange in the channel, however, may promote voluntary restraint on the use of a power advantage (Beale and Dugdale 1975; Macaulay 1963; MacNeil 1981). First, research on the use of influence strategies in marketing channels suggests that when relational norms are present, a more powerful exchange partner is likely to voluntarily restrain its use of coercive influence in the exchange (Jap 2001) as well as to abstain from taking advantage of the power imbalance (Joshi and Arnold 1997). Second, some researchers suggest that if firms with power advantage believe in a long-term exchange with a less powerful exchange partner they will attempt to mold a strong and effective relationship rather than pressuring channel members to maximize self-interest (Kim 2000; Frazier 1999). Third,

the potentially negative effect of conflict on channel performance (Rosenbloom 1973) arising from power asymmetry in the channel (Kumar, Scheer and Steenkamp 1995) may be alleviated by relational exchange because it promotes a functional resolution (Dant and Schul 1992; Song, Xie and Dyer 2000). Therefore, in asymmetrical, moderately interdependent marketing channels the weaker exchange partner is likely to attempt to establish relational norms and beliefs with its more powerful counterpart.

However, as Lusch and Brown (1996) point out, the more powerful party is less likely to contribute to the relationship and the burden of relationship development is on the weaker party (Dwyer and Walker 1981). For this reason, the level of relational exchange in asymmetrical, moderately interdependent marketing channels is expected to be lower than in symmetrical, moderately interdependent channel relationships. Yet, a complete withdrawal of the more powerful channel member from the relationship building effort is not likely if interdependence is moderately high, because an engagement in relational exchange is likely to increase overall channel outcomes and thereby benefits the stronger party (Iyer and Villas-Boas 2002).

Finally, there appears to be agreement by most researchers that in channels with low levels of interdependence relational exchange is less likely to develop because neither party has much stake in the relationship (Lusch and Brown 1996). In such cases, the amount of attention and support each firm gives to the other is likely to be very low (Frazier 1999; Gundlach and Cadotte 1994), the low level of interdependence magnitude does not warrant the time and effort necessary to develop and maintain relational exchange (Anderson and Weitz 1989), and relational exchange is less relevant to the

functioning of these channels (Kumar, Scheer and Steenkamp 1995). Therefore (see Table V.2 for prior research findings):

H<sub>6</sub>: The greater the magnitude of interdependence between the exchange partners, the greater the degree of relational exchange in the exchange relationship.

Interdependence Magnitude      —————>      Relational Exchange

### **Interdependence Symmetry as Antecedent to Relational Exchange**

Relational exchange may not only be a function of the magnitude of interdependence, but also the symmetry of the power-dependence relationship (Lusch and Brown 1996; Kumar, Scheer and Steenkamp 1995; Gundlach and Cadotte 1994; Buchanan 1992; Oliver 1990; Dwyer, Schurr, and Oh 1987). High levels of symmetric dependence limits the “usable” power of the exchange parties (Thibaut and Kelley 1959; Gundlach and Cadotte 1994) and exchange partners are less likely to exploit any power advantage (e.g., the use of coercive influence strategies) (Anderson and Narus 1984; Frazier and Rody 1991; Dwyer and Oh 1987). High levels of symmetric dependence may also function as a mutual safeguard against opportunism, because the cost of opportunistic behavior is equally high for both parties (Williamson 1983, 1985). When opportunism is less likely to occur, exchange partners are more likely to trust each other (Anderson and Weitz 1989) and commit to the exchange relationship (Fein and Anderson 1997; Heide and John 1988). Less coercive influence may support a long-term orientation in the exchange, because exchange partners have less fear of exploitation (Oliver 1990). Further, high levels of symmetric interdependence support the development of relational norms, because symmetry establishes the foundation for mutuality and cooperation (Lusch and Brown 1996; Gundlach, Achrol and Mentzer 1995).

**Table V.2: Relationship between Interdependence Magnitude and Relational Exchange**

<b>Study</b>	<b>Conceptualization of Independent Variable</b>	<b>Conceptualization of Dependent Variable</b>	<b>Sample Size</b>	<b>Sampling Context</b>	<b>Effect Size</b>	<b>Type of Analysis</b>	<b>p-Value</b>
Lusch and Brown (1996)	Bilateral Dependence	Flexibility, Information Exchange, Solidarity	454	small wholesalers	.05	SEM	.05
Joshi and Stump (1999a)	Relative Power	Solidarity	184	OEM manufacturer	.25	OLS	.01
Heide (1994)	Replaceability (Supplier) x Replaceability (Buyer)	Flexibility	155	OEM manufacturer	.12	OLS	.01
Gruen, Summers, and Acito (2000)	Interdependence	Commitment (normative)	2545	Insurance	.18	SEM	.01
Kumar, Scheer, and Steenkamp (1995)	Interdependence	Commitment	417	car dealers	.12	OLS	.01
Jap and Ganesan (2001)	Interdependence (magnitude)	Commitment	1457	chemical products	.08	OLS	.01
Hibbard, Kumar, and Stern (2001)	Total Dependence	Trust, Commitment	699	consumer durables	.29	SEM	.01
Kumar, Scheer, and Steenkamp (1995)	Interdependence	Trust	417	car dealers	.13	OLS	.01
<b>Goal Compatibility</b>							
Song, Xie, and Dyer (2000)	Goal Congruity	Information Exchange, Solidarity	295	non-service firms (Japan)	.25	OLS	.04

**Table V.2 (cont.)**

<b>Study</b>	<b>Conceptualization of Independent Variable</b>	<b>Conceptualization of Dependent Variable</b>	<b>Sample Size</b>	<b>Sampling Context</b>	<b>Effect Size</b>	<b>Type of Analysis</b>	<b>p-Value</b>
Song, Xie, and Dyer (2000)	Goal Congruity	Information Exchange, Solidarity	126	non-service firms (Hong Kong)	.31	OLS	.06
Song, Xie, and Dyer (2000)	Goal Congruity	Information Exchange, Solidarity	300	non-service firms (USA)	.21	OLS	.05
Song, Xie, and Dyer (2000)	Goal Congruity	Information Exchange, Solidarity	247	non-service firms (UK)	.22	OLS	.05
Jap (1999)	Goal Congruity	Joint Problem Solving	220	heterogeneous, manufacturer (dyad)	.22	SEM	.05
Nicholson, Compeau, and Sethi (2001)	Similar Business Values	Trust	110	agricultural machinery	.27	SEM	.01
Smith and Barclay (1997)	Goal Congruity	Trust	105	computer industry (dyad)	.22	SEM	.05
Smith and Barclay (1997)	Strategic Horizon	Trust	105	computer industry (dyad)	.29	SEM	.05
Anderson and Weitz (1989)	Goal Congruity	Trust	681	Electronics	.48	3SLS	.01
<b>Complementary Resources</b>							
Jap (1999)	Complementary Capabilities	Joint Problem Solving	220	heterogeneous, manufacturer (dyad)	.56	SEM	.01
Doney and Cannon (1997)	Expertise	Trust	210	heterogeneous, manufacturer	.17	OLS	.01
<b>Switching Costs</b>							
Morgan and Hunt (1994)	Relationship Termination Costs	Commitment	204	Tire Dealers	.37	SEM	.01

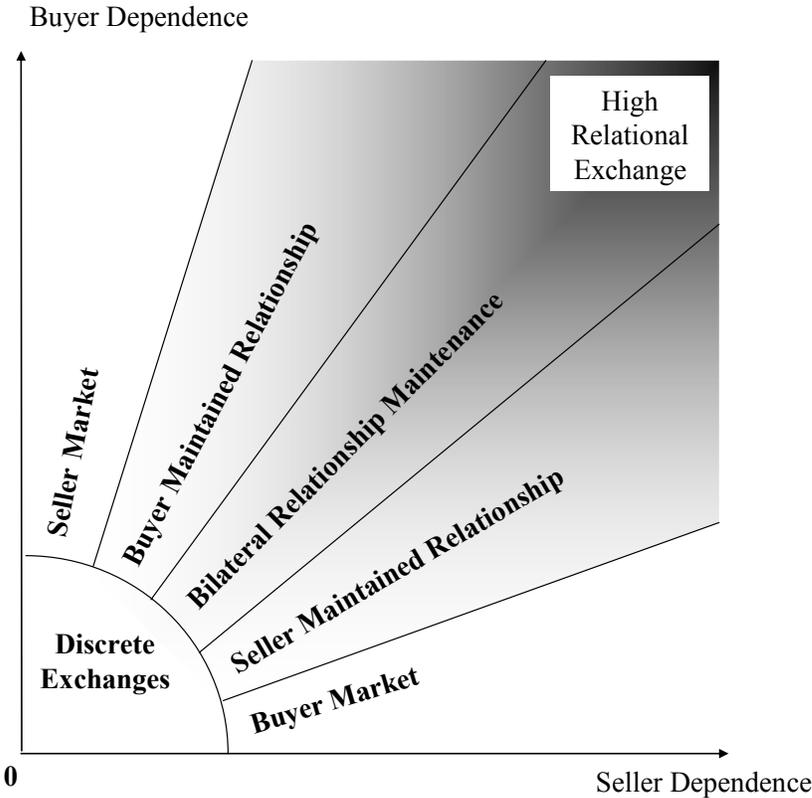
As interdependence becomes increasingly asymmetric, relational exchange may still occur. But in these situations, the initiation of relational exchange is likely to be driven by one party's desire to initiate and maintain relational exchange (Lusch and Brown 1996; Dwyer, Schurr, and Oh 1987). As described above, such one-sided investment in the relationship is likely to lead to lower levels of relational exchange, because the efforts of one party are not reciprocated at the same level by the other party (Dwyer and Walker 1981). However, an expectation of continued exchange (Frazier 1999; Frazier and Summers 1986; Ganesan 1993) and additional channel outcomes generated from engaging in relational exchange (Iyer and Villas-Boas 2002) may provide incentives for the more powerful exchange partner to contribute to the relationship building effort.

In cases where interdependence is highly asymmetric, relational exchange is unlikely to flourish. Under these conditions, exchange partners are likely to act rather selfishly and exploit their power advantage by pressuring the other firm (Heide 1994; Anderson and Weitz 1989, 1992; Anderson and Narus 1984). The fear of exploitation (e.g., coercive influence) in such heavily unbalanced channels may reduce the weaker exchange party's willingness and ability to establish relational beliefs such as trust and commitment (Morgan and Hunt 1994) and impede the development of normative control (Lusch and Brown 1996). The above discussion is depicted in Figure V.2. Table V.3 summarizes empirical findings relating to this argument. Therefore:

H<sub>7</sub>: The greater the degree to which interdependence between the exchange partners is asymmetric, the lower the degree of relational exchange in the exchange relationship.

Interdependence Asymmetry      —————>      Relational Exchange

**Figure V.2: The Effect of Interdependence Symmetry on Relational Exchange**  
Adapted from Dwyer, Schurr, and Oh (1987, p.21)



**Table V.3: The Moderating Effect of Interdependence Asymmetry**

<b>Study</b>	<b>Conceptualization of Independent Variable</b>	<b>Conceptualization of Dependent Variable</b>	<b>Sample Size</b>	<b>Sampling Context</b>	<b>Effect Size</b>	<b>Type of Analysis</b>	<b>P-Value</b>
Lusch and Brown (1996)	Dependence (wholesaler)	Flexibility, Information Exchange, Solidarity	454	small wholesalers	-.03	SEM	n.s.
Lusch and Brown (1996)	Dependence (supplier)	Flexibility, Information Exchange, Solidarity	454	small wholesalers	.02	SEM	n.s.
Lusch and Brown (1996)	Dependence (wholesaler)	Long-Term Orientation	454	small wholesalers	.16	SEM	.01
Lusch and Brown (1996)	Dependence (supplier)	Long-Term Orientation	454	small wholesalers	.05	SEM	n.s.
Ganesan (1994)	Dependence (Retailer)	Long-Term Orientation	124	Department stores	.42	SEM	.01
Ganesan (1994)	Dependence (Vendor)	Long-Term Orientation	124	Department stores	-.27	SEM	n.s.
Anderson and Weitz (1989)	Power Imbalance	Long-Term Orientation	681	Electronics	-.07	3SLS	.05
Jap and Ganesan (2000)	Interdependence (asymmetry)	Commitment	1457	chemical products	.11	OLS	.01
Joshi and Stump (1999b)	Dependence	Commitment	168	Purchasing Managers	.06	SEM	n.s.
Kumar, Scheer, and Steenkamp (1995)	Asymmetric Interdependence	Commitment	417	car dealers	-.07	OLS	.05
Hibbard, Kumar, and Stern (2001)	Relative Dependence (high = asymmetric)	Trust, Commitment	699	consumer durables	.15	SEM	.01
Nicholson, Compeau, and Sethi (2001)	Dependence	Trust	110	agricultural machinery	.00	SEM	n.s.
Nicholson, Compeau, and Sethi (2001)	Dependence	Trust	128	agricultural machinery	.00	SEM	n.s.

**Table V.3 (cont.)**

<b>Study</b>	<b>Conceptualization of Independent Variable</b>	<b>Conceptualization of Dependent Variable</b>	<b>Sample Size</b>	<b>Sampling Context</b>	<b>Effect Size</b>	<b>Type of Analysis</b>	<b>P-Value</b>
Kumar, Scheer, and Steenkamp (1995)	Asymmetric Interdependence	Trust		417 car dealers	-.14	OLS	.01
Anderson and Weitz (1989)	Power Imbalance	Trust		681 Electronics	-.05	3SLS	.05
<b>Goal Compatibility</b>							
Jap (2001)	Equal Payoff Valuation	Relationship Quality		138 R&D departments	-.06	OLS	n.s.
<b>Complementary Resources</b>							
Jap (2001)	Asymmetric Resources	Relationship Quality		138 R&D departments	-.22	OLS	.01
<b>Switching Costs</b>							
Heide (1994)	Replaceability (Supplier)	Flexibility		155 OEM manufacturer	-.56	OLS	.01
Heide (1994)	Replaceability (Buyer)	Flexibility		155 OEM manufacturer	-.30	OLS	.01

## **Outcomes of Governance Structures**

One of the key questions in this research is the link between channel governance and channel performance. In the following section, hypotheses will be developed that link relational exchange and vertical integration directly as well as indirectly – through their effect on channel opportunism – to channel performance.

### **Performance Outcomes of Relational Exchange**

Relational exchange has been suggested to influence channel performance by fostering relational behavior in the channel (Lush and Brown 1996; Jap 1999; Hibbard, Kumar, Stern 2001; Song, Xie, and Dyer 2000). In particular, relational behavior enhances channel performance because channel members continually cooperate to exploit synergies and idiosyncratic opportunities among channel members (Jap 1999). Further, relational behavior helps channel members to anticipate and respond to each others' needs, adapt more rapidly to market demands, and integrate their disparate resources to solve channel problems leading to higher levels of channel performance (Lusch and Brown 1996).

Also, research suggests that relational beliefs and norms contribute to increasing channel performance (e.g., Sarkar, Echambadi, Cavusgil and Aulakh 2001; Lee, Sirgy, Brown and Bird 2004; Siguaw, Simpson and Baker 1998; Cannon, Achrol and Gundlach 2000; Bello, Chelariu and Zhang 2003; Poppo and Zenger 2002; Ferguson, Paulin, Bergeron 2005). Here, relational beliefs are likely to reduce friction and facilitate coordination in the channel because channel members are likely to work more diligently with a partner they believe is credible and benevolent and are compelled to reciprocate favors (Lee, Sirgy, Brown and Bird 2004; Siguaw, Simpson and Baker 1998). Further,

long-term, committed relationships may reduce the search, start-up and learning costs of frequently dealing with new channel members, require simpler monitoring systems, and promote cooperation in the channel (Sarkar, Echambadi, Cavusgil and Aulakh 2001; Gundlach, Achrol and Mentzer 1995). Cooperation, such as proactive information sharing and flexible responses to changing market conditions, reduces operating costs in the channel (Cannon and Homberg 2001).

Relational norms have been proposed to serve as key mechanism to coordinate channel tasks (Weitz and Jap 1995; Nevin 1995). In particular, relational norms emphasize proactive information exchange, which improves responsiveness to changing partner or market requirements and thereby enhances market orientation of the channel (Bello, Chelariu and Zhang 2003). Expectations of flexibility facilitate adjustments in channel activities and the norm of solidarity helps overcoming potential hesitations in making such adjustments (Cannon, Achrol and Gundlach 2000; Heide and John 1992). Taken together, the different aspects of relational exchange are likely to reduce coordination costs in the channel and help channel members attain desired channel outcomes by meeting market demands. Therefore (see Table V.2 for prior research findings):

H<sub>8</sub>: The higher the degree of relational exchange, the higher the performance of the exchange relationship.



**Table V.4: Relationship between Relational Exchange and Exchange Performance**

<b>Study</b>	<b>Conceptualization of Independent Variable</b>	<b>Conceptualization of Dependent Variable</b>	<b>Sample Size</b>	<b>Sampling Context</b>	<b>Effect Size</b>	<b>Type of Analysis</b>	<b>P-Value</b>
Cannon, Achrol, and Gundlach (2000)	Flexibility, Solidarity	Product Quality, Delivery Performance, Sales Support, Value Received	201	National Association of Purchasing Management	.61	OLS	.01
Cannon, Achrol, and Gundlach (2000)	Flexibility, Solidarity	Product Quality, Delivery Performance, Sales Support, Value Received	199	National Association of Purchasing Management	.65	OLS	.01
Jap (1999)	Joint Problem Solving	Profit Performance	220	heterogeneous, manufacturer (dyad)	.15	SEM	.05
Siguaw, Simpson, and Baker (1998)	Joint Problem Solving, Solidarity	Cash Flow, ROE, Gross Profit Margin, Net Profit from Operations, Profit to Sales, ROI, Growth	179	heterogeneous, distributor (dyad)	-.89	SEM	.01
Lusch and Brown (1996)	Flexibility, Information Exchange, Solidarity	Sales Growth, Profit Growth, Profitability, Productivity, Cash Flow	454	small wholesalers	-.03	SEM	n.s.
Cannon, Achrol, and Gundlach (2000)	Cooperative Norms	Product Quality, Delivery Performance, sales Support, Total Value Received	396	National Association of Purchasing Management	.43	OLS	.01
Bello, Chelariu, and Zhang (2003)	Solidarity, Information Exchange, Flexibility	Sales, Profit, Growth	290	export firms	.49	SEM	.01
Ferguson, Paulin, and Bergeron (2005)	Information Exchange, Solidarity, Flexibility, Conflict Harmonization	Purchase Intention, Satisfaction, Service Quality, Positive Word-of-Mouth	160	commercial banks(client)	.68	SEM	.05

**Table V.4 (cont.)**

Cannon and Homburg (2001)	Supplier Flexibility	Operation Costs	478 chemical, mechanical, and electrical industries	-.39	SEM	.01
Cannon and Homburg (2001)	Supplier Flexibility	Acquisition Costs	478 chemical, mechanical, and electrical industries	-.21	SEM	.05
Song, Xie, and Dyer (2000)	Commitment, Reciprocity, Information Exchange	ROI	247 UK mou-service firms	.64	SUR	.01
Song, Xie, and Dyer (2000)	Commitment, Reciprocity, Information Exchange	ROA	247 UK mou-service firms	.51	SUR	.01
Poppo and Zenger (2002)	Information Exchange, Trust, Dependence, Cooperation	Satisfaction with Exchange Performance	285 IT services	.24	3SLS	.01
Brown, Lusch, and Nicholson (1995)	Retailer Instrumental Commitment	Supplier Demand Stimulation, Supplier Dealer Support	203 farm equipment dealers	-.34	SEM	n.s.
Brown, Lusch, and Nicholson (1995)	Retailer Normative Commitment	Supplier Demand Stimulation, Supplier Dealer Support	203 farm equipment dealers	.39	SEM	.05
Sarkar, Echambadi, Cavusgil, and Aulakh (2001)	Commitment	Strategic Performance	68 construction contracting industry	.30	PLS	.30

**Table V.4 (cont.)**

Hibbard, Kumar, and Stern (2001)	Trust, Affective Commitment	Contribution to sales, Contribution to profits, Dealer Competence, Dealer Compliance, Dealer Adaptation, Contribution to Growth, Customer Satisfaction	628 Fortune 500 consumer durables manufacturers	.09	SEM	.01
Lee, Sirgy, Brown, and Bird (2004)	Mutualistic Benevolence	Cost, Savings, Profit, Financial Performance	201 National Association of Purchasing Managers	.34	SEM	.05
Siguaw, Simpson, and Baker (1998)	Trust	Cash Flow, ROE, Gross Profit Margin, Net Profit from Operations, Profit to Sales, ROI, Growth	179 heterogeneous, distributor (dyad)	.64	SEM	.05
Sarkar, Echambadi, Cavusgil, and Aulakh (2001)	Trust	Project Performance	68 construction contracting industry	.17	PLS	.05
Sarkar, Echambadi, Cavusgil, and Aulakh (2001)	Trust	Strategic Performance	68 construction contracting industry	.39	PLS	.05

## **Performance Outcomes of Vertical Integration**

Organizational researchers have offered a variety of models for explaining the influence of vertical integration on channel performance. Those models that focus on assigning ownership to firms who are also channel members – in contrast to outside owners who do not participate in the channel – traditionally focus on cost savings that would otherwise attend exchanges with channel members if they were managed through more transactional forms of governance (Hansmann 1988). Vertical integration, however, also leads to administrative costs that arise from monitoring channel members and directing their behavior (Williamson 1996, p. 66). Therefore, cost savings that are due to vertical integration need to outweigh additional administrative costs in vertically integrated channels in order for increased vertical integration to enhance overall channel performance (Rindfleisch and Heide 1997; Williamson 1975). Such overall cost savings have been found to originate from at least three sources (Etgar 1976).

First, vertical integration increases channel performance because channel members are able to react better to changing business environments (Ghosh and John 1999; Rindfleisch and Heide 1997; Wernerfelt 1997; Williamson 1996, p. 104). When circumstances require channel members to change previously planned courses of action, the costs of adapting to new market demands in vertically integrated channels are reduced because less documentation is required (e.g., new contracts), more fine grained incentives can be used to encourage adaptation and rapidly resolve potential conflict due to changes, and information is readily accessible that allows for optimal restructuring of channel activities (Williamson 1996). In non-integrated exchanges there may be an opportunity cost of value not generated by failure to adapt, as well as costs of communication and

negotiation over the revision of existing agreements (esp. when the obsolescence of previous investments is high; Ghosh and John 1999). Vertical integration also reduces the costs and risks associated with a potentially frequent change of business partners in dynamic business environments, because vertically integrated channels are not spending resources on partner selection and negotiating new agreements (Etgar 1976).

Second, vertical integration may enhance channel performance because it facilitates the synergistic development and exploitation of complementary resources in cases in which such resources are embedded in channel member firms and have limited transferability across firm boundaries (Madhok 1997). Vertical integration facilitates this process because a firm's monitoring ability and fine grained incentive system allows better access to such resources that are otherwise costly to discern or display for others (Williamson 1974, p. 31). Channel members gaining ready access to such embedded resources may be able to improve channel outcomes or achieve those outcomes more easily than non-integrated channel members thereby attaining a performance advantage.

Third, vertical integration has been suggested to increase channel performance if channel members are able to realize economies of scale (e.g., Kraft 1999; Ghosh and John 1999; Rindfleisch and Heide 1997; Williamson 1989). Assuming economies of scale exist in channel activities, larger competitors may be able to use vertical integration more efficiently than smaller channel members because the marginal costs of standardized administrative structures and supervision systems decreases as channel volume increases (e.g., Kraft 1999; Rindfleisch and Heide 1997). Furthermore, if vertical integration increases channel volume (e.g., through the acquisition of additional retail

outlets or increasing sales force size), increasing the level of vertical integration will increase channel performance.

A related issue is that of economies of scope such as technological indivisibilities. Here, sequential activities performed by two independent channel members utilize jointly the same inputs (e.g., iron and steel production; Etgar 1976). Under these conditions, claiming an appropriate share of channel outcomes may become a problem that reduces channel members' willingness to engage in value creating activities because it is difficult to monitor exactly the contribution of each member (Ghosh and John 1999). Vertical integration may overcome such tendency, because common ownership of technologically linked activities allows channel members to direct the use of these technological assets rather than encountering potentially opportunistic bargaining over channel outcomes (Etgar 1976).

In sum, vertical integration is likely to increase exchange performance, because of more effective and efficient adaptation to changing channel environments, enhanced resource management capabilities, and through the potential realization of economies of scale and scope. Therefore:

H<sub>9</sub>: The higher the degree of vertical integration, the higher the performance of the exchange relationship.

Vertical Integration                       $\longrightarrow$                       Exchange Performance

### **Opportunism in Vertical Integrated Exchanges**

A fundamental notion of TCA is that vertical integration provides superior safeguards from opportunistic behavior in the exchange (e.g., Williamson 1975, 1985; Rindfleisch and Heide 1997). Vertical integration curbs opportunism, because it reduces the rewards of opportunism (even if undetected) or increases the retributions if detected

(e.g., Anderson 1988; John and Weitz 1988). Under vertical integration, behavior-based incentives help to reduce of opportunistic behavior, because exchange parties may not be able to extract gains from opportunistic behavior (Eisenhardt 1989). Further, the enhanced ability to monitor and direct exchange behavior supports the detection of opportunistic behavior (Anderson 1988; John and Weitz 1988; Williamson 1985).

Recent research, however, has found evidence that vertical integration may not always reduce exchange partner opportunism (e.g., Brown, Dev and Lee 2000). Indeed, as Brown, Dev and Lee (2000) suggest, the mechanisms of vertical integration may provoke opportunistic behaviors in reaction to restrictions placed on the exchange partner's behaviors (see also: Churchill, Ford and Walker 1985). This reactance may be elevated in cases in which these restrictions are inconsistent with the exchange partner's interests or violate the exchange partner's expectations (Wathne and Heide 2000). For example, a firm may require adaptations from an exchange partner that are perceived by the target as not optimal. Further, mechanisms of vertical integration such as monitoring may require tasks that have no immediate benefit to the target and may be perceived as unnecessarily cumbersome or intrusive.

Trading off these two effects of vertical integration on partner opportunism, it appears that the total effect depends on the design of the monitoring and reward system used. For example, as Wathne and Heide (2000) point out, if the punishment for non-compliance does not exceeded its rewards, exchange parties may be better off by violating the agreement (Klein 1996). Also, monitoring systems need to be accepted as legitimate source of information for the firm, rather than a burden to the exchange partner (John 1984; Murry and Heide 1998). It can be argued that this fine-tuning of the incentive

and control mechanism depends on the experience of the firm in dealing with this or similar exchange partners and with the immediate, external circumstances surrounding the exchange (Wathne and Heide 2000). Such experience should enable the firm to set effective incentives and efficiently monitor partner compliance. Therefore, assuming such experience is available,

H<sub>10</sub>: The higher the degree of vertical integration, the lower the degree of opportunism in the exchange relationship.

Vertical Integration                      —————>                      Opportunism

### **Opportunism in Relational Exchanges**

Relational exchange has also been suggested to safeguard exchange parties from potential opportunistic behavior in the exchange (e.g., Brown, Dev, and Lee 2000; Joshi and Stump 1999). Relational norms may reduce opportunistic behavior in the exchange relationship, because they proscribe behaviors that might jeopardize the exchange relationship (Heide and John 1992). Exchange parties that adhere to relational norms are likely to refrain from opportunism, because it violates the expectations established by relational norms (Brown, Dev, and Lee 2000). Relational beliefs may also reduce the likelihood of opportunistic behavior, because they decrease temptation to behave opportunistically. This temptation is reduced, because exchange partners have less fear of being exploited themselves (e.g., trust; Smith and Barclay 1997) or perceive opportunism to hurt future benefits from the exchange relationship (e.g., long-term orientation; Joshi and Stump 1999; Ganesan 1994; Heide and John 1990). Therefore:

H<sub>11</sub>: The higher the degree of relational exchange, the lower the degree of opportunism in the exchange relationship.

Relational Exchange                      —————>                      Opportunism

## **Opportunism Influences Exchange Performance**

One of the central premises of transaction cost economics is that when opportunism is present, it has a negative impact on channel performance (Williamson 1975; Rindfleisch and Heide 1997). As Wathne and Heide (2000) point out, opportunism has the potential to both restrict value creation as well as to affect its fair distribution among channel members (Ghosch and John 1999) in at least four ways. First, customer satisfaction may decline because opportunistic channel members may shirk or evade their obligation to meet customer expectations (e.g., service quality; Spreng, MacKenzie and Olshavsky 1996). In the short run, the opportunistic channel member may be able to increase its benefits from the exchange due to potential cost savings (Wathne and Heide 2000). In the long run, however, channel performance is likely to suffer as customers turn away (Anderson, Fornell and Lehman 1994).

Second, channel products and services may become less competitive because opportunistic channel members may refuse to adapt to changing market conditions (Williamson 1985; Hunt and Morgan 1995). Here, the opportunistic party avoids potential costs of making adaptations, such as retiring outdated production facilities or investing in new channel technology (Dahlstrom and Nygaard 1999). However, channel members are likely to forgo revenues from appropriate adaptations and may fail to meet channel goals due to competitive disadvantage (Wathne and Heide 2000; Hunt and Morgan 1995).

Third, the cost of conducting channel activities may increase because opportunistic channel members engage in activities that were explicitly or implicitly prohibited (Wathne and Heide 2000). In order to detect such behavior and recover



## **Summary**

This chapter developed a structural model and presented arguments supporting the hypothesized relationships among the study constructs. Using Transaction Cost Theory, the model proposes that relational exchange emerges as a consequence of safeguarding need in the dyad – a link that is partially mediated by the level of vertical integration in the dyad. Further, the model proposes that the nature of interdependence (magnitude and symmetry) affects the level of relational exchange in the exchange. Finally, the model predicts that relational exchange has a positive influence on exchange performance, which is partially mediated by its influence on partner opportunism. Chapter Six will describe the methodology used to conduct the empirical test of this proposed model in the automotive tire replacement industry.

## **CHAPTER VI**

### **METHODOLOGY**

This chapter outlines procedures employed for the empirical test of the research model presented in Chapter Five. Focus of this chapter is sampling and data collection. The development of the scales is discussed in Chapter Seven (operationalizations and scale development). Analysis procedures and results from this study are presented in Chapter Eight (structural model test).

#### **The Study**

The theoretical model presented in the previous chapter was examined at the retail level of the channel using mail-survey methodology (e.g., Dillman 1978). The sampling design was cross-sectional, with measures tapping the retailer's perception of their dealership's exchange relationship with its major supplier. Additional measures collected descriptive information about the respondent and the retail firm.

Unfortunately, this survey design is not ideal for examining exchange processes. An ideal study design to examine exchange processes would be longitudinal data collection involving a panel of respondents. However, the cross-sectional design employed in this study is sufficient for exploring the impact of perceptions of past exchange processes on exchange outcomes. The study examines established supplier-dealer relationships. The governance structure (relational and non-relational) formed over time in these relationships is expected to impact performance in these exchanges as outlined in the previous chapter. Alternative approaches, such as laboratory simulations used in previous research (e.g., Gundlach and Cadotte 1994), were deemed insufficient to

produce a realistic scenario due to a limited number of interactions among potential participants. Further, the simultaneous examination of all research variables in the research model would be difficult to replicate in an experimental research design. Thus, even though fraught with its own problems, survey methodology was chosen to analyze the research model.

### **The Sample**

This section provides descriptive information about the sampling population, sampling frame, selection of respondents, sample characteristics, and a discussion of sample representativeness.

#### **Sampling Population**

The sampling context chosen in this study was the exchange dyad between automobile replacement tire dealers and their major automobile replacement tire supplier. This sampling population in this exchange dyad can be described using the U.S. Census Bureau definition for the NAICS group 441320 = 'tire dealers' as "establishments primarily engaged in retailing new and/or used tires and tubes or retailing new tires in combination with automotive repair services." According to the most recent (2002) Economic Census, 'tire dealers' are a significant industry in sales (about \$ 19.7 billion), establishments (17,288), and employees (142,644).

In addition to being a significant industry in sales, the automotive tire replacement industry is particularly appropriate for this study because of the diversity in channel configurations used in this industry. Information from industry studies (Tire Review 1999-2000 Industry Profile, Modern Tire Dealer 2002 Automotive Service Survey) suggests that about 72% of automotive replacement tires are sold by independent dealers,

about 18% are sold by chains, and 8.5% are sold by vertically integrated stores. In addition, tire manufacturers utilize a multi-channel strategy in which about 48% of replacement tires are distributed in a 3-stage channel involving a wholesaler. 34% of replacement tires are distributed in a 2-stage channel. Exploratory interviews with tire dealers suggested that a mix of tire sources appeared to be the norm for most independent tire dealers.

From a measurement perspective, the automotive tire replacement channel was chosen as sampling context for this research study on boundary conditions of relational exchange because it was likely to produce a sample of exchange relationships that sufficiently varies on the constructs in the research model. Here, an ideal sample would have a full range of variance on all research variables. Insufficient range in any research variable reduces the validity of the study by introducing sampling bias.

This sampling context that had been used in prior research to research relationship structure in marketing channel relationships (e.g., Boyle, Dwyer, Robicheaux, and Simpson 1992; Morgan and Hunt 1994) and was likely to vary sufficiently on key research variables:

Vertical Integration. The industry structure for automobile replacement tire dealers is such that dealers are either (Boyle, Dwyer, Robicheaux, and Simpson 1992):

- Wholly owned by a manufacturer
- Partially owned by a manufacturer
- Wholly owned by a wholesale supplier or outlet
- Partially owned by a wholesale supplier or outlet
- Franchised by a manufacturer

- Franchised by a wholesale supplier or outlet
- Sells different brands, but its identity and loyalty are tied primarily to one supplier's brand
- Sells multiple brands, and its identity and loyalty are not tied to any one brand.

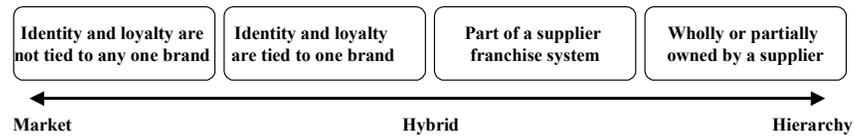
These alternative governance modes can be arranged along the market-hierarchy continuum (see Figure VI.1) and appear to capture the alternative exchange structures of markets, hybrids, and hierarchies.

Interdependence. In order to research the effects of interdependence on relational exchange it is necessary to have a sample that is not systematically dependent in one direction of the dyad. If such systematic dependence exists in the sampling frame, the observed effects of asymmetry may be due to factors other than asymmetry such as the type of exchange party. For example, if retailers in the sampling frame are systematically more dependent on the supplier and only sometimes mutually dependent, then the observed effects of asymmetry may be due to asymmetry or the type of exchange partner that experiences the asymmetry (e.g., all retailers or all manufacturers). Uncovering the true source of that asymmetry may be impossible.

The sampling context of automobile replacement tire dealers appears to vary sufficiently in respect to interdependence. First, complementary goals<sup>44</sup> can lead to asymmetry in both directions of the dyad, because both exchange parties may have the ability to help the other achieve its objectives. For example, an automobile replacement

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<sup>44</sup> Complementary Goals are defined as the degree to which exchange parties goals are compatible and individual goal pursuit positively influences the other party's goal achievement. Supplier complementary goals refer to situations in which the supplier pursues goals that positively influence the dealer's goal achievement. Dealer complementary goals refer to situations in which the dealer pursues goals that positively influence the supplier's goal achievement.



**Figure VI.1: Degrees of Vertical Integration in the Sampling Frame  
Based upon Boyle, Dwyer, Robicheaux, and Simpson (1992)**

tire dealer may influence a supplier's delivery schedule because of the ability to mediate the supplier's goal to increase sales of a particular brand. Vice versa, the supplier may influence the retailer's goal to sell a particular brand by varying the availability of this brand. In the sample, the difference between supplier and dealer complementary goals (supplier complementary goals minus dealer complementary) ranged from -5.25 to 3.92 ( $M = -.83$ ,  $SD = 1.28$ ) suggesting that, at average, dealers support supplier goals slightly more than suppliers support dealer goals.

Second, complementary resources<sup>45</sup> can lead to dependence asymmetry in both directions of the dyad, because both parties may have an internal need for resources provided by the exchange partner. For example, automobile replacement tire dealer may be in the need for highly demanded products (e.g., Michelin tires), whereas the wholesaler is dependent on the customer-contacts provided by the retailer. In the sample, the difference between supplier and dealer complementary resources (supplier complementary resources minus dealer complementary resources) ranged from -6.00 to 3.60 ( $M = -.30$ ,  $SD = 1.49$ ) suggesting that dealers offer slightly more complementary resources than suppliers do.

Third, costs of switching<sup>46</sup> may exist at different levels on both sides of the dyad. Here, the automobile replacement tire dealer may have build customer demand for a

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<sup>45</sup> Complementary resources are those resources that can be used by exchange parties to eliminate deficiencies in each other's portfolio of resources and, hence, enhance each other's ability to achieve business goals by supplying distinct capabilities, knowledge, and other entities (Lambe, Spekman, and Hunt 2002). Supplier complementary resources refer to situations in which the supplier's resources can be used by the dealer to eliminate deficiencies in the dealer's portfolio of resources. Dealer complementary resources refer to situations in which the dealer's resources can be used by the supplier to eliminate deficiencies in the supplier's portfolio of resources.

<sup>46</sup> Switching costs refer to an exchange partner's perceived costs of changing from the existing exchange partner to a new partner. Thus, dealer switching costs refer to the dealer's costs of changing from the existing supplier to a new partner. Vice versa, supplier switching costs refer to the supplier's costs of changing from the existing dealer to a new partner.

particular brand or might have invested in an inventory system that corresponds to that of the wholesaler or manufacturer. Vice versa, the wholesaler or manufacturer may have invested into personnel and training to facilitate the exchange with the individual automobile replacement tire dealer. In the sample, switching costs (difference between supplier and dealer switching costs) varied from -4.89 to 6.00 ( $M = -.90$ ,  $SD = 1.79$ ) in the sample, suggesting that dealers were in a slightly better position to switch their supplier than suppliers are in switching their dealers.

In summary, it appears that the sampling context of automobile replacement tire dealers yields sufficient variance on the interdependence variables (goal complementarity, resource complementarity, and switching costs). In the sample, all interdependence variables (sum of all dealer dependence variables minus supplier dependence variables) ranged from -3.11 to 2.36 and the overall mean was biased slightly in the dealer's favor ( $M = -.08$ , average  $SD = 1.52$ ). Furthermore, interdependence asymmetry was found to go in the direction of either exchange party.

1. Safeguarding. The research model (see Chapter V) includes two situations in which exchange parties may be in the need for safeguarding. Both are based on the existence of transaction specific investments<sup>47</sup> in the exchange relationship. As pointed out for switching costs, such transaction specific investments may exist on both sides of the exchange dyad. However, a need for safeguarding arises when such transaction specific investments exist under conditions of behavioral and/or environmental uncertainty.<sup>48</sup>

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<sup>47</sup> Asset specificity refers to assets that cannot be redeployed without sacrifice of productive value if contracts should be interrupted or prematurely terminated (Williamson 1985).

<sup>48</sup> Behavioral uncertainty was defined as the degree of difficulty associated with assessing the performance of transaction partners (Rindfleisch and Heide 1997). Here, supplier behavioral uncertainty refers to the

In the sampling context of automobile replacement tire dealers both types of uncertainty might arise. First, behavioral uncertainty may exist for the behavior of the automobile replacement tire dealer, because the wholesaler or manufacturer may not be able to observe the dealer's selling effort. In particular, it is difficult to determine whether changes in sales are due to the dealer's effort in selling the manufacturer's brand or due to changes in demand by his customers. In the sample, supplier behavioral uncertainty varied from 1 to 7 on a seven-point scale with a mean of 5.08 (SD = 1.39).

Second, environmental uncertainty may exist for the demand of the wholesaler or manufacturer's brand. Such unanticipated changes in circumstances surrounding and exchange may arise in the domain of the sampling context from competitive uncertainty. That is, the entry or exit of competitors in the retailer's market may cause changes in demand in the tire retail market make it hard to specify the tasks that must be performed, in what manner, and at what level. In the sample, dealer environmental uncertainty varied from 1 to 7 on a seven-point scale with a mean of 3.55 (SD = 1.17).

In summary, it appears that the sampling context of automobile replacement tire dealers yields sufficient variance on the need for safeguarding variable (comprised by asset specificity under conditions of behavioral and environmental uncertainty) which was supported in the sample data. Finally, there appears to be no outside institution that may influence the need for safeguarding, such as industry audits or legislature.

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supplier's difficulty in assessing the performance of the dealer. Environmental uncertainty refers to unanticipated changes in circumstances surrounding an exchange (Noordewier, John, and Nevin 1990). Here, dealer environmental uncertainty refers to the unanticipated changes in the circumstances surrounding the exchange between the supplier and dealer as perceived by the dealer.

2. Outcome uncertainty. As described above, outcome uncertainty emerges if participants not always fully and accurately understand the nature of the interdependent relationship. That is, exchange parties are unable to use either behavior or output measurement, thus reducing the ability to assess performance. Here, the sampling context of automobile replacement tire dealers may not yield much variance, because it appears that the process of selling tires is well understood. For example, there appears to be sufficient comprehension of the sales and service task of automobile tire replacement to develop a business system or a business format that can be franchised.

Overall, the sampling context of automobile replacement tire dealers appears to provide a sufficient range on the research variables that constitute the boundary conditions of relational exchange. However, the level of outcome uncertainty seems to be systematically low and therefore the statistical conclusion validity for this variable might be impeded.

### **Generalizability to Other Industries**

Although the use of a single industry for testing the research model may limit external validity of the results, the focus of this study was on internal validity of the research model. Here, the single-industry approach provided a homogeneous sampling environment that helped to control for extraneous influences that may influence the research results. Such extraneous variance - the degree to which focal research constructs vary across industries - is held constant within the industry. Despite the limited generalizability of the findings to other marketing channel contexts, using this sampling context had the additional advantage that this sampling context was used to study similar

research variables in previous research (e.g., Morgan and Hunt 1994). This allows for the extension of previous findings by ruling out the possibility that the sampling context may act as alternative explanation.

### **Key Informant Methodology**

The discussion of the unit of analysis for this research concluded that it is desirable to study the exchange dyad at the level of organizations or organizational subunits, rather than individuals. The measurement of exchange characteristics at the organizational level requires research methods different from those used to study characteristics of individuals (Phillips 1981). The method typically employed in research on marketing channel exchange relationships is a key informant method.

Key informant methodology relies on responses of a single informant to report on the organizational properties of interest (Phillips 1981). Here, it is important for tests of reliability and validity of informant reports that the set of informants in the study constitute an appropriate sample (Phillips 1981). Phillips (1981) points out two factors that support and informant's ability to report on the organization of interest:

- Participation in strategic marketing decisions – decisions relating to elements of the marketing mix, such as negotiations with major suppliers; and
- Participation in relevant strategic corporate policy decisions – decisions relating to the organization, such as deciding upon the extent of vertical integration.

Applying these criteria to the current study suggests that it is important to select informants that are knowledgeable about the parties in the exchange and are actively involved in the exchange relationship (e.g., Heide and Miner 1992). Although informants that do not actively participate in decisions still may have good knowledge about the area

of inquiry, participation in decision-making appears to be a “sufficient condition for establishing the qualification of the informant” (Phillips 1981, p. 398). Moreover, one can argue that the further a respondent is removed from the actual decision, the more difficult the informant’s task may be. Here, respondents may have to increasingly rely on inferences to respond and, as Brown and Lusch (1992) suggest, increasing difficulty in the reporting task may lead to less willingness or less ability to respond. Also, multiple informants may disagree because they hold different organizational positions and thus different perspectives on the same organizational phenomenon (Kumar, Stern, and Anderson 1993; Brown and Lusch 1992). Thus, it is important to select informants that (3) hold comparable organizational positions within each firm and in relation to the exchange and (4) are not too far removed from the decisions of interest.

Finally, Menon, Bickart, Sudman, and Blair (1995) suggest that informants’ ability to report on an exchange dyad increases with the frequency of the focal events increases. Focal event in the present context refers to interactions between the exchange partners including transactions and communication. Similarly, Brown and Lusch (1992, p. 54) suggest that what they refer to as “uncertainty principle” can taint a respondent’s perception of the exchange dyad. The uncertainty principle refers to a situation in which the respondent is involved in and experiences the outcome of changes in the exchange structure (e.g., power structure). This involvement may highlight the respondent’s perception of the alteration and, thus, reduce the reliability of the measurement. One can argue that if the respondent is involved in multiple changes, the respondent has multiple points of reference, which may reduce the interaction between measurement and exchange structure. Therefore, it is important to select informants that are (5) involved in

continuing interaction between exchange partners and (6) have adequate experience with the exchange partner.

In summary, the above discussion of the appropriate experimental and observational unit of analysis for this research reveals that (1) informants from one side of the exchange-dyad are sufficient to report on the exchange structure of the dyad, and (2) firm-level key informants are desirable as observational units.

The limited size of most automotive tire dealerships restricts the upstream contact and thereby participation in the exchange dyad to a limited number of firm members. In this study the owner or general manager is chosen as key informant for two reasons. First, the primary liaison between the dealership and upstream channel members is typically the owner or his general manager. Second, the owner or general manager is the primary decision maker in the dealer organization and is likely be informed about the research variables of interest. Further, previous research in the context of the automotive tire replacement channel has relied on the owner or manager of the retail outlet as key informant (Boyle, Dwyer, Robicheaux, and Simpson 1992; Morgan and Hunt 1994).

### **Sample Identification**

The names and contact information of owners or managers of replacement tire dealers were obtained from Modern Tire Dealer, one of two major trade magazines in the tire industry. Subscription to the magazine is free for tire dealers and according to the editor of Modern Tire Dealer the subscriber base approximates the entire population of tire dealers in the continental US. The mailing list obtained from Modern Tire Dealer included names and addresses of the principal owner or manager. The total number of retailers on this mailing list at the time of sampling was about 16,500 and a total of 5,150

names were randomly selected from this list by Modern Tire Dealer. This mailing list was used for pre-testing and for primary data collection.

### **The Survey Instrument**

The physical form of the survey used in data collection is described in this section. Operational definitions and scale development are explained in detail in Chapter VII. A copy of the final survey is found in Appendix A.

The survey included 212 Likert-type items aimed at measuring 24 constructs. The survey also included 36 questions to tap respondent and dealership information demographics. The survey was designed according to Dillman's (1978) Total Design Method. The finished format was a folded and saddle-stitched booklet measuring 5.50 x 8.5 inches.

The cover page of the questionnaire booklet was titled "National Survey of Tire Retailers." This title is identical with the title used by Morgan and Hunt (1994) and was used to create a perception of high credibility of the study due to its clarity and brevity (Dillman 1978). Further, the cover page featured the official Virginia Tech logo and the logo of Modern Tire Dealer, a trade magazine with brand recognition that each respondent receives on a regular basis. Both were intended to lend credibility to the study and increase respondent involvement.

The back cover included a standard business reply print (permit no. 10) and instructions to tape the survey shut after completion. Respondents were instructed to "tape survey shut at bottom so that return address is showing, and place in the mail. Postage is prepaid." Further, each survey had an individual barcode printed on its back cover that identifies the respondent.

The questionnaire was mailed in a #9 envelope with the standard letterhead imprint of the Department of Marketing at Virginia Tech. Print labels were used to address each envelope and matched with the corresponding questionnaire. The cover letter (see Appendix A) was printed on the first page of the survey booklet. It was addressed to the owner or general manager and provided a rationale for participating in the study. The letter assured confidentiality of the responses and offered a summary of the results in return for participation.

### **Data Collection Procedures**

The following section outlines data collection procedures for pretest, primary, and nonrespondent data.

#### **Pretest Data Collection**

Four separate pretests were employed to accomplish several goals: qualification of the research context, scale development, construct validity, questionnaire format, and response rate estimation.

#### **Exploratory Fieldwork**

The study began with exploratory field work soliciting the assistance of local tire dealerships and distributors. Five in-depth on-site interviews with managers or owners of tire dealers with different levels of vertical integration were used to explore the issues of this research in the context of the tire dealer – tire supplier relationship. Further, three in-depth on-site interviews with representatives or managers of tire distributors were conducted. These interviews provided information needed to evaluate the context of automobile tire replacement channel as feasible research context and gather information necessary to develop meaningful construct measures.

### **Pretest of Measure Substantive Validity**

To pretest the substantive validity of all relational exchange measures used in this study the pretest methodology proposed by Anderson and Gerbing (1991) for predicting the performance of measures was used. This pretest, employing an item-sort task, draws on the concept of substantive validity and generates a substantive-validity coefficient to predict measure performance. The substantive validity of a measure can be defined as “the extent to which that measure is judged to be reflective of, or theoretically linked to, some construct of interest” (Anderson and Gerbing 1991, p.732).

Ten graduate students at Virginia Tech in the fields of Marketing and Management who have interest in or are familiar with research in marketing channels as well as three managers of tire dealerships and two sales representatives of tire distributorships performed this item-sort task. Although there is no definite number for pretest sample size, and recommendations range from 12 to 30 (Hunt, Sparkman, and Wilcox 1982), Anderson and Gerbing (1991) argue that the number should be relatively small, which is consistent with the qualitative character of pretests. Each participant received a set of scale items and a list of study constructs defined in everyday language. Participants were then instructed to read each item and assign it to the one construct that, in their judgment, the item best indicates. If no such matching was possible, participants were instructed to indicate such misfit. Two unrelated scale items were included in the list of scale items to test respondents’ focus on the task. All respondents correctly identified these scale items as non-matching. After an assignment decision has been made for each item, respondents were asked to re-evaluate their matching choices and, if appropriate, provide alternative construct matches.

While this test provided some evidence of content validity, it is a rather weak test. The test was therefore employed to get information about each measure from the perspective of each respondent group. In view of the 'academic' experts, almost all scale items met or exceeded the criterion proposed by Anderson and Gerbing (1991). This criterion of substantive validity is based on calculating the proportion of substantive agreement and is defined as "the proportion of respondents who assign an item to its intended construct" (Anderson and Gerbing 1991, p. 734). Here, the cut-off criterion of .5 indicates that judges assign a particular item to its intended construct more than to any other construct.

In comparison, the two managers of tire dealerships appeared to have more difficulty assigning items to their intended constructs. Although this may indicate that there is a potential problem of substantive validity, these respondents may not be as familiar with the construct conceptualizations and may have had difficulties distinguishing construct definitions. In addition, the type of test may have challenged these respondents more than the group of academic experts. Evidence for this arises from the performance of the distributor representatives, who were able to match almost as many items as the academic experts.

In lieu of the nature of this test and the mixed results across groups only careful conclusions about the substantive validity of the measures appeared appropriate. First, most measures performed well with mostly all but one item meeting Anderson and Gerbing's (1991) criterion. Second, items that tap affective components of study constructs like 'the relationship that my firm has with my major supplier is very much

like being family to my firm' or 'in our relationship my firm is like a friend' did not perform well.

In conclusion, given the encouraging results of this pretest and the mixed results across respondents, an elimination of scale items appeared to be unjustified. Further, given discrepancies across respondent groups the test results suggest that although the study constructs tap theoretically different construct domains, these domains may not have discriminant validity in the study context. Thus, a second pretest in the study context, employing a larger sample of respondents becomes warranted.

### **Questionnaire Pretest**

The next step in the measure development process is an experience survey to gain initial insight into potentially different shades of meaning or interpretations of questionnaire items. Such an experience survey was conducted with a non-probability sample of respondents who can offer ideas and insights into the phenomena of interest, such as local automobile replacement tire dealers that operate retail outlets of different levels of vertical integration (Churchill 1979; Anderson and Gerbing 1991). Given the length of the questionnaire and possible measurement problems in the study context, personal administration of the full questionnaire appeared to be appropriate to get a first-hand impression of respondents' difficulties with the scale items and the questionnaire as a whole. Here, a pretest of the full questionnaire was conducted on-site with six additional tire dealers and a general manager of a tire distributor that were not involved in the substantive validity pretest.

As a result of this personal administration of the questionnaire some changes to the questionnaire were made. First, the introductory section was refined to better define

who the major supplier is. Here, dealers appear to have a perceptual overlap between the tire brand and the distributor firm or manufacturer who sells these brands. For example, a tire dealer refers to his major tire brand, the manufacturer of his tires, or even the distributor's representative as "Michelin". However, the dealer may be an independent tire dealer procuring the majority of his stock from "American Tire Distributors" while participating in an "Alliance Program" that commits the dealer to sell a majority of Michelin tires.

Second, the order of questions was rearranged to ask the most sensitive questions of at the end of the booklet. Third, some questionnaire item wording was revised to better suit the respondents' language. This is described in more detail in the next chapter. Finally, some formatting suggestions were incorporated to enhance the clarity of the questionnaire items (e.g., underlining, bold font, line spacing).

### **Mail Pretest and Response Rate Estimation**

Even though the substantive validity pretest of questionnaire items was encouraging, it was not definite. After refining the survey instrument, a small pretest survey was conducted to assess the reliability of the questionnaire items and the data collection procedure. Coefficient alpha was used to assess the internal consistency of the set of items (Churchill 1979). In addition, confirmatory factor analysis on subsets of items will was used to test the expected dimensionality of each set of items written to reflect a construct (Anderson and Gerbing 1988; Anderson and Gerbing 1991). This analysis plus an examination of means, correlations, and standard deviations was used to further purify the scales. However, the results of this analysis were encouraging and not changes to the questionnaire items appeared necessary at this stage.

A key concern during data collection was the size of the final sample. Response rates in previous studies using this sampling context have varied significantly. For example, Morgan and Hunt's (1994) report a response rate of 12.9% and Boyle, Dwyer, Robicheaux, and Simpson's (1992) received 35.6% valid responses. Each study used data collection procedures that generally followed the steps recommended by Dillman (1978). However, response rates to industry surveys in the tire industry have been declining to about 10% according to industry sources.

The data collection procedure suggested by Dillman (1978) has essentially three steps. First, the entire sample is mailed a questionnaire and letter regarding their participation and explaining the study. Second, a reminder postcard is sent a week after the first mailing to follow up on the survey instrument. Third, three weeks after the initial mailing, non-respondents are sent another letter and questionnaire. This procedure, especially the follow up, seems to have differed across the two previously mentioned studies.

Three different mailing procedures were tested in this pretest. First, the questionnaire was mailed cold and followed up with a postcard. Second, the questionnaire was mailed after a prenotification phone call and followed up with a postcard. Third, the questionnaire was mailed after a prenotification phone call and followed up with a phone call. The time interval between prenotification, mailing, and follow-up was constant across all three procedures. Prenotification preceded the questionnaire mailing by one week. Follow-up procedures were conducted two weeks after the questionnaire mailing (see Table VI.1 for exact milestones).

Prenotification phone calls were conducted by four trained research assistants. General training consisted of background training to respond to potential questions regarding the study, the researchers, the university, and why the respondent should participate. More specific training was conducted to standardize calling procedures. Here specific calling scripts (Table VI.2) and a calling process (Figure VI.2) were developed and practiced. Further, all prenotification phone calls were computer assisted. To this end a Microsoft Access database and calling form was developed to allow simultaneous calling by all four research assistants. This database also allowed for a real-time tracking of calling effectiveness and progress.

Pretest-questionnaire items were placed in six separate sections on the questionnaire:

- Statements relating to the major supplier,
- Statements relating to the respondent's firm,
- Statement relating to the relationship between the respondent firm and the major supplier,
- The local tire market in which the respondent's firm is operating,
- The respondent firm's performance, and
- Demographic information about the respondent's firm.

All questionnaire items from the substantive validity pretest were included in the questionnaire. The pretest questionnaire was developed according to Dillman's (1978) method, a saddle-stitched booklet with cover logo. To reduce handling and printing cost,

**Table VI.1: Pretest Timing and Response Rates**

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A. Prenotification: none; Follow-up: postcards.

Number of surveys mailed: 84  
Survey mailing date: April 22, 2004  
Follow-up postcard mailing date: April 27, 2004

Returned undeliverable: 7.1%  
Response rate prior to follow-up: 7.1%  
Response rate within three weeks of follow-up: 9.0%

B. Prenotification: phone-calls; Follow-up: postcards.

Number of prenotification phone calls: 95  
Number of surveys mailed: 27 (28%)

Prenotification phone-call date: February 2 – April 20, 2004.  
Survey mailing date: concurrently.  
Follow-up postcard mailing date: April, 27 2004.

Response rate prior to follow-up: 5.3%  
Response rate within three weeks of follow-up: 5.3%

C. Prenotification: phone-calls; Follow-up: phone calls.

Number of prenotification phone calls: 95  
Number of surveys mailed: 27 (28%)

Prenotification phone-call date: February 2 – April 20, 2004.  
Survey mailing date: concurrently.  
Follow-up phone call date: one to two weeks after survey mailing.

Response rate prior to follow-up: 5.3%  
Response rate within three weeks of follow-up: 10.3%

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## Table VI.2: Phone Call Training Script

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Please feel free to deviate from this script as you see fit during the phone-calls.

### **Stage 1: Solicit Participation**

**Introduction:** Hello, my name is..... from the Department of Marketing at Virginia Tech. I am contacting you because you (your firm) have (has) been selected as a participant for a research study that we are conducting in the tire replacement industry.

**Motivation:** The goal of our study is to gain understanding of how the business relationship between tire dealers and their tire supplier affects their business success. It is important that every dealer participates in this study, as we want the study to accurately reflect how YOUR dealings with YOUR supplier affect YOUR business performance.

**Solicit Participation:** Would you be willing to participate in this research study by filling out a questionnaire booklet that we would be sending to you in the mail? (see follow up questions)

### **Stage 2: Coordinate Response**

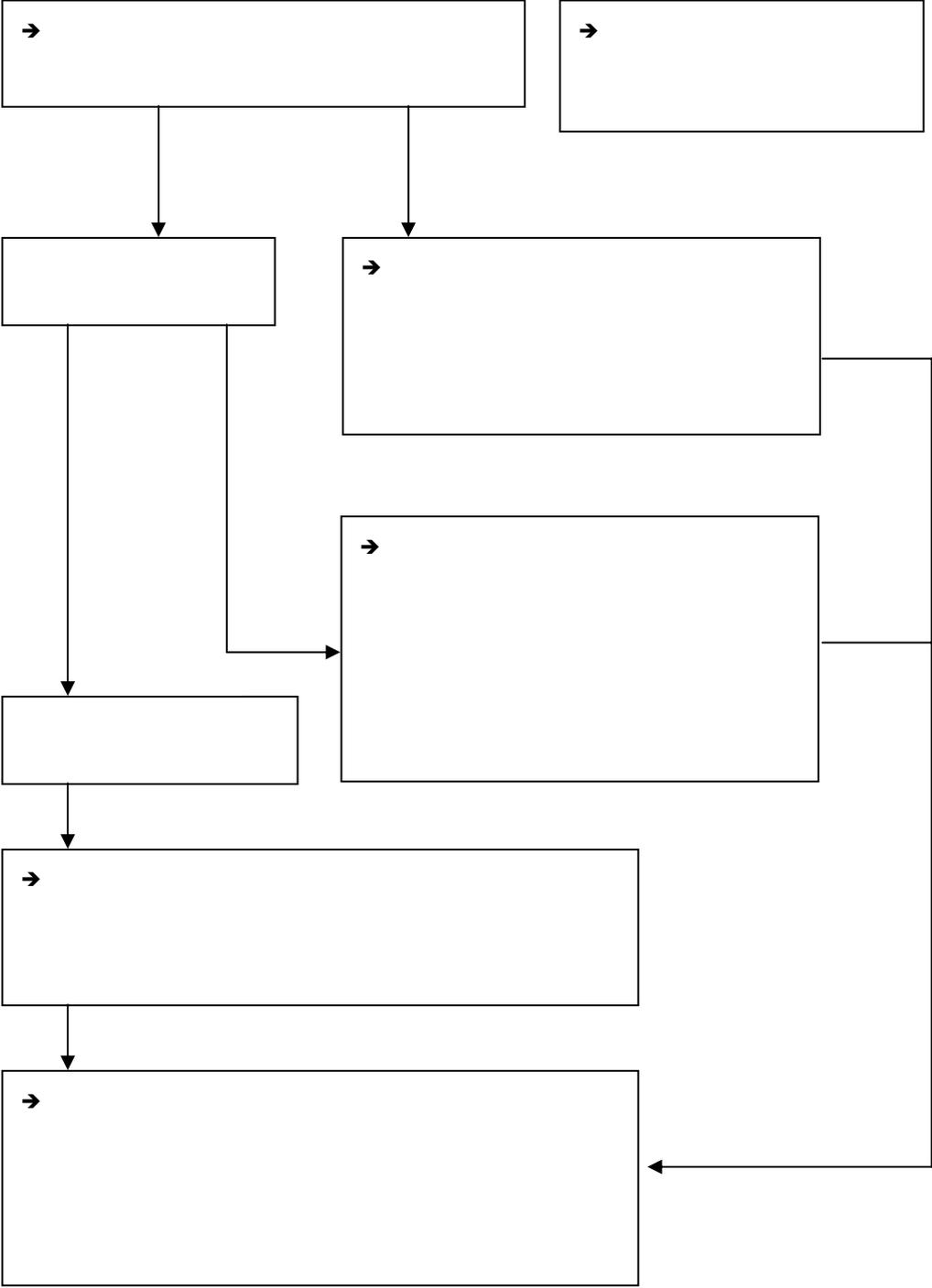
**Verify Mailing Address:** Thank your very much for assisting us in this important research study. We will send you a questionnaire booklet that contains questions about your supplier, your firm and your relationship with the supplier in the mail. Please tell me the address to which we may send this survey.

**Give Timeline & Ask for Timely Response:** You will receive the survey shortly with an enclosed postage-paid return envelope. Please fill out the questionnaire and return it to us within five business days. It should take about a half hour to complete.

**Motivate Accurate & Complete Response:** It is very important that each dealer participates and that you answer all questions in the booklet. We guarantee that your responses are confidential and if you have any further questions, please do not hesitate to call us.

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Figure VI.2: Phone Call Process



the cover letter was printed on the first page of the questionnaire booklet and not included as a separate sheet as suggested by Dillman (1978) (see Appendix A). The incentive to complete the survey was a free summary of the results. Pretest questionnaires were mailed using a 6 ½ x 9 ½ clasp envelope. Further, a postage-paid Business Reply Mail envelope was included.

Follow-up phone calls were conducted using the same Microsoft Access database and additional caller training. No specific script was developed for these follow-up phone calls as the reasons for non participation are heterogeneous and a fixed script appeared to run counter the objective to involve the respondent in returning the questionnaire. However, main points of the follow-up phone calls were similar to those printed on the follow up post card (see Appendix B).

All pretests used a random selection of respondents. The resulting response rates are depicted in Table VI.1. As a result of this pretest, a sampling procedure employing a prenotification and follow-up postcard was chosen. Although the pretest procedure using prenotification phone-calls had slightly better response rates, such phone-calls would have increased data collection time and cost significantly.

Results of this pretest produced important insights for the sampling design of the main study. First, prenotification phone calls did not appear to enhance the initial response rate. Here, the response rate prior to follow up procedures with prenotification phone calls averaged 5.3 percent. The response rate using no prenotification was 7.1 percent (6.6 percent when not corrected for undeliverable mailings).

Second, the pretest indicated that follow-up phone calls almost doubled the response rate when prenotification phone calls had been made prior to sending out the

questionnaire. In contrast, a follow-up postcard did not increase the response rate when prenotification phone calls had been made. However, follow-up postcards appeared to enhance the response rate when no prenotification procedure was employed. Here the response rate increased from 7.1 to 9.0 percent.

### **Primary Data Collection**

The pretest indicated that there are two alternative routes for data collection. The first route emphasizes personal contact and rapport with the respondent. Here, prenotification phone calls are used to screen those respondents that are unwilling to participate. Follow-up phone calls are used to remind those who have agreed to participate about returning the questionnaire. Overall, the response rate for this approach was 10.3 percent.

The second route is based on a large number of mailings. Here, no prenotification or screening is used to involve the respondent in the study. However, this method can be deployed using less manual labor and shorter time tables. Overall, the response rate for this approach (not including follow-ups) was 7.1 percent.

A compromise between both methods was chosen for primary data collection. First, a prenotification and follow-up post card was sent all respondents. The prenotification post card announced the mailing of the survey instrument and explaining why they are contacted (see Appendix B). The follow-up post card was identical with the post card used in the pretest.

Second, the questionnaire was mailed using a 6 ½ x 9 ½ clasp envelope. No postage-paid Business Reply Mail envelope was included. However, a Business Reply Mail printing that is identical with the one used on Business Reply Mail envelopes was

printed on the last page of the questionnaire booklet. Respondents were advised that postage was paid and to drop the questionnaire in the mail after taping it shut.

### **Quality of the Mailing List**

The mailing list obtained from Modern Tire Dealer appears to contain few errors. A total of 5148 surveys were mailed in the primary data collection. Mailing material for only one respondent was returned as undeliverable and one of the surveys was returned with the note that the business was selling only very few tires. In addition, two respondents called the principal researcher and reported that they had gone out of business. This good data quality may be due to Modern Tire Dealer using the same list to mail a monthly trade publication and any changes in dealer status would be updated in this database.

### **Treatment of Missing Data**

The final sample includes only responses with less than ten percent missing data across all survey items. Fortunately, the great majority of respondents provided a full set of responses and only five responses had to be excluded due to substantial amounts of missing data. Thirty-nine of the returned surveys had significant amounts of missing data. However, the missing data did not appear to be intentionally missing but may have been missed by the respondents who accidentally turned two pages of the questionnaire booklet at once. In order to give the respondents a choice of responding to these questions, a second follow-up procedure was employed. Respondents who had skipped one or more pages in the questionnaire booklet were mailed a copy of these pages accompanied by a letter asking them to return the completed pages using an enclosed return envelope. Twenty-one of these respondents returned completed pages which were

then matched to complete their original responses. Although very rarely, for items that had more than one response circled, an average of the two responses was used. Item means were substituted for all other cases with less than ten percent missing data across all survey items, allowing for an analysis on a complete set of data.

### **Response Rate Calculation**

Primary data were collected between May, 18<sup>th</sup> 2004 and July, 21<sup>st</sup> 2004. Prenotification post cards were sent on May, 18<sup>th</sup>, the questionnaire booklet was sent on May, 24<sup>th</sup>, and the follow-up post card was placed in the mail on June, 7<sup>th</sup>. The earliest returned survey was received on June, 9<sup>th</sup> and the last survey was received on July, 21<sup>st</sup>.

A total of 5148 surveys were mailed and a total of 326 questionnaires were returned in the 6-week data collection window (June, 9<sup>th</sup> - July, 21<sup>st</sup>). However, five returns had to be excluded because they had substantial amounts of missing data (4) or were returned with specific information that supported deletion of the dealership from the sampling frame (1). This represents a response rate of 6.2 percent. No additional surveys from the primary mailing were received after the data collection cut-off.

### **Response Bias Estimation Procedures**

Self-selection bias is a problem commonly attributed to mail survey methodology (e.g., Armstrong and Overton 1977). Here, respondents who participate in the study may be systematically different in their responses than those who do not participate. The best protection against non-response bias is a reduction of non-response itself. As described above, a number of steps were taken to increase response rate of this study. However, a sampling policy must balance the reduced yield (and higher cost) from additional sampling waves against the benefits of a more representative final sample (Dunkelberg

and Day 1973). As a result of this tradeoff not all tire dealers who received a survey responded to the survey and a non-response bias problem may exist.

Armstrong and Overton (1977) suggest two approaches to test the assumption that those responding are representative of the combined total of respondents and non-respondents and assess the potential non-response bias problem. First, one may choose to estimate the effects of non-response using comparisons with known values for the population, subjective estimates, and extrapolation. A comparison of respondents in the final sample with Economic Census data from the U.S. Department of Commerce is provided in the next section. Subjective estimates are not readily available as a benchmark of comparison for the sampling population of automotive tire replacement dealers and their relationship with their major tire supplier. In addition, “it is not clear how one should obtain these subjective estimates of bias” (Armstrong and Overton 1977, p. 397).

Extrapolation methods are based on the assumption that respondents who respond less readily (i.e. late responses) are more like non-respondents. Time trends can then be used to estimate differences between respondents and non-respondents. In the case of the current study, such extrapolation methodology may not be a good approach to estimate non-response bias for two reasons. First, considerable uncertainty exists about the time of the respondents’ awareness of the questionnaire and about the time of completion. This is because the questionnaires were sent to tire dealers across the USA and postal times vary significantly. Second, there exists a possibility of a bias being introduced by the follow-up post card that increases the incentive to return the survey (Armstrong and Overton

1977). Therefore, using extrapolation methods for respondents in the final sample may not yield a good estimate of non-response bias.

The second approach suggested by Armstrong and Overton (1977) to assess the potential non-response bias problem is based on obtaining responses from a small subsample of non-respondents (c.f., Reid 1942). A direct comparison between responses in the final sample and non-respondents is used to test the null hypothesis that differences exists across both types of respondents. In order to conduct this test, data was collected from non-respondents via fax. Demographic data along with responses to randomly selected scale items of study constructs were elicited from these dealerships.

A trained student caller conducted prenotification phone calls after detailed training and according to a script (see Table VI.3) asking the respondents to participate in the survey. Respondents who agreed to participate would then receive the survey via fax. Follow-up phone calls were placed seven workdays and fourteen workdays after the initial fax was sent to encourage participation. Data was collected from a total of 35 non-respondents between December 1, 2004 and February 15, 2005.

The primary data was compared to the non-respondent data to address the question of whether or not there was a significant difference between types of respondents (see Table VI.3). When compared using demographics, there were no significant differences between respondent groups for sales volume ( $F_{1,325} = .04, p = .84$ ). Similarly, no significant difference was found for ownership structure ( $\Lambda = .09, p = .48$ ).<sup>49</sup> In order to determine if a non-response bias existed for study constructs,

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<sup>49</sup> Lambda was used because of the nominal scaling of this item. If one assumes ordinal scaling because the responses reflect increasing dependence of the dealer, Gamma would be the appropriate test statistic. Consistent with the Lambda statistic, this test also shows no significant difference across sub-samples ( $\Gamma = -.36, p = .03$ ).

**Table VI.3: Nonrespondent Bias MANOVA Results**

<b>Test</b>	<b>Hotelling's T</b>	<b>F(df)</b>	<b>p</b>	<b>Comment</b>
<i>Sample Demographics*</i>				
Sales Volume		.04 (1,325)	.84	
Ownership Structure		.09**	.48	
Scale Items***	.196	1.82 (30, 309)	.01	three scale items significant at p < .01 in univariate test.
V110		2.08	.15	
V326		6.97	.01	
V218		2.01	.16	
V220		.24	.63	
V309		.03	.87	
V320		.02	.90	
V301		.05	.82	
V117		.22	.64	
V129		.17	.68	
V115		1.72	.19	
V112		.00	.96	
V400		.87	.35	
V216		.15	.70	
V227		2.16	.14	
V383		7.96	.01	
V386		1.85	.18	
V362		.50	.48	
V363		.02	.90	
V359		.01	.91	
V409		2.96	.09	
V330		.43	.51	
V335		.84	.36	
V341		1.23	.27	
V345		.35	.56	
V410		8.38	.00	
V423		.07	.80	
V501		4.34	.04	
V502		4.14	.04	
V350		4.91	.03	
V355		1.97	.16	

Note:

\*MANOVA was not used for sample demographics.

\*\*Represents the Lambda-value due to the nominal scaling of this item.

\*\*\*see Appendix A for corresponding scale item.

multivariate analysis of variance (MANOVA) was used to compare responses of respondents in the final sample with those of non-respondents on thirty scale items – one for each study construct. The MANOVA procedure is adequate for this test, because it examines the relationship between a combination of more than two dependent response measures that are metrically-scaled, and a non-metric (categorical) predictor variable. As Hair, Anderson, Tatham, and Grablovsky (1984, p.144) state: “This simultaneous test for the effect on the combination of criterion variables is important because in most cases, the criterion variables are not really independent but correlated since they were obtained from the same individuals or subjects”, and ANOVA carries with it a Type I error tendency. Hotelling’s  $T^2$  – an extension of the univariate t-test to the multivariate case – yielded a Hotelling’s  $T^2$  value of .20 and an overall  $F_{30,309}$  value of 1.82 indicating a significant difference between respondents and non-respondents ( $p = .007$ ).

A closer examination of individual test items suggests all but three items indicated no significant difference across sub-samples. These three items tap supplier commitment, dealer long-term orientation, and exchange efficiency:

- This relationship is of very high significance to our major supplier ( $F_{1, 309} = 17.48$ ,  $p = .009$ ;  $M_{\text{non-respondents}} = 4.18$ ,  $SD_{\text{non-respondents}} = 1.94$ ,  $M_{\text{respondents}} = 4.98$ ,  $SD_{\text{respondents}} = 1.55$ ),
- In our relationship with our major supplier, my firm intends to work with the supplier for a long time ( $F_{1, 309} = 15.30$ ,  $p = .005$ ;  $M_{\text{non-respondents}} = 5.23$ ,  $SD_{\text{non-respondents}} = 1.54$ ,  $M_{\text{respondents}} = 5.98$ ,  $SD_{\text{respondents}} = 1.33$ ), and

- In your firm's dealings with your major supplier ordering the right product takes much time and effort ( $F_{1,309} = 23.46$ ,  $p = .004$ ;  $M_{\text{non-respondents}} = 3.90$ ,  $SD_{\text{non-respondents}} = 1.63$ ,  $M_{\text{respondents}} = 2.75$ ,  $SD_{\text{respondents}} = 1.66$ ).

In summary, the sample does not appear to have a systematic demographic bias. At the same time, three individual scale items did show significant differences. Examination of these items indicated that means and standard deviations were similar for the two groups, with only one item having a mean difference of greater than 1.0 and no mean difference exceeded one standard deviation. The remaining items where differences were noted had an average mean difference of .78 – less than one-half standard deviation for these items. This subsequent analysis suggests that the MANOVA provided a rigorous test of differences across respondent and non-respondent samples. At the same time the sensitivity of the test pinpointed differences that were not substantively critical. Therefore, a reasonable conclusion is that respondents and non-respondents are not substantively different from each other.

### **Final Sample Characteristics**

Demographic information about responding tire dealers and the individuals completing the survey instrument were gathered (Table VI.4). These demographics allow for various tests of sub-group reliability, and bias as well as sample description and representativeness. The following demographic data for each respondent was used for this analysis:

- informant position in dealership and knowledge about the exchange dyad,
- geographic location of the dealership and size of trading area,
- ownership structure of the dealership and number of retail locations,

**Table VI.4: Operational Measures: Dealership and Subject Information**

Scale	Questionnaire Items
Informant Position (RP)	What is your title or position within your firm? (please be as specific as possible; e.g. Owner, General Manager, etc.)
Informant Knowledge (RP)	How knowledgeable are you about your firm's current relationship and dealings with your major supplier?  Scale: 7-pt Likert Anchors: Not at all Knowledgeable/ Very Knowledgeable
Ownership Structure (IF)	Which of the following statements best describes your dealership? This dealership is... <input type="checkbox"/> is wholly owned by a manufacturer. <input type="checkbox"/> is partially owned by a manufacturer. If yes, by what percent? _____ % <input type="checkbox"/> is wholly owned by a wholesale supplier or outlet <input type="checkbox"/> is partially owned by a wholesale supplier. If yes, by what percent? _____ % <input type="checkbox"/> is franchised by a manufacturer. <input type="checkbox"/> is franchised by a wholesale supplier or outlet. <input type="checkbox"/> sells different brands, but its identity and loyalty are tied primarily to one supplier's brand. <input type="checkbox"/> sells multiple brands, and its identity and loyalty are not tied to any one brand.
Total Sales (IF)	What was your firm's total sales volume last year? <input type="checkbox"/> Up to \$499k <input type="checkbox"/> \$500k - \$999k <input type="checkbox"/> \$1M - \$2,999k <input type="checkbox"/> \$3M - \$4,999k <input type="checkbox"/> \$5M - \$9,999k <input type="checkbox"/> \$10 million and up
Size of Trading Area (IF)	What is the approximate size of your trading area? _____ in miles _____ number of potential customers
Dealership Size (IF)	About how many employees do you have? Full time: _____ (count) Part time: _____ (count)
Number of Retail Locations (IF)	How many other locations does your firm operate? _____ (count)
Major Supplier Tenure (IF)	For how many years has your distributorship been carrying this supplier's tire brands? _____ Years

**Table VI.4 (cont.)**

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Scale type: Varied

Response type: Respondent (RP) and Informant (IF)

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<b>Scale</b>	<b>Questionnaire Items</b>
Percent of Sales for Major Supplier (IF)	About what percentage of tire-related sales is attributed to the products of your major supplier? ____ %
Relationship Stage (IF)	<p>Relationships typically evolve through a number of phases over time. Please indicate which one of the following best describes your firm's relationship with the major supplier today:</p> <p>a. Both firms are discovering and testing the goal compatibility, integrity, and performance of the other, as well as potential obligations, benefits, and burdens involved with working together on a long-term basis.</p> <p>b. Both firms are receiving increasing benefits from the relationship, and a level of trust and satisfaction has been developed such that they are more willing to become committed to the relationship on a long-term basis.</p> <p>c. Both firms have an ongoing, long-term relationship in which both are receiving acceptable levels of satisfaction and benefits from the relationship.</p> <p>d. One or both members have begun to experience dissatisfaction and are contemplating relationship termination, considering alternative manufacturers or customers, and beginning to communicate intent to end the relationship.</p> <p>e. The firms have begun to negotiate terms for ending the relationship and/or are currently in the process of resolving the relationship.</p>

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- total annual sales of the dealership and number of employees,
- proportion of sales for major supplier,
- length of relationship with major supplier and relationship life-cycle.

The mean percentage of sales attributed to the major supplier was 57.3 percent (SD = 26.5). The mean total number of employees in the sample was 9.4 (SD=14.8) full-time and 2.1 (SD=7.1) part-time employees. Ninety-three percent of responding dealers were independent tire dealers, with fifty-one percent of these independent dealers indicating that their identity and loyalty is tied primarily to one supplier's brand. With regards to their specific relationship to their major supplier, dealers in the sample had an average relationship history of 17.1 years (SD = 12.5) with the major supplier. At average, products from the major supplier accounted for 57.3 percent of total sales (SD = 26.5). In respect to the relationship life-cycle, the majority of respondents described their relationship to be in a mature stage (59.6%). About one third of the relationships were in developmental stages (3.4% in exploration, 25.8% in build-up). A few relationships are reported to be in a decline (10.1%) or dissolution stage (1.1%).

The few responses in the decline and dissolution stages may suggest a survival bias. However, the life-cycle stages reported here are merely categories of relationship phases that do not necessarily imply a developmental sequence (Dwyer, Schurr and Oh 1987). For example, young relationships may enter the dissolution phase if no satisfactory exchange relationship emerges in the exploration phase. Similarly, old relationships may re-enter the exploration phase to expand or rejuvenate the exchange arrangement among partner firms. Therefore, the low frequency of relationships in the decline or dissolution phases does not indicate that older relationships are

underrepresented in the sample, but rather confirms the conceptual expectation that exchange relationships are less likely to remain in these phases because they exhibit undesirable exchange properties (e.g., dysfunctional conflict or potential for short-term gaming). In addition, the direct measure of relationship age documents a wide range of relationship duration and compared to prior research the observed pattern of relationship development stages appears typical for ongoing buyer-seller relationships (e.g., Jap and Ganesan 2000).

Most dealerships were small operations with one (65.2%) or two (22.6%) locations. Mean total sales for responding dealerships are approximately US\$ 1,565,292 (using category midpoints). The correlation between total sales and total number of employees was high,  $r = .69$  ( $p < .01$ ). Owners and general managers made up the vast majority of respondents (98.7%). These respondents reported that they were very knowledgeable about the firm's current relationship and dealings with its major supplier ( $M = 6.67$ ,  $SD = .81$ )<sup>50</sup>. In addition, they indicated that they had a similar level of knowledge about the previous five years of this relationship ( $M = 6.34$ ,  $SD = 1.33$ )<sup>51</sup>. Combined, this indicates a very knowledgeable and experienced set of respondents.

### **Sample Representativeness**

The final sample includes 321 dealerships from 44 states. Several tests were used to assess the degree to which the sample is representative of the population of automotive tire dealers in the United States. Economic Census data from the Census Bureau of the

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<sup>50</sup> Item wording: How knowledgeable are you about your firm's current relationship and dealings with your major supplier? Seven point Likert-type scale with anchors 1= not at all knowledgeable and 7 = very knowledgeable.

<sup>51</sup> Item wording: How knowledgeable are you about your firm's relationship and dealings with your major supplier five years ago? Seven point Likert-type scale with anchors 1= not at all knowledgeable and 7 = very knowledgeable.

U.S. Department of Commerce was used to compare available sample statistics. Although the most recent data collected is the 2002 Economic Census, the most recent available data is the 1997 Economic Census (2002 data will be available in 2005).

Sales and number of employees were used to compare the sample to the sampling population. Given the seven year difference in data collection between both data sets some deviation may be due to history effects. In terms of sales, the population average is US\$ 1,137,165 in 1997 and 1,398,567 in 2004 if adjusted for inflation of three percent per annum. The sample average (US\$ 1,565,292) is slightly higher; however, it is within the boundaries of the measurement category (\$1M - \$2,999k). This deviation may be due to the use of category mid-points to calculate the sample average.

The 1997 Economic Census data suggests an average of 8.25 employees per dealership. This figure is not significantly different from the sample mean ( $t = 1.349$ ) given a high standard deviation in the sample ( $M = 9.4$ ;  $SD = 14.8$ ). In addition, anecdotal evidence from the pretests suggests a tendency towards consolidation in this industry. Here, smaller dealerships appear to become less competitive and may exit the market.

The Economic Census data also indicate a concentration of dealerships by state (see Table VI.5). A comparison between the final sample and Economic Census data suggests a high level of congruity across both. First, the comparison between the Economic Census population and the sampling frame suggests that population density was proportionately sampled for this study. Second, the comparison between Economic Census data and returned surveys suggests that the actual dealer concentration is also reflected in the final sample. California is the only state that has an Economic Census

**Table VI.5: Primary Data Collection Returns by State**

State	Total U.S. (1997 Census)	% US	Total Sent	% Sent	Returned Complete	% Returned Complete
AK	23	0.13%	5	0.10%	0	0.00%
AL	455	2.63%	148	2.85%	4	1.26%
AR	229	1.32%	88	1.69%	4	1.26%
AZ	273	1.58%	63	1.21%	2	0.63%
CA	1949	11.27%	372	7.15%	14	4.40%
CO	293	1.69%	65	1.25%	6	1.89%
CT	174	1.01%	50	0.96%	2	0.63%
DC	4	0.02%	1	0.02%	0	0.00%
DE	45	0.26%	13	0.25%	0	0.00%
FL	1032	5.97%	290	5.58%	15	4.72%
GA	620	3.59%	221	4.25%	15	4.72%
HI	52	0.30%	6	0.12%	0	0.00%
IA	252	1.46%	114	2.19%	11	3.46%
ID	141	0.82%	25	0.48%	1	0.31%
IL	565	3.27%	172	3.31%	15	4.72%
IN	403	2.33%	126	2.42%	9	2.83%
KS	230	1.33%	88	1.69%	7	2.20%
KY	308	1.78%	108	2.08%	8	2.52%
LA	284	1.64%	87	1.67%	6	1.89%
MA	259	1.50%	79	1.52%	3	0.94%
MD	269	1.56%	58	1.12%	3	0.94%
ME	78	0.45%	17	0.33%	1	0.31%
MI	547	3.16%	155	2.98%	17	5.35%
MN	267	1.54%	111	2.13%	5	1.57%
MO	444	2.57%	155	2.98%	7	2.20%
MS	260	1.50%	89	1.71%	4	1.26%
MT	120	0.69%	30	0.58%	2	0.63%
NC	706	4.08%	258	4.96%	8	2.52%
ND	56	0.32%	17	0.33%	2	0.63%
NE	136	0.79%	38	0.73%	7	2.20%
NH	81	0.47%	29	0.56%	3	0.94%
NJ	381	2.20%	116	2.23%	5	1.57%
NM	131	0.76%	27	0.52%	2	0.63%
NV	101	0.58%	20	0.38%	2	0.63%
NY	576	3.33%	233	4.48%	8	2.52%
OH	684	3.96%	223	4.29%	12	3.77%
OK	224	1.30%	103	1.98%	4	1.26%
OR	289	1.67%	50	0.96%	1	0.31%
PA	798	4.62%	248	4.77%	21	6.60%
RI	40	0.23%	12	0.23%	0	0.00%
SC	307	1.78%	127	2.44%	5	1.57%
SD	59	0.34%	20	0.38%	3	0.94%
TN	435	2.52%	157	3.02%	6	1.89%
TX	1242	7.18%	368	7.08%	26	8.18%
UT	147	0.85%	34	0.65%	1	0.31%
VA	431	2.49%	125	2.40%	15	4.72%
VT	37	0.21%	15	0.29%	0	0.00%
WA	415	2.40%	62	1.19%	4	1.26%
WI	240	1.39%	119	2.29%	15	4.72%
WV	145	0.84%	51	0.98%	5	1.57%
WY	51	0.30%	13	0.25%	2	0.63%

population that is more than two percentage points larger than the proportion of sample respondents indicating some under-representation. On the flipside, Michigan, Virginia, Wisconsin, and Iowa have an Economic Census population that is more than two percentage points smaller than the proportion of sample respondents indicating some over-representation (see Table VI.6). This slightly biased representation of geographic dealership location is primarily due to respondents' failure to return the questionnaires rather than poor sampling. Overall, the national sample reflected dealership concentration well.

### **Summary**

This chapter outlined the procedures employed for the empirical test of the research model developed in Chapter V. Overall, three issues were addressed. First, the fit between the substantive domain (automotive replacement tire industry) and the conceptual domain of the research model was examined. The previous sections documented a high level of correspondence between these two elements of the research process increasing the internal validity of the study (McGrath and Brinberg 1983). Specifically, the sampling context of automobile replacement tire dealers not only displays corresponding substantive phenomena of the research variables, but also appears to provide a sufficient range on these variables that constitute the boundary conditions of relational exchange.

Second, this chapter introduced the data collection method employed to provide data for testing the research model and producing the results presented in the following chapters. This study uses mail survey to examine established supplier-dealer relationships. Unfortunately, a cross-sectional research design is not ideal for examining

**Table VI.6: Dealer Concentration, Sampling Frame, and Final Sample**

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**a. Total (n)**

U.S. Economic Census	Sampling Frame	Returned Complete
17288	5201	318*

**b. Ranking**

1. CA CA TX
2. TX TX PA
3. FL FL MI
4. PA NC FL, GA, IL, VA, WI (tied)
5. NC PA
6. OH NY

**c. State Underrepresented** (returned complete two percent below census count):

CA

**d. States Overrepresented** (returned complete two percent above census count):

MI, VA, WI, IA (in order of magnitude)

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NOTE: \* Three returned survey instruments were unidentifiable.

ongoing exchange processes. A better study design to examine such exchange processes, even though fraught with its own problems, would be a longitudinal design involving a panel of respondents. However, the cross-sectional design chosen in this study is survey methodology was deemed sufficient for exploring the impact of perceptions of past exchange processes on exchange outcomes. Here, the governance structure (relational and non-relational) formed over time in these relationships is expected to impact performance in these exchanges as outlined in the previous chapter.

Third, this chapter was concerned with the external validity or robustness of the findings of this study to develop an understanding of the generalizability of the findings to the sampling population (McGrath and Brinberg 1983). A key concern during data collection was the size and structure of the final sample. Overall, the sampling procedure employed in this study is consistent with previous research in the automotive replacement tire industry and followed the guidelines established by Dillman (1978) closely. The final sample of 321 responses provides sufficient statistical power to test the research model. Several tests were used to assess the degree to which the sample is representative of the population of automotive tire dealers in the United States. Overall, these tests suggest that the respondent's firms are largely representative of the automotive tire replacement industry in terms of tire sales, number of employees, ownership structure and geographical location. In addition, a follow-up procedure and statistical tests of non-response bias (Armstrong and Overton 1977) suggests that the sample does not appear to have a systematic demographic bias. Although few scale items of study constructs showed small but significant differences across respondent and non-respondents, a closer

examination of these differences lead to the conclusion is that respondents and non-respondents are not substantively different from each other.

## CHAPTER VII

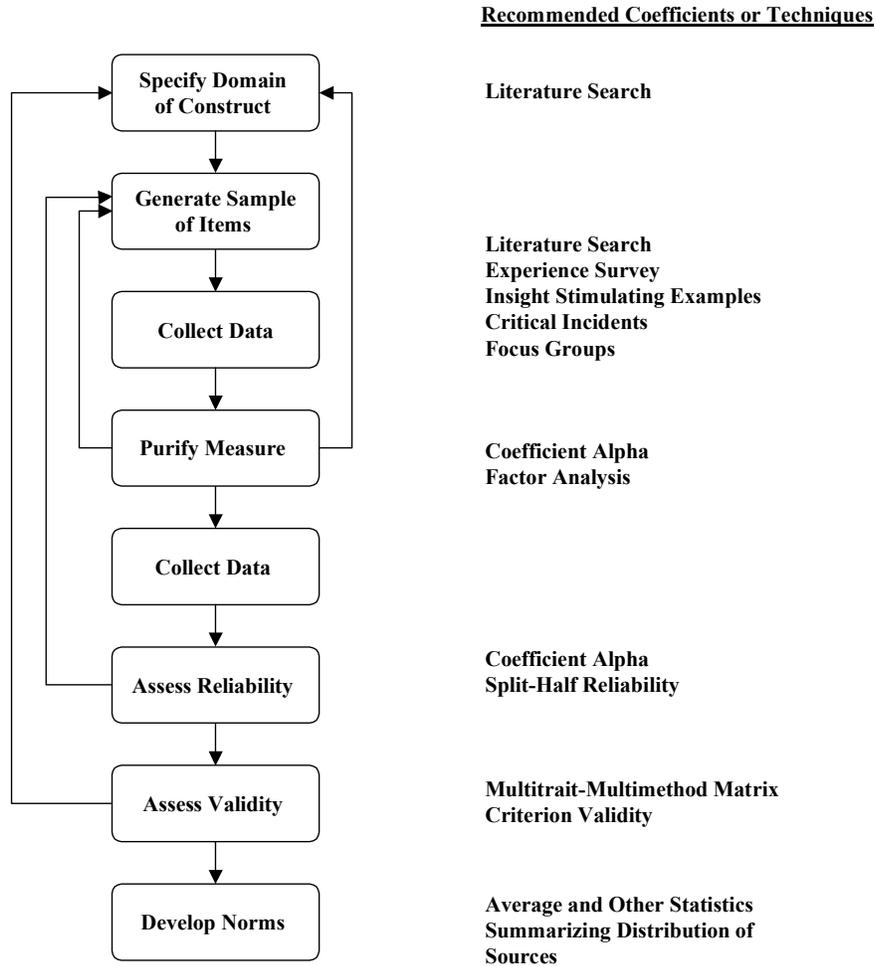
### OPERATIONALIZATIONS AND SCALE DEVELOPMENT

This chapter specifies operational definitions of the constructs in this research. The goal of this chapter to show the process of scale development from construct definitions to operational definitions, scale pretests, measurement analyses, and final scales used to evaluate the research model. In order to develop measures, this research followed the psychometric procedure suggested by Churchill (1979) (see Figure VII.1). First, a pool of items was generated that appears to capture the domain of each construct. Following Churchill (1979), a literature search for existing operationalizations was used to guide the item development and ensure content validity of the measures. Then various pretests (described in more detail in the previous chapter) were used to modify existing scales to fit construct definition and research context.

One of the main objectives of this chapter is to develop construct operationalizations that are both robust psychometrically and parsimonious for ease of interpretation. For this reason, AMOS 5.0 was used to perform confirmatory factor analysis on the data using the theoretical factor structure derived from previous research and substantive pretests from which items had been generated. The criteria developed by Bagozzi and Yi (1988) for the evaluation of structural equation models with latent variables were used to assess model fit and refine these measurement models (see Table VII.1).

The following section is organized along types of constructs in the order in which they were addressed in the hypotheses development section followed by measures tapping governance properties of the exchange. Control and descriptive variables are

**Figure VII.1: Suggested Procedure for Developing Better Measures**  
 Source: Churchill (1979), p. 66



**Table VII.1: Summary of Evaluation Criteria**  
Adapted from Bagozzi and Yi (1988, p.82)

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***Preliminary Fit Criteria: absence of***

Negative error variances  
Error variances not significantly different from zero  
Correlations greater than one  
Correlations too close to one (i.e., within two SD of unity)  
Standardized factor loadings too small (e.g.,  $\lambda < \text{about } .5$ )  
or too large (e.g.,  $\lambda > \text{about } .95$ )  
Very large standard errors

***Overall Model Fit: achievement of***

Nonsignificant  $\chi^2$  (e.g.,  $\chi^2$  with p-value  $\geq .05$ )  
Adequate statistical power of  $\chi^2$ -test  
Satisfactory incremental fit index (i.e.,  $\Delta \geq .9$ )  
Satisfactory goodness-of-fit-index (i.e., AFGI  $\geq .9$  or so)  
Satisfactory model comparisons (e.g.,  $\chi^2$  difference tests)  
Low root mean square residuals

***Fit of Internal Structure of Model: achievement of***

High composite reliabilities (e.g.,  $\rho_c \geq .6$ )  
Average variance extracted  $\geq .5$   
Significant parameter estimates confirming hypotheses  
Normalized residuals less than 2  
Adequate power to detect casual path

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presented at the end. The complete item pool for each variable along with their means, standard deviations, range and inclusion at each stage of the scale development process is found in Appendix C. Each measure is described next.

### **Operationalization of Main Research Model**

The constructs in the research model were operationalized to reflect the construct definitions and simultaneously facilitate responses given the large number of scale items in the survey. All items used a seven-point Likert-type response format. The following section describes how the constructs in the research model were measured in this study.

#### **Interdependence**

Interdependence refers to situations in which firms engage in exchange relationships to obtain resources outside their control but necessary to their goal achievement and can be operationalized in terms of each party's dependence in an exchange (Gundlach and Cadotte 1994). Dependence of an exchange party A is operationalized by the degree to which a partner B mediates the partner A's goal achievement, provides important resources, and cannot be replaced by alternative exchange parties without cost to party A (Emerson 1962) (see Table VII.2 and Table VII.3).

*Complementary Goals* are defined as the degree to which exchange parties goals are compatible and individual goal pursuit positively influences the other party's goal achievement. Operationally, complementary goals can be assessed using a reflective measure of composed of three items for each exchange party that have been adapted from Jap's (1999) goal congruence measure. Changes were made to the wording of the

**Table VII.2: Primary Data Collection Measures – Dealer Dependence**

<b>Overall Model Fit:</b> $\chi^2(19) = 39.4; p = .00$		NFI = .97	TLI = .97	CFI = .98	RMSEA = .06	p(Close) = .28
<i>Scale</i>	<i>Questionnaire Item</i>	<i>Factor Loading</i>		<i>(t-value)</i>		
		<i>Unstand.</i>	<i>Stand.</i>			
<i>Supplier Complementary Goals (SCG, <math>\alpha = .84, \rho = .84, AVE = .64</math>)</i>						
SCG125*	The way the supplier grows its business makes it an attractive partner for my firm. ....	1.00	.82			
SCG129	The supplier targets business objectives that support my firm's business. ....	.95	.84	(14.42)		
SCG114	The supplier pursues goals that advance my firm's objectives. ....	.81	.74	(13.39)		
SCG105	The supplier pursues objectives that are beneficial to my firm. ....	*				
SCG103	The supplier's business plan is well matched with my firm's business activities. ....	*				
<i>Supplier Complementary Resources (SCR, formative indicator - not included in measurement model)</i>						
SCR115	This supplier voluntarily avoids adding dealers that would compete with my firm. ....	n/a				
SCR127	The supplier provides my firm with access to market and industry information that helps our business. ....	n/a				
SCR101	The supplier's tire brands draw a lot of customers to our business. ....	n/a				
SCR104	The supplier provides my firm with tire lines that our customers prefer. ....	n/a				
SCR124	The supplier provides my firm with access to outstanding support programs. ....	n/a				
SCR132	The supplier is able to fill all of my firm's tire orders. ....	n/a				
SCR113	The supplier's delivery schedule makes it a valued distributor for my firm. ....	n/a				
SCR121	The supplier has given my firm an exclusive territory for their proprietary tire brands. ....	n/a				
<i>Dealer Switching Costs (DSC, <math>\alpha = .85, \rho = .87, AVE = .52</math>)</i>						
DSC215*	Switching to another supplier would cause significant interruption of our business. ....	1.00	.85			
DSC220	It would be costly for my firm to find an adequate replacement for this supplier. ....	.99	.79	(15.32)		
DSC214	My firm could not switch to another supplier without incurring many new expenses. ....	.92	.72	(13.77)		
DSC217	My firm could not easily substitute this supplier's proprietary tire brand with a different supplier's tire brand. ....	.84	.67	(12.44)		
DSC209	My firm could not switch to another supplier without losing some of our customers. ....	.82	.62	(11.36)		
DSC205	If my firm switched to another supplier it would take a lot of effort to learn the new supplier's ways of doing business. ....	*				
DSC213	Switching to another supplier would leave my firm with a lot of tires that we would not be able to sell. ....	*				

Note: Scale Type: 7-pt. Likert; Anchors: Strongly agree – Strongly disagree; \*fixed to 1.00

**Table VII.3: Primary Data Collection Measures – Supplier Dependence**

<b>Overall Model Fit:</b> $\chi^2(8) = 10.6; p = .23$		NFI = .98	TLI = .99	CFI = .99	RMSEA = .03	p(Close) = .69
<i>Scale</i>	<i>Questionnaire Item</i>	<i>Factor Loading</i>		<i>(t-value)</i>		
		<i>Unstand.</i>	<i>Stand.</i>			
<i>Dealer Complementary Goals (DCG, <math>\alpha = .80, \rho = .80, AVE = .58</math>)</i>						
DCG202*	My firm pursues goals that support our supplier's business.....	1.00	.83			
DCG201	My firm's business objectives are beneficial to the supplier.....	.96	.83	(12.50)		
DCG204	My firm's business plan is well matched with our supplier's activities.....	.76	.61	(10.40)		
DCG216	My firm targets business objectives that support the supplier's business.....	*				
DCG223	The way my firm grows its business makes my firm an attractive partner for this supplier.....	*				
<i>Dealer Complementary Resources (DCR, formative indicator - not included in measurement model)</i>						
DCR211	My firm's location gives the supplier access to the local market area it would not otherwise be able to service.....	n/a				
DCR208	My firm provides the supplier with access to customers it would not otherwise be able to reach.....	n/a				
DCR222	My firm provides special sales support for the supplier's tire brands.....	n/a				
DCR207	The size of my firm's tire business makes it an important business partner for this supplier.....	n/a				
DCR206	My firm carries only this supplier's tire brands.....	n/a				
DCR218	My firm's payment history makes us an attractive business partner.....	n/a				
DCR212	My firm has special tire-service capabilities that are needed to sell the supplier's tires (mounting tools, etc.).....	n/a				
DCR219	My firm voluntarily refrains from adding suppliers that compete with this supplier.....	n/a				
<i>Supplier Switching Costs (SSC, <math>\alpha = .73, \rho = .73, AVE = .47</math>)</i>						
SSC111*	If we were to no longer represent this supplier, the supplier could not compensate for losing our business by increasing tire sales with other dealers in our area.....	1.00	.71			
SSC102	It would be costly for the supplier to find an adequate replacement for my firm.....	.97	.72	(8.80)		
SSC117	The supplier could not switch to another dealership in this market without incurring many new expenses.....	.85	.63	(8.47)		
SSC107	Finding another dealer in this market that has similar tire service capabilities to my firm would be very difficult for the supplier.....	*				

Note: Scale Type: 7-pt. Likert; Anchors: Strongly agree – Strongly disagree; \*fixed to 1.00

questionnaire items to (1) focus on aspects of goal compatibility rather than similarity, (2) reflect the perspective of each exchange partner, and (2) conform to the sampling context. For example, “They have different goals” was modified to “The supplier pursues goals that advance my firm's objectives” to tap the supplier’s goals, and “My firm pursues goals that support our supplier's business” to tap the buyer’s goals. The resulting measure, scored on a 7-point scale ranging from strongly disagree to strongly agree, taps the degree to which the partners are interdependent because of complementary goals in the exchange relationship.

*Complementary Resources* refer to resources that “eliminate deficiencies in each other's portfolio of resources ... by supplying distinct capabilities, knowledge, and other entities” (Lambe, Spekman, and Hunt 2002, p.144). I operationalize complementary resources as a formative measure that is a modified version of the complementary competencies of the dyad scale used by Jap (1999). In contrast to Jap (1999), operationalizing complementary resources as formative indicator is based on the criteria developed by Jarvis, Mackenzie and Podsakoff (2003). First, the scale items represent defining characteristics of the construct. For example, the supplier’s delivery schedule, tire brands, and access to information are all distinct components of complementary resources. Second, they do not have the same or similar content and dropping individual indicators may alter the conceptual domain of the construct. Third, indicators are not necessarily expected to covary with each other. For example, a supplier with attractive tire lines does not always have attractive delivery schedules. Finally, the items differ in their individual antecedents and consequences (e.g., the location of the supplier’s warehouse may lead to a favorable delivery schedule, but not to a good tire assortment).

The change in the nature of the construct in this study does not contradict Jap's (1999) operationalization, but rather reflects the modifications in the type of resources made to reflect the sampling context and to develop scale items that tap the supplier and the buyer's resource contribution to the relationship. For example, Jap's (1999) scale item "They contribute different capabilities to the relationship" was modified to "The supplier provides us with tire lines that our customers prefer" and "The supplier provides us with access to outstanding support programs". Other modifications to Jap's (1999) scale pertain to changing the wording from "they" to "my firm" and "the supplier" to tap the degree to which each partner contributes complementary resources. The resulting measure, scored on a 7-point scale ranging from strongly disagree to strongly agree, taps the degree to which the partners are interdependent because of their ability to combine their distinct capabilities.

*Switching Costs* refer to an exchange partner's perceived costs of changing from the existing exchange partner to a new partner (Weiss and Anderson 1992). I operationalize switching costs as a reflective measure that is a modified version of the supplier replaceability scale used by Celly and Frazier (1996). The modifications to this scale are made to reflect the conceptualization as costs of switching rather than the general replacement of the supplier and to tap both sides of the exchange dyad. In particular, I modified "It would be quite easy..." and "...switch to another supplier's line quite easily" with "It would not be costly..." and "... switch to another supplier's line without incurring many expenses" correspondingly. The resulting measure, scored on a 7-point scale ranging from strongly disagree to strongly agree, taps the degree to which

the partners are interdependent because of the perceived cost of changing to an alternative supplier.

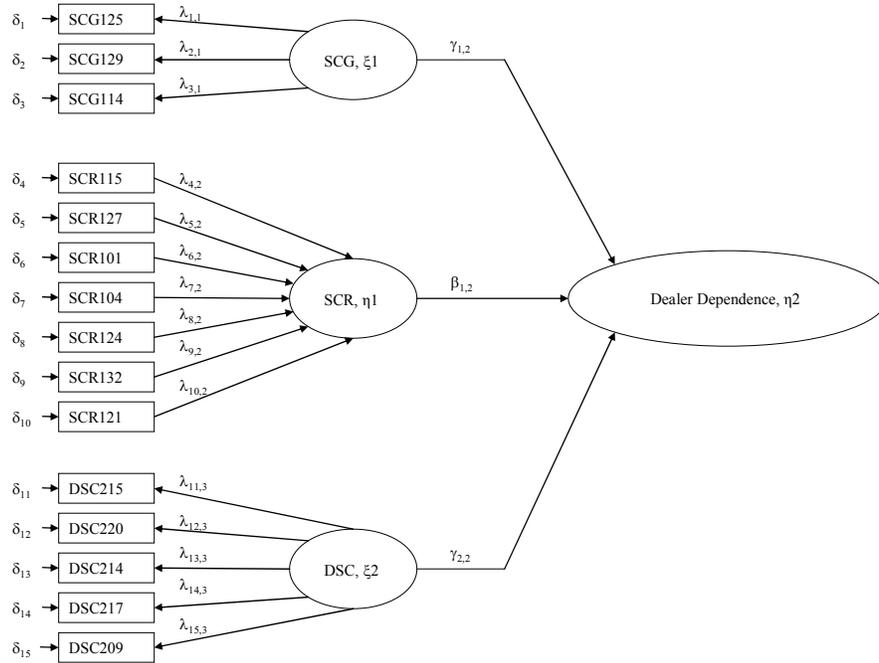
### **Higher-Order Confirmatory Factor Analysis for Dependence**

Dependence can be operationalized as a composite that requires a formative measure, because I conceptualize dependence as a higher-order factor that increases in magnitude as each of the three basic aspects of dependence increase (Diamantopoulos and Winklhofer 2001). In particular, dependence in the exchange dyad is not caused by the three underlying facets (complementary goals, complementary resources, and switching costs). Rather, the three facets contribute to overall dependence in the dyad (e.g., Emerson 1962). Thus, dependence will be operationalized as a higher-order factor that represents the level of dependence in the dyad (Jarvis, Mackenzie and Podsakoff 2003; see Figure VII.2).

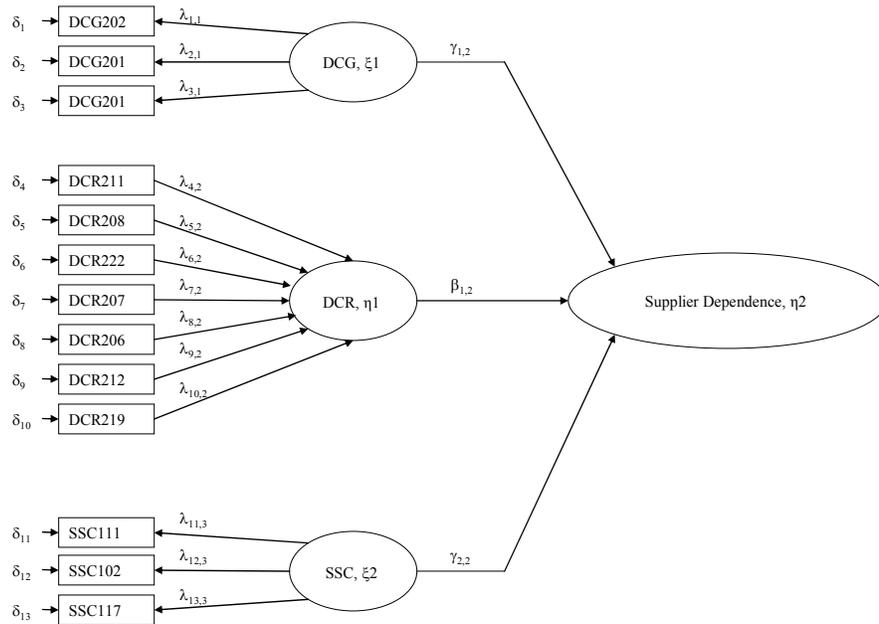
A higher-order factor model was specified using the trimmed scales from the first-order model (see Table VII.4 and VII.5 for criteria used to drop scale items), with a single higher-order factor representing complementary goals, complementary resources, and switching costs. Here, the higher-order factor solution is an attempt at explaining the covariation among the first-order factors in a more parsimonious way. Thus, the expected goodness of fit for the higher-order model can never be better than the corresponding first-order model and the basic first-order factor model can be viewed as the target or optimum fit for the higher-order model (Marsh and Hocevar 1985). The resulting second-order models displayed adequate fit and supported a higher-order factor solution without further trimming of the first-order measurement models (see Table VII.6 and Table VII.7).

**Figure VII.2: Measurement Models for Dependence**

**a. Dealer Dependence**



**b. Supplier Dependence**



**Table VII.4: Summary of Evaluation Criteria – Dealer Dependence**

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<b><i>Preliminary Fit Criteria: absence of</i></b>	
Negative error variances	NONE
Error variances not significantly different from zero	NONE
Correlations greater than one	NONE
Correlations too close to one (i.e., within two SD of unity)	NONE
Standardized factor loadings too small (e.g., $\lambda < \text{about } .5$ )	NONE
or too large (e.g., $\lambda > \text{about } .95$ )	NONE
Very large standard errors	NONE
<b><i>Overall Model Fit: achievement of</i></b>	
Nonsignificant $\chi^2$ (e.g., $\chi^2$ with p-value $\geq .05$ )	NO
Adequate statistical power of $\chi^2$ -test	YES
Satisfactory incremental fit index (i.e., $\Delta \geq .9$ )	YES
Satisfactory goodness-of-fit-index (i.e., AFGI $\geq .9$ or so)	YES
Satisfactory model comparisons (e.g., $\chi^2$ difference tests)	YES
Low root mean square residuals	SCG105
<b><i>Fit of Internal Structure of Model: achievement of</i></b>	
High composite reliabilities (e.g., $\rho_c \geq .6$ )	SCG103
Average variance extracted $\geq .5$	YES
Significant parameter estimates confirming hypotheses	YES
Normalized residuals less than 2	DSC213; DSC205
Adequate power to detect casual paths	YES

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**Table VII.5: Summary of Evaluation Criteria – Supplier Dependence**

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<b><i>Preliminary Fit Criteria: absence of</i></b>	
Negative error variances	NONE
Error variances not significantly different from zero	NONE
Correlations greater than one	NONE
Correlations too close to one (i.e., within two SD of unity)	NONE
Standardized factor loadings too small (e.g., $\lambda < \text{about } .5$ )	NONE
or too large (e.g., $\lambda > \text{about } .95$ )	NONE
Very large standard errors	NONE
<b><i>Overall Model Fit: achievement of</i></b>	
Nonsignificant $\chi^2$ (e.g., $\chi^2$ with p-value $\geq .05$ )	YES
Adequate statistical power of $\chi^2$ -test	YES
Satisfactory incremental fit index (i.e., $\Delta \geq .9$ )	YES
Satisfactory goodness-of-fit-index (i.e., AFGI $\geq .9$ or so)	YES
Satisfactory model comparisons (e.g., $\chi^2$ difference tests)	YES
Low root mean square residuals	YES
<b><i>Fit of Internal Structure of Model: achievement of</i></b>	
High composite reliabilities (e.g., $\rho_c \geq .6$ )	SSC107
Average variance extracted $\geq .5$	NO for DSC
Significant parameter estimates confirming hypotheses	YES
Normalized residuals less than 2	DCG223; DCG216
Adequate power to detect casual paths	YES

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**Table VII.6: Higher-Order Factor Analysis – Dealer Dependence**

<b>Overall Model Fit:</b>		$\chi^2(61) = 117.5; p = .00$	NFI = .94	TLI = .95
		CFI = .97	RMSEA = .05	p(Close) = .32
<i>Parameter</i>	<i>Scale</i>	<i>Factor Loading</i>		<i>(t-value)</i>
		<i>Unstand.</i>	<i>Stand.</i>	
<i>Supplier Complementary Goals (SCG, <math>\xi_1</math>)</i>				
$\lambda_{1,1}$	SCG125*	1.00	.82	
$\lambda_{2,1}$	SCG129	.94	.83	(16.63)
$\lambda_{3,1}$	SCG114	.82	.76	(14.89)
<i>Supplier Complementary Resources (SCR, <math>\eta_1</math>)**</i>				
$\lambda_{4,2}$	SCR115*	1.00	.27	
$\lambda_{5,2}$	SCR127*	1.00	.24	
$\lambda_{6,2}$	SCR101*	1.00	.20	
$\lambda_{7,2}$	SCR104*	1.00	.15	
$\lambda_{8,2}$	SCR124*	1.00	.25	
$\lambda_{9,2}$	SCR132*	1.00	.24	
$\lambda_{10,2}$	SCR121*	1.00	.29	
<i>Dealer Switching Costs (DSC, <math>\xi_2</math>)</i>				
$\lambda_{11,3}$	DSC215*	1.00	.85	
$\lambda_{12,3}$	DSC220	.99	.79	(15.37)
$\lambda_{13,3}$	DSC214	.91	.72	(13.71)
$\lambda_{14,3}$	DSC217	.84	.67	(12.49)
$\lambda_{15,3}$	DSC209	.83	.62	(11.46)
<i>Higher-Order Model Parameters</i>				
$\gamma_{1,2}$	SCG*	1.00	.15	
$\beta_{1,2}$	SCR*	1.00	.80	
$\gamma_{2,2}$	DSC*	1.00	.16	
<i>Correlations</i>				
$\Phi_{\xi_1, \xi_2}$			.37	
$\Phi_{4, \xi_1}$		$\Phi_{4, \xi_2}$	.28	
$\Phi_{5, \xi_1}$		$\Phi_{5, \xi_2}$	.21	
$\Phi_{6, \xi_1}$		$\Phi_{6, \xi_2}$	.32	
$\Phi_{7, \xi_1}$		$\Phi_{7, \xi_2}$	.21	
$\Phi_{8, \xi_1}$		$\Phi_{8, \xi_2}$	.23	
$\Phi_{9, \xi_1}$		$\Phi_{9, \xi_2}$	.08	
$\Phi_{10, \xi_1}$		$\Phi_{10, \xi_2}$	.19	

NOTE: \*fixed to 1.00; \*\*SCR113 was excluded because it was highly skewed.

**Table VII.7: Higher-Order Factor Analysis – Supplier Dependence**

<b>Overall Model Fit:</b>		$\chi^2(36) = 63.1; p = .00$	NFI = .95	TLI = .95
		CFI = .98	RMSEA = .05	p(Close) = .53
<i>Parameter</i>	<i>Scale</i>	<i>Factor Loading</i>		<i>(t-value)</i>
		<i>Unstand.</i>	<i>Stand.</i>	
<i>Dealer Complementary Goals (DCG, <math>\xi_1</math>)</i>				
$\lambda_{1,1}$	DCG202*	1.00	.83	
$\lambda_{2,1}$	DCG201	.94	.82	(13.69)
$\lambda_{3,1}$	DCG204	.78	.63	(10.93)
<i>Dealer Complementary Resources (DCR, <math>\eta_1</math>)**</i>				
$\lambda_{4,2}$	DCR211*	1.00	.26	
$\lambda_{5,2}$	DCR208*	1.00	.27	
$\lambda_{6,2}$	DCR222*	1.00	.24	
$\lambda_{7,2}$	DCR207*	1.00	.23	
$\lambda_{8,2}$	DCR206*	1.00	.29	
$\lambda_{9,2}$	DCR212*	1.00	.28	
$\lambda_{10,2}$	DCR219*	1.00	.26	
<i>Supplier Switching Costs (SSC, <math>\xi_2</math>)</i>				
$\lambda_{11,3}$	SSC111*	1.00	.69	
$\lambda_{12,3}$	SSC102	.99	.73	(10.14)
$\lambda_{13,3}$	SSC117	.90	.65	(9.37)
<i>Higher-Order Model Parameters</i>				
$\gamma_{1,2}$	DCG*	1.00	.13	
$\beta_{1,2}$	DCR*	1.00	.83	
$\gamma_{2,2}$	SSC*	1.00	.15	
<i>Correlations</i>				
$\Phi_{\xi_1, \xi_2}$			.46	$\Phi_{4, \xi_2}$ .48
$\Phi_{4, \xi_1}$			.27	$\Phi_{5, \xi_2}$ .40
$\Phi_{5, \xi_1}$			.37	$\Phi_{6, \xi_2}$ .36
$\Phi_{6, \xi_1}$			.35	$\Phi_{7, \xi_2}$ .63
$\Phi_{7, \xi_1}$			.52	$\Phi_{8, \xi_2}$ -.06
$\Phi_{8, \xi_1}$			.11	$\Phi_{9, \xi_2}$ .21
$\Phi_{9, \xi_1}$			.06	$\Phi_{10, \xi_2}$ .23
$\Phi_{10, \xi_1}$			.26	

NOTE: \*fixed to 1.00; \*\*DCR218 was excluded because it was highly skewed.

## **Two Types of Interdependence**

The research model requires the measurement of two constructs that can be derived from the level of dependence in the exchange relationship: interdependence magnitude and interdependence symmetry. Each can be calculated as a function of each partner's dependence in the exchange. *Interdependence Magnitude* is the level of overall dependence in the relationship. It has also been referred to as total interdependence (Kumar, Scheer, and Steenkamp 1995). Consistent with Kumar, Scheer, and Steenkamp (1995) and Gundlach and Cadotte (1994) it was operationalized as the sum of one firm's dependence on its partner and the partner's dependence on the firm.<sup>52</sup> *Interdependence Symmetry* exists when a firm and its partner are equally dependent on each other (Kumar, Scheer, and Steenkamp 1995). Interdependence symmetry was therefore operationalized as the *absolute value* of the difference between one firm's dependence on its partner and the partner's dependence on the firm (Emerson 1962; Anderson and Narus 1990; Kumar, Scheer, and Steenkamp 1995; Gundlach and Cadotte 1994).

## **Need for Safeguarding**

Need for safeguarding is a composite that requires a formative measure, because I conceptualize the supplier's safeguarding need as a higher-order factor that increases in magnitude as each of the three basic aspects of need for safeguarding increase (Diamantopoulos and Winklhofer 2001). In the study context, the types of exchange structures observed by Boyle, Dwyer, Robicheaux, and Simpson (1992; Figure 10) suggest that vertical integration might be mostly driven from the supply side of the dyad.

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<sup>52</sup> Note that Gundlach and Cadotte (1994) calculate interdependence magnitude as the average dependence across the dyad. In comparison to the operationalization used here, the Gundlach and Cadotte (1994) operationalization would require a linear transformation (division by 2). This is important to note for the interpretation of the magnitude of coefficients obtained in Chapter VIII but not their statistical significance.

Backward integration seems to be rare in the study context of automotive tire replacement dealers. I therefore operationalize the need to safeguard from the perspective of the supplier because the supplier appears to have the ability to downstream vertically integrate.

In particular, I operationalize the need to safeguard to be caused by the two underlying facets (transaction specific investments and conditions of behavioral and environmental uncertainty), because the two facets contribute to overall safeguarding need in the dyad (e.g., Williamson 1975, 1985; Rindfleisch and Heide 1997). Thus, the supplier's need to safeguard will be operationalized as a higher-order factor that is formative of the level of supplier transaction specific assets, behavioral uncertainty about dealer actions, and environmental uncertainty about market conditions (see Table VII.8). Each is measure is described in the following section.

*Supplier Transaction Specific Assets* are “assets [that] cannot be redeployed without sacrifice of productive value if contracts should be interrupted or prematurely terminated” (Williamson 1985, p. 54). A problem in research involving transaction specific assets is (1) the absence of a commonly accepted operationalization of this construct (Lohtia, Brooks, Krapfel 1994), and (2) that Williamson (1996) does not appear to view different types of asset specificity as mutually exclusive categories, but rather as overlapping types of specific assets that support an exchange. Based on the six main types of transaction specific assets (see: Williamson 1996, p. 105) and a content analysis of existing transaction specific asset operationalizations, Lohtia, Brooks, Krapfel (1994) develop six dimensions of transaction specific assets that can be used to operationalize this construct. These are:

**Table VII.8: Primary Data Collection Measures – Safeguarding Need**

<b>Overall Model Fit:</b> $\chi^2(48) = 155.1; p = .00$ NFI = .94      TLI = .95      CFI = .97      RMSEA = .07      p(Close) = .04						
<i>Scale</i>	<i>Questionnaire Item</i>				<i>Factor Loading</i>	<i>(t-value)</i>
					<i>Unstand.</i>	<i>Stand.</i>
<i>Supplier Transaction Specific Investments (formative indicator; not included in measurement model)</i>						
SSI130	The supplier has tailored its advertising and promotions to meet the specific needs of my firm. ....	n/a				
SSI109	Our supplier has made heavy investments in storage, delivery, and ordering capabilities in order to handle deliveries to my firm. ....	n/a				
SSI108	This supplier does a lot to help my firm become a more effective dealership, such as providing tailored management training and counseling. ....	n/a				
SSI106	If our supplier decided to stop doing business with my firm, it would be wasting a lot of knowledge about our business and our particular tire needs. ....	n/a				
SSI116	Our supplier carries special tire lines in order to meet my firm’s requirements. ....	n/a				
SSI110	It would be difficult for this supplier to recoup its investment in my firm if it switched to another dealer as an outlet for its products. ....	n/a				
<i>Supplier Behavioral Uncertainty (SUB, <math>\alpha = .67, \rho = .69, AVE = .44</math>)</i>						
SUB120*	The supplier does not have accurate information about our firm’s sales activities. ....	1.00	.86			
SUB112	The supplier does not have access to our sales records. ....	.70	.56	(5.82)		
SUB119	It is difficult for the supplier to evaluate how much effort our firm really puts behind their tire brand. ....	.56	.52	(5.72)		
SUB118	It is just not possible for the supplier to supervise my firm closely. ....	*				
SUB122	The supplier’s evaluation of my firm is based on incomplete information. ....	*				

NOTE: Scale Type: 7-pt. Likert; Anchors: Strongly agree – Strongly disagree

**Table VII.8 (cont.)**

<i>Scale</i>	<i>Questionnaire Item</i>	<i>Factor Loading (t-value)</i>	
		<i>Unstand.</i>	<i>Stand.</i>
<i>Supplier Environmental Uncertainty</i>			
For the following issues, how frequently do these aspects change in your firm's trading area?			
<i>Marketing Practices (DUE-m, <math>\alpha = .78</math>, <math>\rho = .83</math>, <math>AVE = .63</math>) **</i>			
DUE502*	...tire sales strategies.....	1.00	.91
DUE503	...sales promotion/advertising strategies.....	.80	.70 (13.44)
DUE501	...mix of tire brands carried.....	.79	.68 (13.04)
<i>Competitor (DUE-p, <math>\alpha = .89</math>, <math>\rho = .90</math>, <math>AVE = .74</math>) **</i>			
DUE509*	...competitors' tire sales strategies.....	1.00	.97
DUE510	...competitors' sales promotions/advertising strategies.....	.91	.87 (22.85)
DUE508	...competitors' mix of tire brands carried.....	.75	.73 (16.85)
<i>Customer (DUE-t, <math>\alpha = .87</math>, <math>\rho = .70</math>, <math>AVE = .87</math>) **</i>			
DUE505*	...customer preferences in tire brands.....	1.00	.94
DUE504	...customer preferences in tire types.....	.94	.87 (21.12)
DUE506	...customer preferences in tire quality.....	.82	.70 (15.10)

Note: \*fixed to 1.00; \*\*These facets were treated as separate factors; Scale Type: 7-pt. Likert; Anchors: No Change – Frequently Change

- (7) Specificity: “an investment is described as being unique, idiosyncratic, specific, or nonredeployable; or the salvageability of an investment” (Lohita, Brooks, Krapfel 1994, p.268); Magnitude of the investment: “the amount invested in the transaction-specific investment or size of the transaction specific investment” (Lohita, Brooks, Krapfel 1994, p.268);
- (8) Importance of the investment: “the asset is ... important to the transaction or to the firms” (Lohita, Brooks, Krapfel 1994, p.268);
- (9) Value-in-use of the investment: “the utility or value-in-use of the investment” (Lohita, Brooks, Krapfel 1994, p.268);
- (10) Durability of the investment: “the investment is ... enduring, long wearing, or lasting” (Lohita, Brooks, Krapfel 1994, p.268); and
- (11) Risk assumed by the investing firm: “there is danger that the investing firm could lose the asset ... or an asset is placed in jeopardy” (Lohita, Brooks, Krapfel 1994, p.269).

However, the magnitude of the investment dimension may depend on whether the transaction specific asset can be divided. If transaction specific assets are divisible, the degree to which such assets are present (e.g., how many signs or promotion material, how much training) can be used to operationalize this dimension. This is consistent with Lohita, Brooks, and Krapfel’s (1994) finding that 81 percent of variance in their content analysis of different types of transaction specific assets can be explained by the two dimensions of (1) durability, and (2) a combination of risk, value, and importance.

Further, the degree of risk assumed by the investing firm appears to tap the uncertainty dimension in the transaction cost framework. In order to avoid confounding

with other study constructs and because transaction specific assets appear to be separable, only the remaining four dimensions of specificity, importance, value-in-use, and durability will be used to operationalize transaction specific assets in this study. A review of previous research revealed five studies that used scale items that appeared to be applicable in the sampling context. Several modifications were made to these scale items (1) to assess supplier transaction specific assets from the dealer's perspective, and (2) to increase content validity in the study context. The following modifications were made throughout pretesting:

- (1) "This supplier does a lot to help us become a more effective distributor, such as providing management training" (Anderson and Weitz, 1992) was modified to "This supplier does a lot to help my firm become a more effective dealership, such as providing tailored management training and counseling." Pretest discussions with tire dealers and distributors revealed that management training and counseling are usual in the industry and play a significant role in supplier sales efforts. Such management training and counseling can be viewed as specific to the dealer being trained, of high value in use and durable, as well as important in developing a more effective exchange.
- (2) "This vendor has tailored its merchandise and procedures to meet the specific needs of our company" (Ganesan 1994) was modified to "The supplier has tailored its advertising and promotions to meet the specific needs of my firm." Pretest discussions with tire dealers and distributors revealed that suppliers adjust and tailor promotions and advertising to dealer specifications. Such tailoring can be viewed as specific to the dealer, of high value in use, as well

as important in developing a more effective exchange. However, the level of durability depends on the cumulative effect of such communication efforts.

- (3) “Our supplier has carried out considerable product adjustments in order to meet our requirements” (Buvik and John 2000) was modified to “Our supplier carries special tire lines in order to meet my firm’s requirements.” Pretest discussions with tire dealers and distributors revealed that suppliers carry special tire lines for selected dealers. Such special tire lines are very specific to the dealer, of high value in use and durable. They also appear to display high importance to both, the dealer and distributor.
- (4) “Our supplier has made heavy investments in storage and transportation equipment in order to deal with deliveries to our firm” (Buvik and John 2000) was modified to “Our supplier has made heavy investments in storage, delivery, and ordering capabilities in order to handle deliveries to my firm.” Pretest discussions with tire dealers and distributors revealed that suppliers open new warehouses to service selected dealers, modify delivery schedules and routes, and develop ordering systems. These adaptations are specific to the dealer being serviced, of high value in use and durable, as well as important in developing a more effective exchange.
- (5) “It would be difficult for this resource to recoup its investment in us if they switched to another retailer as an outlet for their products” (Ganesan 1994) was slightly modified to “It would be difficult for this supplier to recoup its investment in my firm if it switched to another dealer as an outlet for its products” in order to reflect the study context. This item is less specific, but

reflects the dimensions of specific investment. It only indirectly entails durability and importance. Value-in use is not assessed. However, distributors frequently provide start-up money, store-outfit, etc. to dealers that are non-recoverable. The measure was intentionally kept broad to capture different types of such investments across all respondents.

- (6) “If we decided to stop representing this distributor, we would be wasting a lot of knowledge that's tailored to their method of operation” (Anderson and Weitz, 1992) was modified to “If our supplier decided to stop doing business with my firm, it would be wasting a lot of knowledge about our business and our particular tire needs.” Pretest discussions with tire dealers and distributors revealed that supplier contact personnel usually knows the particular tire needs of dealerships. Such knowledge is specific to the dealer being served, of high value in use and durable. It is further important in developing a more effective exchange.

Transaction specific investments can be operationalized as a formative measure, because I conceptualize transaction specific investments as a higher-order factor that increases in magnitude as each of the underlying assets represented by individual scale items increase (Diamantopoulos and Winklhofer 2001). In particular, changes in the level of transaction specific investments made by the supplier do not cause changes in each of these assets measured by the scale items. Rather, these assets jointly contribute to the level of overall transaction specific investments made by the supplier (e.g., Emerson 1962). For example, the level of supplier transaction specific investments may increase because the supplier provides tailored management training to the dealer, but not vice

versa. Further, transaction specific assets are not expected to covary with each other. For example, the level of management training provided to a dealer by a supplier is not necessarily related to the number of tire lines that this supplier carries. Therefore, transaction specific investments are operationalized as a higher-order factor that represents the level of transaction specific assets in the dyad (Jarvis, Mackenzie and Podsakoff 2003).

*Supplier Behavioral Uncertainty* refers to the degree of difficulty associated with assessing the performance of transaction partners (Rindfleisch and Heide 1997). From the perspective of the dealer, behavioral uncertainty then pertains to the supplier's difficulty associated with assessing the performance of the dealer. Consistent with most operationalizations (Rindfleisch and Heide 1997), behavioral uncertainty was operationalized using a modified five-item scale adopted from John and Weitz (1989).

Several modifications were made to (1) change the focus of the scale items from salespeople to the dealer, and to (2) increase content validity in the study context. The following modifications were made throughout pretesting (see Table VII.8):

- (1) "It is just not possible to supervise these salespeople closely" was modified to "It is just not possible for the supplier to supervise my firm closely."
- (2) "It is difficult to evaluate how much effort any individual in this group really puts into his job" was modified to "It is difficult for the supplier to evaluate how much effort our firm really puts behind their tire brand."
- (3) "We have accurate activity reports for each of these salespeople" was modified to "The supplier does not have accurate information about our firm's sales activities." For this and the previous two items pre-test discussions with tire

dealers and distributors revealed that some suppliers have a lot of information about the activities of some dealers (e.g., alliance dealers report on their sales), but little information about other dealers (e.g., price shoppers).

- (4) “It is easy for these salespeople to turn in falsified sales call reports if they want to” was modified to “The supplier does not have access to our sales records” to avoid reverse scaled questionnaire items. Here, pre-test discussions with tire dealers and distributors revealed that access to sales records is usual practice if suppliers perform dealer audits (e.g., for alliance dealers).
- (5) “Our evaluation of each salesperson in this group is based on quite accurate information” was modified to “The supplier's evaluation of my firm is based on incomplete information” to avoid reverse scaled questionnaire items. Here, pre-test discussions with tire dealers and distributors revealed that such evaluations are mostly based on verifiable tire orders and payment history. Thus, uncertainty may not be as high as for the previous scale items.
- (6) “These salespeople travel so much that close supervision is impossible” did not apply and was not used.

*Supplier Environmental Uncertainty* refers to “unanticipated changes in circumstances surrounding an exchange” (Noordewier, John, and Nevin 1990, p. 82). According to Rindfleisch and Heide (1997), two competing operationalizations of this construct exist. This study follows the most popular operationalization that “focuses on the unpredictability of the environment” (Rindfleisch and Heide 1997, p. 42) and does not entail an element of complexity (opposing view). Complexity was not included,

because pretest results suggested that the complexity in the automotive tire replacement market is likely to be manageable and less of a concern to tire suppliers.

Similar to Achrol and Stern's environmental dynamism scale (1988), environmental uncertainty was operationalized by asking the respondents to describe how frequently different aspects of the market for the supplier's product line change in their firm's trading area. The resulting measure contains three sub-constructs, (1) dynamism in marketing practices, (2) competitor dynamism, and (3) customer dynamism. Pre-test discussions with tire dealers and distributors revealed that this measure captures the sources of uncertainty in the business environment of tire suppliers. Product changes are initiated by the automobile and tire industry with little input from tire distributors (e.g., flat-run tires; pressure systems; specialty tires for new vehicles). The competitive environment appears to change frequently (e.g., mass merchandisers enter the market; automotive dealerships start serving the replacement tire market; consolidation of smaller tire distributors and dealers). Finally, customer preference can change rapidly (e.g., firestone scandal) and is driven by fashions and trends (e.g., specialty tires). Most of these changes are not easily predictable by tire suppliers.

### **Measure Characteristics**

Confirmatory factor analysis was conducted for all three facets of supplier safeguarding need. The measurement model for behavioral uncertainty and environmental uncertainty yielded a model with good fit ( $\chi^2(48) = 155.1$ ;  $p = .00$ , NFI = .94, TLI = .95, CFI = .97, RMSEA = .07,  $p(\text{Close}) = .04$ ). In order to develop reliable measures, all scale items were critically evaluated in terms of their reliability and contribution to the construct measure (see Table VII.9 for criteria used to drop scale

items). This procedure yielded three scale items for supplier behavioral uncertainty with moderately high reliability ( $\alpha = .67$ ,  $\rho = .69$ ). The items that had to be dropped are the scale items that did not tap specific situations that usually provide uncertainty for the supplier. The resulting measure, scored on a 7-point scale ranging from “strongly disagree” to “strongly agree,” indicated the degree to which the retailer’s sales activities can be supervised closely by the supplier. All items for environmental uncertainty performed as expected and showed high reliability (dynamism in marketing practices:  $\alpha = .78$ ,  $\rho = .83$ ; competitor dynamism:  $\alpha = .89$ ,  $\rho = .90$ ; customer dynamism:  $\alpha = .87$ ,  $\rho = .70$ ). The resulting measure is 7-point Likert scale composed of nine items that is slightly modified from the one used by Achrol and Stern (1988) and taps the degree to which the retailer perceives the exchange environment to be uncertain.

#### **Higher-Order Factor Model for Need for Safeguarding**

Consistent with the logic provided above, a higher-order factor model was specified using the trimmed scales from the first-order model, with a single, higher-order factor representing supplier transaction specific investments, supplier behavioral uncertainty, and supplier environmental uncertainty (see Figure VII.3). Here, the higher-order factor solution is an attempt at explaining the covariation among the first-order factors in a more parsimonious way. Thus, the expected goodness of fit for the higher-order model can never be better than the corresponding first-order model and the basic first-order factor model can be viewed as the target or optimum fit for the higher-order model (Marsh and Hocevar 1985). The resulting second-order models displayed adequate fit and supported a higher-order factor solution without further trimming of the first-order

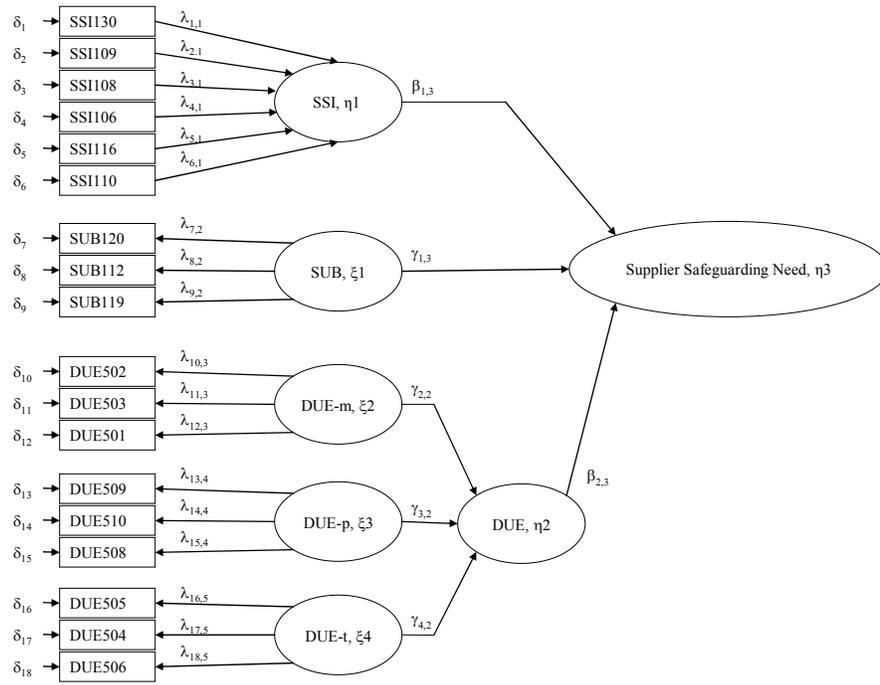
**Table VII.9: Summary of Evaluation Criteria – Safeguarding Need**

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<b><i>Preliminary Fit Criteria: absence of</i></b>	
Negative error variances	NONE
Error variances not significantly different from zero	NONE
Correlations greater than one	NONE
Correlations too close to one (i.e., within two SD of unity)	NONE
Standardized factor loadings too small (e.g., $\lambda < \text{about } .5$ )	NONE
or too large (e.g., $\lambda > \text{about } .95$ )	DUE509
Very large standard errors	NONE
<b><i>Overall Model Fit: achievement of</i></b>	
Nonsignificant $\chi^2$ (e.g., $\chi^2$ with p-value $\geq .05$ )	NO
Adequate statistical power of $\chi^2$ -test	YES
Satisfactory incremental fit index (i.e., $\Delta \geq .9$ )	YES
Satisfactory goodness-of-fit-index (i.e., AFGI $\geq .9$ or so)	YES
Satisfactory model comparisons (e.g., $\chi^2$ difference tests)	YES
Low root mean square residuals	YES for higher-order model
<b><i>Fit of Internal Structure of Model: achievement of</i></b>	
High composite reliabilities (e.g., $\rho_c \geq .6$ )	SUB122; SUB118; DUE507
Average variance extracted $\geq .5$	SUB = .44
Significant parameter estimates confirming hypotheses	YES
Normalized residuals less than 2	YES
Adequate power to detect casual paths	YES

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**Figure VII.3: Measurement Model for Supplier Safeguarding Need**



measurement models ( $\chi^2(96) = 190.4$ ;  $p = .00$ , NFI = .93, TLI = .94, CFI = .96, RMSEA = .06, p(Close) = .21; see Table VII.10).

### **Collaborative Communication**

Consistent with Mohr, Fisher, and Nevin (1996), collaborative communication is conceptualized as a two-dimensional construct comprised of a communication frequency and a communication bi-directionality component. Modified versions of existing scales were used to measure communication bi-directionality (e.g., Kim and Hsieh 2003; Mohr and Spekman 1994). Unfortunately, empirical precedent of multi-item measures for communication frequency in the marketing channels context is scarce and new measures had to be developed (Churchill 1979). Both are described in the next section. A higher-order factor model was then used to reflect both facets.

*Communication Frequency* refers to the amount of contact between exchange partners (Mohr and Nevin 1990), and reflects how often the exchange parties have contact with each other (Mohr and Sohi 1995). Existing operationalizations of communication frequency predominantly use single-item measures that tap the actual number of contacts between exchange parties over a given period of time (Mohr and Nevin 1990) or employ multi-item, formative measures that assess the number of contacts made between the exchange partners using different forms of communication (e.g., Mohr, Fisher and Nevin 1996). These operationalizations appear to be weak measures of communication frequency in the empirical context of buyer-seller exchange relationships in the automotive replacement tire industry.

In this empirical context, tire dealers have phone-contact with their supplier multiple times daily for order purposes. In addition, tire distributors send representatives

**Table VII.10: Higher-Order Factor Analysis – Safeguarding Need**

<b>Overall Model Fit:</b>		$\chi^2(96) = 190.4; p = .00$	NFI = .93	TLI = .94					
		CFI = .96	RMSEA = .06	p(Close) = .21					
<i>Parameter</i>	<i>Scale</i>	<i>Factor Loading</i>		<i>(t-value)</i>					
		<i>Unstand.</i>	<i>Stand.</i>						
<i>Supplier Transaction Specific Investments (SSI, <math>\eta_1</math>)</i>									
$\lambda_{1,1}$	SSI130*	1.00	.22						
$\lambda_{2,1}$	SSI109*	1.00	.26						
$\lambda_{3,1}$	SSI108*	1.00	.25						
$\lambda_{4,1}$	SSI106*	1.00	.24						
$\lambda_{5,1}$	SSI116*	1.00	.26						
$\lambda_{6,1}$	SSI110*	1.00	.25						
<i>Supplier Behavioral Uncertainty (SUB, <math>\zeta_1</math>)</i>									
$\lambda_{7,2}$	SUB120*	1.00	.84						
$\lambda_{8,2}$	SUB112	.72	.56	(6.59)					
$\lambda_{9,2}$	SUB119	.60	.54	(6.48)					
<i>Supplier Environmental Uncertainty (DUE, <math>\eta_2</math>)</i>									
<i>Marketing Practices (DUE-m, <math>\xi_2</math>)</i>									
$\lambda_{10,3}$	DUE502*	1.00	.91						
$\lambda_{11,3}$	DUE503	.79	.69	(13.40)					
$\lambda_{12,3}$	DUE501	.79	.68	(13.16)					
<i>Competitor (DUE-p, <math>\xi_3</math>)</i>									
$\lambda_{13,4}$	DUE509*	1.00	.97						
$\lambda_{14,4}$	DUE510	.91	.87	(22.89)					
$\lambda_{15,4}$	DUE508	.75	.73	(16.84)					
<i>Customer (DUE-t, <math>\xi_4</math>)</i>									
$\lambda_{16,5}$	DUE505*	1.00	.94						
$\lambda_{17,5}$	DUE504	.94	.87	(21.19)					
$\lambda_{18,5}$	DUE506	.82	.70	(15.10)					
<i>Higher-Order Model Parameters</i>									
$\beta_{1,3}$	SSI*	1.00	.88						
$\gamma_{1,3}$	SUB*	1.00	.19						
$\gamma_{2,2}$	DUE-m*	1.00	.38						
$\gamma_{3,2}$	DUE-p*	1.00	.37						
$\gamma_{4,2}$	DUE-t*	1.00	.44						
$\beta_{2,3}$	DUE*	1.00	.44						
<i>Correlations</i>									
$\Phi_{\xi_1, \xi_2}$	.03	$\Phi_{1, \xi_1}$	-.11	$\Phi_{1, \xi_2}$	-.08	$\Phi_{1, \xi_3}$	-.02	$\Phi_{1, \xi_4}$	.02
$\Phi_{\xi_2, \xi_3}$	.68	$\Phi_{2, \xi_1}$	-.07	$\Phi_{2, \xi_2}$	.05	$\Phi_{2, \xi_3}$	.07	$\Phi_{2, \xi_4}$	.10
$\Phi_{\xi_2, \xi_4}$	.60	$\Phi_{3, \xi_1}$	-.29	$\Phi_{3, \xi_2}$	.01	$\Phi_{3, \xi_3}$	.04	$\Phi_{3, \xi_4}$	.06
$\Phi_{\xi_1, \xi_3}$	-.02	$\Phi_{4, \xi_1}$	-.11	$\Phi_{4, \xi_2}$	.06	$\Phi_{4, \xi_3}$	.12	$\Phi_{4, \xi_4}$	.13
$\Phi_{\xi_3, \xi_4}$	.47	$\Phi_{5, \xi_1}$	-.08	$\Phi_{5, \xi_2}$	-.03	$\Phi_{5, \xi_3}$	.04	$\Phi_{5, \xi_4}$	.02
$\Phi_{\xi_1, \xi_4}$	-.04	$\Phi_{6, \xi_1}$	-.09	$\Phi_{6, \xi_2}$	.07	$\Phi_{6, \xi_3}$	.07	$\Phi_{6, \xi_4}$	.08

Note: \*fixed to 1.00

to tire dealers according to a predetermined schedule (e.g., monthly). Here, counting the number of contacts does not appear to assess the amount of meaningful interaction dealers and suppliers have to conduct their business activities adequately.

To avoid the dangers of poor construct conceptualization (MacKenzie 2003), the measure development procedure suggested by Churchill (1979) was followed to develop a better measure of communication frequency for this study (see Table VII.11). Two rounds of data collection were conducted to develop the new measure. First, a pool of items was generated that capture the domain of communication frequency. These items in conjunction with scale items for communication bi-directionality were administered to 71 undergraduate students enrolled in marketing courses.<sup>53</sup> These students were asked to respond to the questionnaire items in respect to their interaction with other group members during a group project in which they participated.

Based on this first pretest, both measures exhibited high levels of convergent validity ( $\alpha_{\text{communication frequency}} = .99$ ;  $\alpha_{\text{communication bi-directionality}} = .98$ ) suggesting that individual item measures are drawn from the domain of each construct. In addition, confirmatory factor analysis was employed to provide evidence for discriminant validity across the two item pools. Using the Eigenvalue criterion, a two factor structure was supported and most items loaded on the intended constructs. Exceptions are items 331, 332, and 333. As suggested by Churchill (1979), this outcome may be due to bias in the sampling context or the emphases within the measures were somehow distorted in editing. Therefore, all items underwent another round of careful revisions for content validity before inclusion in the final survey. No items were excluded at this step. The

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<sup>53</sup> Two respondents had to be eliminated from this sample due to more than 10% missing responses across all scale items.

**Table VII.11: Primary Data Collection Measures – Collaborative Communication**

<b>Overall Model Fit:</b> $\chi^2(19) = 84.2; p = .00$ NFI = .97 TLI = .96 CFI = .97 RMSEA = .10 p(Close) = .00						
<i>Scale</i>	<i>Questionnaire Item</i>	<i>Factor Loading</i>		<i>(t-value)</i>		
		<i>Unstand.</i>	<i>Stand.</i>			
<i>Communication Frequency (CFR, <math>\alpha = .95, \rho = .95, AVE = .78</math>)</i>						
In this relationship, our firm and the major supplier:						
CFR334*	...share information that is highly consistent. ....	1.00	.92			
CFR333	...share information between our firms in a timely manner. ....	.97	.90	(26.14)		
CFR331	...share information quickly between both firms. ....	.93	.87	(23.99)		
CFR335	...share information widely across the firms. ....	.96	.88	(24.98)		
CFR336	...share information that affects the other party openly. ....	.88	.84	(22.54)		
<i>Communication Bi-directionality (CBD, <math>\alpha = .88, \rho = .88, AVE = .72</math>)</i>						
In this relationship, our firm and the major supplier:						
CBD339*	...keep each other well informed about what is going on in this market and with customers. ....	1.00	.87			
CBD338	...seek each other's advice and counsel about marketing efforts. ....	.98	.86	(19.93)		
CBD337	...provide each other with frequent feedback on performance. ....	.86	.80	(17.79)		
CBD332	...involve each other in goal setting and forecasting. ....	*				
CBD330	...make it a point to keep each other well informed. ....	*				

Note: \*fixed to 1.00; Scale Type: 7-pt. Likert; Anchors: Strongly agree – Strongly disagree

second iteration in the measure development process involved the analysis of the new scale items using the data from the main study.

*Communication Bi-directionality* refers to “the extent to which each party gives feedback and input to the other (two-way flows)” (Mohr and Sohi 1995, p. 395).

Consistent with previous research it was operationalized using a modified five-item scale that heavily drew on Kim and Hsieh (2003) as well as Mohr and Spekman (1994).

Several modifications were made to (1) change the focus of the scale items from unidirectional to a bi-directional flow of information, and to (2) increase content validity in the study context. The following modifications were made throughout pretesting:

- (1) “We keep this supplier well informed about what is going on in this distributorship and with customers” (Kim and Hsieh 2003) was modified to “In this relationship, our firm and the major supplier keep each other well informed about what is going on in this market and with customers.” This item consists of two domains – information about the dealership and information about customers. Thus, in order to reduce ambivalence in interpretation of the results, this item was split into both components. Pre-test discussions with tire dealers and distributors revealed that the dealer keeps the supplier informed about market conditions and sales expectations. This was used as content of the scale item. The second component of this item taps the same domain as the behavioral uncertainty construct (reversed) and was therefore excluded.
- (2) “This supplier seeks our advice and counsel about its marketing efforts” (Kim and Hsieh 2003) was modified to “In this relationship, our firm and the major

supplier seek each other's advice and counsel about marketing efforts." Pre-test discussions with tire dealers and distributors revealed that suppliers use dealer-meetings to get feedback on marketing strategies and actions.

(3) "We provide this supplier with frequent feedback on its performance" (Kim and Hsieh 2003) was modified to "In this relationship, our firm and the major supplier provide each other with frequent feedback on performance." Here, pre-test discussions with tire dealers and distributors revealed that dealers give the supplier feedback on their promotion activities.

(4) "This supplier and we make it a point to keep each other well informed"(Kim and Hsieh 2003) was modified to "In this relationship, our firm and the major supplier make it a point to keep each other well informed." Pre-test findings revealed that the purpose of dealer-meetings is to keep both parties informed about each other's marketing efforts and business situation.

(5) "We participate in goal setting and forecasting with this manufacturer" (Mohr and Spekman 1994) was modified to "In this relationship, our firm and the major supplier involve each other in goal setting and forecasting." Here, long-term delivery agreements are worked out between supplier and dealer. For the duration of these agreements, the dealer keeps the supplier informed about current and expected sales.

### **Measure Characteristics**

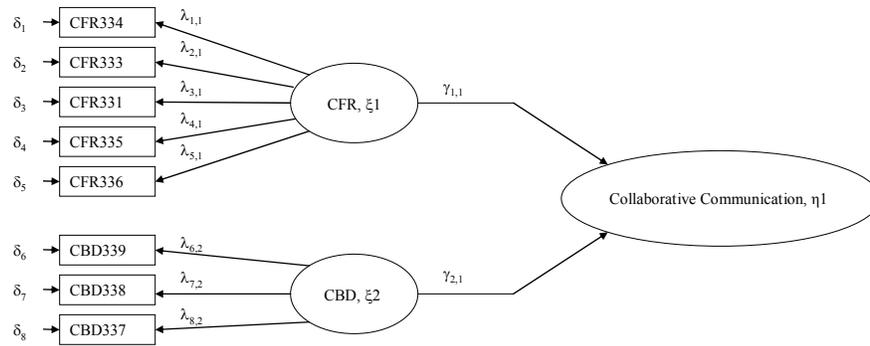
Confirmatory factor analysis of both measures yielded a five item scale for the newly developed communication frequency measure and four scale items for communication bi-directionality (see Table VII.7). Two items (CBD332 and CBD330) of

the communication bi-directionality measure cross-loaded with items of the communication frequency measure and were removed to achieve adequate fit of the measurement model. All other scale items performed as expected. The confirmatory factor analysis yielded a model with good fit ( $\chi^2(19) = 84.2$ ;  $p = .00$ , NFI = .97, TLI = .96, CFI = .97, RMSEA = .10, pClose = .00) and high reliability (communication frequency:  $\alpha = .95$ ,  $\rho = .95$ ; communication bi-directionality  $\alpha = .88$ ,  $\rho = .88$ ). In addition, using the method suggested by Anderson and Gerbering (1988) for the assessment of discriminant validity, a chi-square difference test on the values obtained for the constrained (fixing the correlation parameter between the two constructs to 1.0) and unconstrained models produced a significantly lower chi-square value for the unconstrained model ( $\chi^2_{\text{difference}} = 63.6$ ). This indicates that both constructs "... are not perfectly correlated and that discriminant validity is achieved" (Bagozzi and Phillips 1982, p.476)

### **Higher-Order Confirmatory Factor Analysis for Collaborative Communication**

Consistent with the logic provided above, a higher-order, formative factor model was specified using the trimmed scales from the first-order model, with a single higher-order factor representing collaborative communication (see Figure VII.4). The resulting second-order model displayed adequate fit ( $\chi^2(19) = 87.2$ ;  $p = .00$ , NFI = .97, TLI = .96, CFI = .97, RMSEA = .10, p(Close) = .00) and supported a higher-order factor solution without further trimming of the first-order measurement model (see Table VII.12). The resulting measure, scored on a 7-point Likert scale composed of eight scale items that

**Figure VII.4: Measurement Model for Collaborative Communication**



**Table VII.12: Higher-Order Factor Analysis – Collaborative Communication**

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**Overall Model Fit:**  $\chi^2(19) = 84.2; p = .00$       NFI = .97      TLI = .96  
 CFI = .97      RMSEA = .10      p(Close) = .00

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<i>Parameter</i>	<i>Scale</i>	<i>Factor Loading</i>		<i>(t-value)</i>
		<i>Unstand.</i>	<i>Stand.</i>	
<i>Communication Frequency (CFR, <math>\zeta_1</math>)</i>				
$\lambda_{1,1}$	CFR334*	1.00	.92	
$\lambda_{2,1}$	CFR333	.97	.90	(26.14)
$\lambda_{3,1}$	CFR331	.93	.87	(23.99)
$\lambda_{4,1}$	CFR335	.96	.88	(24.98)
$\lambda_{5,1}$	CFR336	.88	.84	(22.54)
<i>Communication Bi-directionality (CBD, <math>\zeta_2</math>)</i>				
$\lambda_{6,2}$	CBD339*	1.00	.87	
$\lambda_{7,2}$	CBD338	.98	.86	(19.93)
$\lambda_{8,2}$	CBD337	.86	.80	(17.79)
<i>Higher-Order Model Parameters</i>				
$\gamma_{1,1}$	CFR*	1.00	.48	
$\gamma_{2,1}$	CBD*	1.00	.49	
<i>Correlations</i>				
$\Phi_{\xi_1, \xi_2}$		.90		

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Note: \*fixed to 1.00

taps the degree to which communication between the exchange parties is frequent and bi-directional.

### **Relational Exchange**

The research model proposed in Chapter V conceptualizes relational exchange in terms of relational norms. Similar to Heide and John (1992), relational norms were operationalized using three facets (flexibility, information exchange, and solidarity; see Table VII.13). These facets are reflective of an underlying, higher-order factor – relational norms. Each facet was measured by scale items that are slightly modified versions of the scale items used by Heide and John (1992). In particular, scale items that could be misunderstood as tapping actual exchange behaviors were modified to clearly reflect the definition of relational normative beliefs as expectations about behavior. In addition, all items were modified to reduce respondent effort – a common problem with long Likert-type scales. Towards this end, a common beginning to all items was used and the respondent was only required to read the portion of the stimulus that is altered across scale items. The following modifications were made throughout this modification process:

- (1) “Flexibility in response to requests for changes is a characteristic of this relationship” was modified to “In our relationship with our major supplier, it is expected that both firms are flexible in response to requests for changes.”  
“The parties expect to be able to make adjustments in the ongoing relationship to cope with changing circumstances” was modified to “In our relationship with our major supplier, it is expected that adjustments can be made in the ongoing relationship to cope with changing circumstances.”

**Table VII.13: Primary Data Collection Measures – Relational Norms**

<b>Overall Model Fit:</b> $\chi^2(32) = 152.2; p = .00$ NFI = .95      TLI = .94      CFI = .96      RMSEA = .11      p(Close) = .00						
<i>Scale</i>	<i>Questionnaire Item</i>				<i>Factor Loading</i>	<i>(t-value)</i>
					<i>Unstand.</i>	<i>Stand.</i>
<i>Information Exchange (NIX, <math>\alpha = .91, \rho = .91, AVE = .72</math>)</i>						
In our relationship with our major supplier, it is expected that						
NIX362*	...both firms will provide proprietary information if it can help the other firm. ....	1.00	.88			
NIX361	...both firms keep each other informed about events or changes that may affect the other firm.....	.97	.90	(23.08)		
NIX368	...information in this relationship is exchanged frequently and informally, and not only according to pre-specified agreement. ....	.94	.82	(19.50)		
NIX360	...any information that might help the other firm will be provided to them.....	.88	.81	(18.81)		
<i>Solidarity (NSL, <math>\alpha = .81, \rho = .82, AVE = .60</math>)</i>						
In our relationship with our major supplier, it is expected that						
NSL367*	...problems that arise in the course of this relationship are treated by both firms as joint rather than individual responsibilities. ....	1.00	.84			
NSL364	...both firms undergo improvements that may benefit the relationship as a whole, and not only the individual firm. ....	.98	.86	(20.40)		
NSL359	...both firms do not mind owing each other favors. ....	.88	.64	(13.00)		
<i>Flexibility (NFX, <math>\alpha = .91, \rho = .91, AVE = .77</math>)</i>						
In our relationship with our major supplier, it is expected that						
NFX363*	...both firms are flexible in response to requests for changes. ....	1.00	.90			
NFX366	...when some unforeseen situation arises both firms work out a new deal rather than holding each other to the original terms. ....	.97	.85	(21.84)		
NFX365	...adjustments can be made in the ongoing relationship to cope with changing circumstances. ....	.91	.88	(24.09)		

Note: \*fixed to 1.00; Scale Type: 7-pt. Likert; Anchors: Strongly agree – Strongly disagree

- (2) “When some unexpected situation arises, the parties would rather work out a new deal than hold each other to the original terms” was modified to “In our relationship with our major supplier, it is expected that when some unforeseen situation arises both firms work out a new deal rather than holding each other to the original terms.”
- (3) “In this relationship, it is expected that any information that might help the other party will be provided to them” was modified to “In our relationship with our major supplier, it is expected that any information that might help the other firm will be provided to them.”
- (4) “Exchange of information in this relationship takes place frequently and informally, and not only according to prespecified agreement” was modified to “In our relationship with our major supplier, it is expected that information in this relationship is exchanged frequently and informally, and not only according to pre-specified agreement.”
- (5) “It is expected that the parties will provide proprietary information if it can help the other party” was modified to “In our relationship with our major supplier, it is expected that both firms will provide proprietary information if it can help the other firm.”
- (6) “It is expected that we keep each other informed about events or changes that may affect the other party” was modified to “In our relationship with our major supplier, it is expected that both firms keep each other informed about events or changes that may affect the other firm.”

- (7) “Problems that arise in the course of this relationship are treated by the parties as joint rather than individual responsibilities” was modified to “In our relationship with our major supplier, it is expected that problems that arise in the course of this relationship are treated by both firms as joint rather than individual responsibilities.”
- (8) “The parties are committed to improvements that may benefit the relationship as a whole, and not only the individual parties” was modified to “In our relationship with our major supplier, it is expected that both firms undergo improvements that may benefit the relationship as a whole, and not only the individual firm.”
- (9) “The parties in this relationship do not mind owing each other favors” was modified to “In our relationship with our major supplier, it is expected that both firms do not mind owing each other favors.”

### **Measure Characteristics**

Confirmatory factor analysis for three distinct facets of relational norms using structural equation modeling did not produce a positive-definite covariance matrix at the factor level. Amos can produce estimates of variances and covariances that yield covariance matrices that are not positive definite (Wothke 1993). Such a solution is said to be inadmissible. However, Amos does not attempt to distinguish between a solution that is outside the admissible region and one that is on or near its boundary.

Further probing of the measurement model revealed that the improper solution may be caused by a high correlation between the solidarity facet and the flexibility facet. From a substantive point of view, this is not unexpected given that all facets reflect the

higher-order relational norm. The main concern, however, is that these facets may lack discriminant validity. In order to address this concern, the two-step approach proposed by Anderson and Gerbering (1988) was used. Comparing two facets at a time, all three relational norm facets exhibited significantly higher chi-square estimates for measurement models with fixed correlation parameter ( $\Phi_{ij} = 1$ ) than their unconstrained counterparts. According to Anderson and Gerbering (1988), this indicates that discriminant validity is achieved.

Despite the potentially improper solution at the first-order level, the measurement model supported the hypothesized factor structure and item assignment (see Table VII.13). The confirmatory factor analysis yielded a model with good fit indices ( $\chi^2(32) = 152$ ;  $p = .00$ , NFI = .95, TLI = .94, CFI = .96, RMSEA = .10,  $p(\text{Close}) = .00$ ) and reasonably high reliability (Information Exchange:  $\alpha = .91$ ,  $\rho = .91$ , AVE = .72; Solidarity:  $\alpha = .81$ ,  $\rho = .82$ , AVE = .60; Flexibility:  $\alpha = .91$ ,  $\rho = .91$ , AVE = .77).

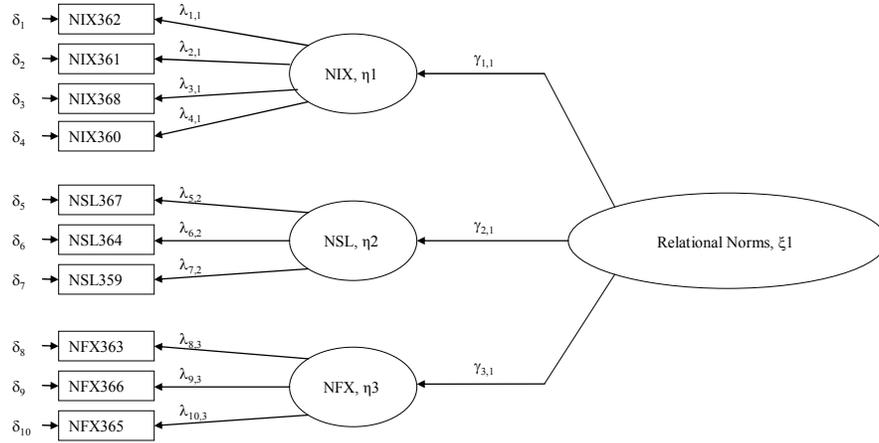
#### **Higher-Order Factor Model for Relational Norms**

Consistent with Heide and John (1992), a higher-order factor model was specified using the scales from the first-order model, with a single higher-order factor representing flexibility, information exchange, and solidarity (see Figure VII.5 a). The resulting second-order model displayed adequate fit ( $\chi^2(34) = 153.3$ ;  $p = .00$ , NFI = .95, TLI = .95, CFI = .96, RMSEA = .11,  $p(\text{Close}) = .00$ ) and supported the higher-order factor solution. However, given the potentially improper solution at the first-order factor level, further analyses were conducted to ensure a robust and parsimonious measurement model.

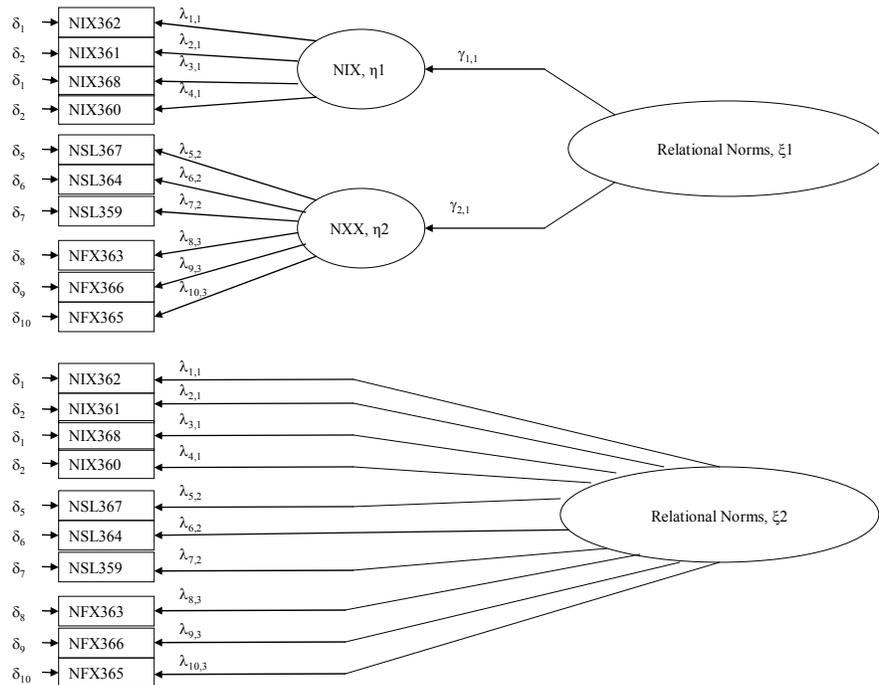
Two rival measurement models were used (see Figure VII.5 b). First, given the high correlation between the solidarity and flexibility facet, a model with two first-order

**Figure VII.5: Measurement Model for Relational Norms**

a. Model consistent with Heide and John (1992)



b. Rival models



**Table VII.14: Higher-Order Factor Analysis – Relational Norms**

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**Overall Model Fit:**  $\chi^2(25) = 95.4; p = .00$       NFI = .97      TLI = .96  
 CFI = .97      RMSEA = .09      p(Close) = .00

---

<i>Parameter</i>	<i>Scale</i>	<i>Factor Loading</i>		<i>(t-value)</i>
		<i>Unstand.</i>	<i>Stand.</i>	
<i>Information Exchange (NIX, <math>\eta_1</math>)</i>				
$\lambda_{1,1}$	NIX362*	1.00	.90	
$\lambda_{2,1}$	NIX361	.97	.92	(25.09)
$\lambda_{3,1}$	NIX368**			
$\lambda_{4,1}$	NIX360	.86	.80	(19.15)
<i>Solidarity (NSL, <math>\eta_2</math>)</i>				
$\lambda_{5,2}$	NSL367*	1.00	.85	
$\lambda_{6,2}$	NSL364	.99	.88	(21.14)
$\lambda_{7,2}$	NSL359	.86	.64	(12.77)
<i>Flexibility (NFX, <math>\eta_3</math>)</i>				
$\lambda_{8,3}$	NFX363*	1.00	.91	
$\lambda_{9,3}$	NFX366	.96	.84	(21.71)
$\lambda_{10,3}$	NFX365	.91	.88	(24.16)
<i>Higher-Order Model Parameters</i>				
$\gamma_{1,1}$	NIX	.98	.91	(20.21)
$\gamma_{2,1}$	NSL	.98	1.00	(21.94)
$\gamma_{3,1}$	NFX*	1.00	.99	
<i>Correlations***</i>				
$\Phi_{\eta_1, \eta_2}$	.97			
$\Phi_{\eta_1, \eta_3}$	.94			
$\Phi_{\eta_2, \eta_3}$	1.02			

---

Note: \*fixed to 1.00 ;\*\* Item was excluded because it cross-loaded with the solidarity facet; \*\*\*correlations for first-order model.

factors (one reflecting the information exchange facet and one reflecting all items of the solidarity and flexibility facet) and one higher-order factor was specified. This measurement model exhibited slightly worse fit than the original model ( $\chi^2(34) = 157.8$ ;  $p = .00$ , NFI = .95, TLI = .95, CFI = .96, RMSEA = .11,  $p(\text{Close}) = .00$ ). Second, a rival model with one first-order factor representing all scale items was specified. This model showed significantly worse fit than the original solution ( $\chi^2(35) = 196.7$ ;  $p = .00$ , NFI = .94, TLI = .93, CFI = .95, RMSEA = .12,  $p(\text{Close}) = .00$ ). Given these model comparisons it appears that the original model (1) is consistent with prior findings (e.g., Heide and John 1992), and (2) appears to provide the best fitting solution to the data. Additional analysis of the original model at the item level revealed that one item (NIX368) cross-loaded with items of the other two factors. Excluding this item from the original model improved model fit significantly ( $\chi^2(25) = 95.4$ ;  $p = .00$ , NFI = .97, TLI = .96, CFI = .97, RMSEA = .09,  $p(\text{Close}) = .00$ ).

In summary, the measure used to operationalize relational norms closely represents the model developed by Heide and John (1992). The resulting measure, scored on a 7-point Likert scale composed of nine scale items that taps the degree to which expectations about behavior characterize the exchange “that are designed to enhance the wellbeing of the relationship as a whole” (Heide and John 1992, p.34).

### **Exchange Performance**

The operationalization of exchange performance entails two constructs – exchange effectiveness and exchange efficiency. Both constructs are interpreted in respect to the focal exchange and not only in terms of one partner’s performance in relation to the exchange. Individual firm performance can be viewed as, at least partially,

a result of exchange performance with another firm. However, in order to establish convergent and discriminant validity for the exchange performance constructs, a measure of dealer performance was included in the survey instrument. The following section describes the operationalization of each construct (see Table VII.15).

*Exchange effectiveness* refers to the achievement of desired or preferred end states in the exchange relationship (Katz and Kahn 1978). The exchange effectiveness measure used in this study is a slightly modified version of Selnes and Sallis (2003) relationship performance measure. Modifications were made (1) to specify the unit of analysis as the exchange relationship with the major supplier, and (2) to adapt scale items to the exchange context of the focal exchange dyad.

- (1) “The relationship with the other company has resulted in lower logistics costs” was modified to “In your firm’s dealings with your major supplier the relationship with this supplier has resulted in lower costs.”
- (2) “Flexibility to handle unforeseen fluctuations in demand has been improved because of this relationship” was modified to “In your firm’s dealings with your major supplier flexibility to handle unforeseen fluctuations in demand has been improved because of this relationship.”
- (3) “The relationship with the other company has resulted in better product quality” was modified to “In your firm’s dealings with your major supplier the relationship with this supplier has resulted in higher customer satisfaction.”
- (4) “Synergies in joint sales and marketing efforts have been achieved because of the relationship” was modified to “In your firm’s dealings with your major supplier synergies in joint sales and marketing efforts have been achieved

**Table VII.15: Primary Data Collection Measures – Exchange Performance**

<b>Overall Model Fit:</b>		$\chi^2(174) = 274.1; p = .00$	NFI = .93	TLI = .97	CFI = .97	RMSEA = .04	p(Close) = .91
<i>Scale</i>	<i>Questionnaire Item</i>			<i>Factor Loading</i>		<i>(t-value)</i>	
		<i>Unstand.</i>	<i>Stand.</i>				
<i>Exchange Effectiveness (EES, <math>\alpha = .87, \rho = .88, AVE = .64</math>)**</i>							
In your firm's dealings with your major supplier:							
EES425*	...the relationship has a positive effect on our ability to reach new customers. ....	1.00	.90				
EES424	...synergies in joint sales and marketing efforts have been achieved because of the relationship. ....	.94	.86	(19.66)			
EES426	...investments of resources in the relationship, such as time and money, have paid off well. ....	.82	.77	(16.56)			
EES427	...the supplier helps my firm to detect and react to changes in customer preferences before our competitors do. ....	.79	.67	(13.69)			
EES421	...the relationship with this supplier has resulted in lower costs. ....	*					
EES422	...flexibility to handle unforeseen fluctuations in demand has been improved because of this relationship. ....	*					
EES423	...the relationship with this supplier has resulted in higher customer satisfaction. ....	*					
<i>Dealer Effectiveness***</i>							
Relative to your expectations, how is your firm performing on:							
Financial (DES-f, $\alpha = .92, \rho = .93, AVE = .72$ )							
DES525*	...tire sales growth last year. ....	1.00	.89				
DES526	...revenue growth for tire business last year. ....	.99	.91	(24.38)			
DES527	...market share growth for local tire market last year. ....	.91	.89	(23.07)			
DES524	...market share in local tire market. ....	.70	.72	(15.62)			
DES521	...total tire sales. ....	.78	.79	(18.27)			
DES522	...sales of major tire brand. ....	*					
DES523	...revenues in tire business. ....	*					
Customer Relationship (DES-c, $\alpha = .81, \rho = .81, AVE = .59$ )							
DES530*	...tire quality and performance. ....	1.00	.82				
DES528	...customer satisfaction with tires. ....	.98	.83	(12.90)			
DES531	...tire service quality (mounting and balancing). ....	.81	.66	(11.24)			
DES529	...customer loyalty in tire business. ....	*					

Note: \*fixed to 1.00; \*\*Scale Type: 7-pt. Likert; Anchors: Strongly agree – Strongly disagree  
 \*\*\* Note: Scale Type: 7-pt. Likert; Anchors: Worse than expected – Better than expected

Table VII.15 (cont.)

Scale	Questionnaire Item	Factor Loading	(t-value)		
		Unstand.	Stand.		
<i>Exchange Efficiency</i>					
In your firm's dealings with your major supplier:					
Bargaining Costs (EEY-b, $\alpha = .76$ , $\rho = .77$ , $AVE = .53$ )					
EEY416*	...resolving misshipments to my firm's satisfaction often takes a lot of time and effort. ....	1.00	.83		
EEY415	...working out new delivery agreements is often difficult. ....	.91	.76 (15.18)		
EEY411	...price negotiations are often difficult. ....	.71	.58 (10.69)		
EEY410	...ordering the right product takes much time and effort.....	*			
EEY412	...negotiating our credit line with the supplier is very difficult.....	*			
Monitoring Costs (EEY-m, $\alpha = .85$ , $\rho = .85$ , $AVE = .66$ )					
EEY413*	...we spend too much time tracking returns and defects. ....	1.00	.77		
EEY414	...we spend a lot of time and effort checking on deliveries.....	.99	.86 (16.17)		
EEY417	...my firm spends a lot of time and effort on tracking our delivery tickets. ....	.89	.81 (15.08)		
EEY418	...my firm needs to check this supplier's billing and adjustments to make sure they are accurate.....	*			
Maladaptation Costs (EEY-a, $\alpha = .79$ , $\rho = .81$ , $AVE = .60$ )					
EEY420*	...my firm often has incomplete information about the supplier's actions. ....	1.00	.86		
EEY419	...important information from this supplier seldom comes at the right time. ....	.96	.85 (16.15)		
EEY428	...information from this supplier that my firm needs for its business to be successful is often vague and difficult to understand.....	.59	.55 (9.88)		
<i>Correlations****</i>					
$\Phi_{\xi_1, \xi_2}$ .....	-.31	$\Phi_{\xi_2, \xi_3}$ .....	.94	$\Phi_{\xi_3, \eta_3}$ .....	-.01
$\Phi_{\xi_1, \xi_3}$ .....	-.20	$\Phi_{\xi_2, \xi_4}$ .....	.73	$\Phi_{\xi_3, \eta_4}$ .....	-.32
$\Phi_{\xi_1, \xi_4}$ .....	-.42	$\Phi_{\xi_2, \eta_3}$ .....	.04	$\Phi_{\xi_4, \eta_3}$ .....	-.10
$\Phi_{\xi_1, \eta_3}$ .....	.19	$\Phi_{\xi_2, \eta_4}$ .....	-.24	$\Phi_{\xi_4, \eta_4}$ .....	-.16
$\Phi_{\xi_1, \eta_4}$ .....	.15	$\Phi_{\xi_3, \xi_4}$ .....	.65	$\Phi_{\eta_3, \eta_4}$ .....	.32

Note: Scale Type: 7-pt. Likert; Anchors: Strongly agree – Strongly disagree; reverse scaled.

\*\*\*\* first-order measurement model correlations; see: Figure VII.5 for notations.

because of the relationship.” “The relationship has a positive effect on our ability to develop successful new products” was modified to “In your firm’s dealings with your major supplier the relationship has a positive effect on our ability to reach new customers.”

- (5) “Investments of resources in the relationship, such as time and money, have paid off well” was modified to “In your firm’s dealings with your major supplier investments of resources in the relationship, such as time and money, have paid off well.”
- (6) “The relationship helps us to detect changes in end-user needs and preferences before our competitors do” was modified to “In your firm’s dealings with your major supplier the supplier helps my firm to detect and react to changes in customer preferences before our competitors do.”

As pointed out, a measure of *dealer effectiveness* was included to help establish discriminant validity with the exchange effectiveness measure. This is a modified version of the scale used by Moorman and Rust (1999) to tap the dealer’s financial and customer relationship performance. This measure is similar to other operationalizations of dealer performance that follow the rational goal model such as Hewett and Bearden (2001), Moorman and Miner (1997) and Lusch and Brown (1996).

In essence this approach of performance measurement asks the respondent to rate the exchange outcomes on a set of performance indicators that reflect the achievement of financial (cost, sales, profitability, market share) and customer relationship goals (customer satisfaction, customer retention, product/ service quality) of the of the

exchange partner. Although these goals appear broad ranging, the specific goals in the study context might be different. It was therefore necessary to assess the validity of this performance index in the current study context by using pretests.

First, this pretest revealed that the stimulus used by Moorman and Rust (1999), “Relative to your firm's (division's) stated objectives, how is your firm (division) performing on: ...,” may not be meaningful to all respondents. Here, automotive tire dealers may not operate using stated goals that could easily be identified and used as a reference point. Thus, similar to Lusch and Brown (1996), the original stimulus was modified to “Relative to your expectations, how is your firm performing on: ...”

*Financial performance* was measured by Moorman and Rust (1999) using four facets (cost, sales, profitability, market share). The cost and facet was dropped from the dealer effectiveness scale, because it taps exchange efficiency and may not be perceived as a desirable end-state in its own right. In addition, the cost facet is already measured in respect to the exchange relationship in the exchange effectiveness scale. Second, the sales facet was extended to tap different sales goals. Here, pretests suggested two sales objectives that need to be distinguished: total tire sales and tire sales of the major tire brand. Both were included as separate scale items and pretests suggested that these two items may be the dominant measure of dealer effectiveness in the respondent’s mind.

Third, pretests suggested that automotive tire dealers appeared to have little knowledge about their profitability. In addition, most dealers have multiple sources of income for their dealership, such as automotive services, towing and recovery operations, or body work. Here, dealers appear to not monitor profitability within each aspect of their business. Rather, dealers monitor revenues from each business over time. Thus, a scale

item that taps revenues in the tire business is included to tap profitability and to minimize respondent error.

Finally, dealers appear to only have a vague idea of their market share. However, they appear to monitor changes in the distribution of demand across competitors over time. Thus, in order to assess the competitiveness of the dealership three scale items were included that tap tire sales growth last year, revenue growth for tire business last year, and market share growth for local tire market last year. According to pretest results, these items in combination with the original scale item appear to tap dealer perceptions of their firm's competitiveness well.

*Customer Relationship Performance* was measured by Moorman and Rust (1999) using three scale items (customer satisfaction, customer retention, and product / service quality). Some modifications were made to (1) focus on the tire business of the firm, and (2) to tap the relevant domains of customer relationship performance in the automotive tire replacement industry. Thus, "customer satisfaction" was modified to "customer satisfaction with tires." Pretests revealed that customer satisfaction is a main objective of independent dealerships and main competitive advantage over discount merchants. Second, "customer retention" appeared to be difficult to judge for most tire dealers because no detailed records are kept to track past customer encounters. However, customer loyalty for special tire-lines appeared to be a major sales goal. Thus, a scale item was included to tap "customer loyalty for tire business."

Third, pretest results suggest that "product/ service quality" ranks high in dealer choice of tire supplier. However, the original scale item taps two different issues in the replacement tire industry. On one hand, tire dealers and customers are concerned with the

quality and performance of the tire. On the other hand, they are concerned with the service quality including mounting and balancing. Here, tire services are viewed by tire dealers as the main competitive advantages of independent tire dealers.

*Exchange Efficiency* demonstrates how well the exchange parties use the resources at their disposal, how much resource investment is necessary to achieve a certain exchange output (Katz and Kahn 1978). The current study views efficiency from the point of view of the exchange relationship. Thus, the operationalization needs to capture aspects of efficiency that are related to the particular exchange relationship and not the particular efficiency of the dealer's retail business.

I operationalize exchange efficiency in terms of three costs of exchange that were identified by Dahlstrom and Nygaard (1999). The measures are modified versions of the bargaining costs, monitoring costs, and maladaptation costs scales used by Dahlstrom and Nygaard (1999). The modifications change the language of the scale items to reflect the research context of automobile replacement tire dealers. The resulting measure, scored on a 7-point scale ranging from strongly disagree to strongly agree, taps the degree to which the retailer perceives the exchange relationship to be efficient.

#### *Bargaining Costs*

(1) "Our meetings with the refiner's representatives are very effective and systematic" is a reverse scaled item that was modified to fit the automotive tire replacement context. Four facets were developed through pre-testing that tap a wide range in interactions between dealers and their suppliers.

- (2) “In your firm’s dealings with your major supplier ordering the right product takes much time and effort.” This is the most frequent type of interaction between tire dealers and their suppliers.
- (3) “In your firm’s dealings with your major supplier resolving misshipments to my firm’s satisfaction often takes a lot of time and effort.” On an ongoing basis, misshipments appear to be one of the predominant issues that need to be resolved between tire dealers and suppliers.
- (4) “In your firm’s dealings with your major supplier price negotiations are often difficult.” Pretests suggested that in meetings with tire suppliers, price negotiations are important due to the low profit margin of replacement tires.
- (5) “In your firm’s dealings with your major supplier negotiating our credit line with the supplier is very difficult.” Most dealers suggested that paying for deliveries with credit or c.o.d. is an important aspect of supplier choice.
- (6) “Both parties are always well prepared in the meetings with the refiner so that decisions can be made” is a reverse scaled item that was modified to “In your firm’s dealings with your major supplier working out new delivery agreements is often difficult.”

#### *Monitoring Costs*

- (1) “We use too much time to control quality and quantity of deliveries of gasoline. The time could be used to increase profitability of the station” was modified to “In your firm’s dealings with your major supplier my firm spends a lot of time and effort on tracking our delivery tickets.” Pretests suggest that some dealers keep records in paper form or use a computer system, and others

solely rely on supplier. Wrong deliveries appear to cause interruptions of the dealer's business routine and may take considerable time to resolve.

- (2) "We spend too much time in accounting that could be used to increase the profitability of the station" was modified to
- (3) "In your firm's dealings with your major supplier my firm needs to check this supplier's billing and adjustments to make sure they are accurate," and
- (4) "In your firm's dealings with your major supplier we spend too much time tracking returns and defects."
- (5) "We use too much time to control deliveries of mineral products from the company that instead could be used to improve profitability of the station" was modified to "In your firm's dealings with your major supplier we spend a lot of time and effort checking on deliveries." Here, some dealers trust supplier to deliver the right products and do not monitor deliveries.

#### *Maladaptation Costs*

- (1) "The information from the refiner is often poorly formulated and difficult to understand" was modified to "In your firm's dealings with your major supplier information from this supplier that my firm needs for its business to be successful is often vague and difficult to understand." This issue appeared to be especially important in regards supplier promotions and advertising.
- (2) "Important information from the company seldom comes at the right time" was modified to "In your firm's dealings with your major supplier important information from this supplier seldom comes at the right time."

(3) “The information from the company is either incomplete or too voluminous to understand” was modified to “In your firm’s dealings with your major supplier my firm often has incomplete information about the supplier's actions.” Here, issues appeared to arise in regards to product availability and delivery timing.

### **Measure Characteristics**

Confirmatory factor analysis was conducted for both facets of exchange performance as well as the control measure of dealer performance. The measurement model for exchange performance yielded a model with good fit ( $\chi^2(174) = 274.1$ ;  $p = .00$ , NFI = .93, TLI = .97, CFI = .97, RMSEA = .04,  $p(\text{Close}) = .91$ ). In order to develop reliable measures, all scale items were critically evaluated in terms of their reliability and contribution to the construct measure (see Table VII.16 for criteria used to eliminate scale items). This procedure yielded a four item scale for exchange effectiveness with high reliability ( $\alpha = .87$ ,  $\rho = .88$ ). To test for discriminant validity between exchange effectiveness and dealer effectiveness the procedure suggested by Anderson and Gerbering (1988) was used. All constructs passed this test suggesting a significant level of discriminant validity between these measures. The resulting measure of exchange effectiveness is a slightly modified version of the measure used by Selnes and Sallis (2003) and, scored on a 7-point scale ranging from “strongly disagree” to “strongly agree,” indicates the degree to which the exchange partners achieve desired end states in the exchange relationship.

The item analysis for exchange efficiency resulted in three item indicators for bargaining costs ( $\alpha = .76$ ,  $\rho = .77$ ), monitoring costs ( $\alpha = .85$ ,  $\rho = .85$ ) and maladaptation costs ( $\alpha = .79$ ,  $\rho = .81$ ) with high levels of reliability for each. The resulting measure is 7-

**Table VII.16: Summary of Evaluation Criteria – Exchange Performance**

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<b><i>Preliminary Fit Criteria: absence of</i></b>	
Negative error variances	NONE
Error variances not significantly different from zero	NONE
Correlations greater than one	NONE
Correlations too close to one (i.e., within two SD of unity)	NONE
Standardized factor loadings too small (e.g., $\lambda < \text{about } .5$ )	EEY412; EEY410; EES421
or too large (e.g., $\lambda > \text{about } .95$ )	NONE
Very large standard errors	NONE
<b><i>Overall Model Fit: achievement of</i></b>	
Nonsignificant $\chi^2$ (e.g., $\chi^2$ with p-value $\geq .05$ )	NO
Adequate statistical power of $\chi^2$ -test	YES
Satisfactory incremental fit index (i.e., $\Delta \geq .9$ )	YES
Satisfactory goodness-of-fit-index (i.e., AFGI $\geq .9$ or so)	YES
Satisfactory model comparisons (e.g., $\chi^2$ difference tests)	YES
Low root mean square residuals	YES
<b><i>Fit of Internal Structure of Model: achievement of</i></b>	
High composite reliabilities (e.g., $\rho_c \geq .6$ )	YES
Average variance extracted $\geq .5$	DES529; EEY423; EEY418; EES422
Significant parameter estimates confirming hypotheses	YES
Normalized residuals less than 2	DES522; DES523
Adequate power to detect casual paths	YES

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point Likert scale composed of nine items that are an extension from the ones used by Dahlstrom and Nygaard (1999) and taps the degree to which the dealer perceives the exchange to be efficient. Note that the measurement model includes separate facets for the three dimensions of exchange efficiency and the two dimensions of dealer effectiveness.

### **Higher-Order Factor Model for Exchange Performance**

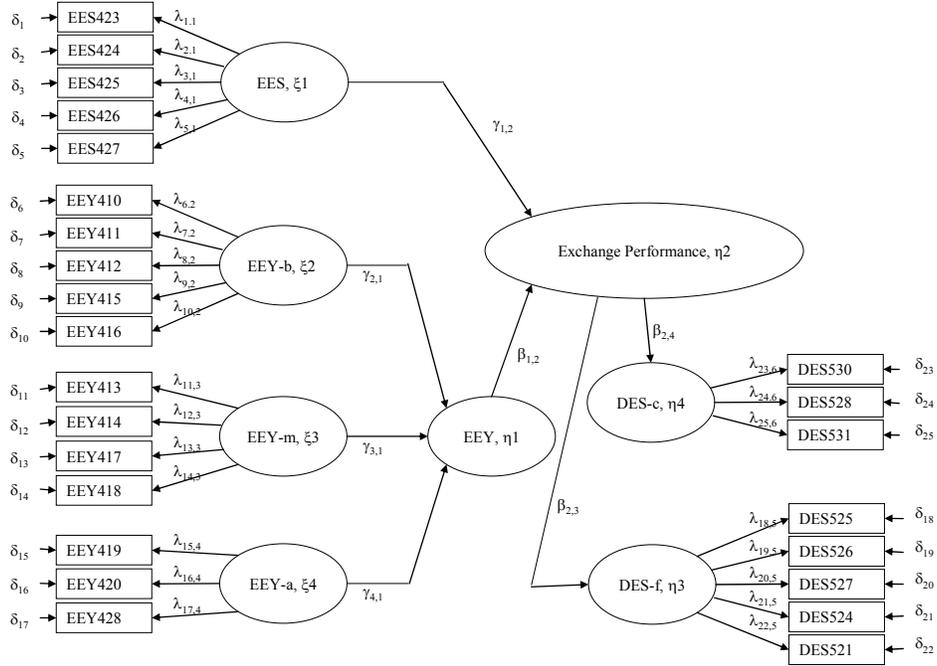
Consistent with the conceptualization of exchange effectiveness and exchange efficiency as distinct, contributing facets of exchange performance, a formative, higher-order factor model was specified using the trimmed scales from the first-order model with a single higher-order factor representing exchange effectiveness and exchange efficiency. In addition, the two facets of dealer effectiveness were used to identify the higher-order factor (Jarvis, MacKenzie, and Podsakoff 2003; see Figure VII.6a).

Although the expected goodness of fit for the higher-order model can never be better than the corresponding first-order model (Marsh and Hocevar 1985), some of the higher-order model parameters suggested a bad fit of the specified higher-order measurement model (see Table VII.17). In particular,

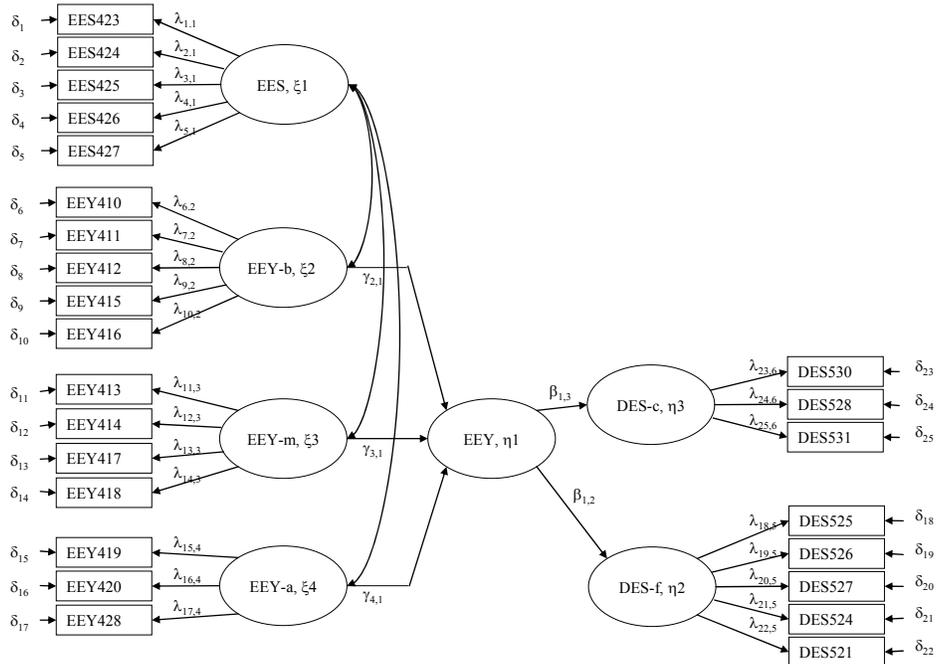
- the higher-order performance factor ( $\eta_2$ ) showed a large, negative error variance,
- the error variance of the reflective indicator of dealer effectiveness ( $\eta_4$ ) in the customer relationship was non-significant,
- the path-coefficient from the higher-order exchange performance construct to dealer financial effectiveness ( $\beta_{2,3}$ ) was non-significant, and

**Figure VII.6: Measurement Model for Exchange Performance**

a. proposed model



b. revised model



**Table VII.17: Summary of Evaluation Criteria – Exchange Performance  
(Higher-Order Measurement Models)**

<i>Preliminary Fit Criteria: absence of</i>	<i>Proposed Model</i>	<i>Revised Model</i>
Negative error variances	$\eta_2$	$\eta_1$
Error variances not significantly different from zero	$\eta_2, \eta_4$	$\eta_1, \eta_3$
Correlations greater than one	NONE	NONE
Correlations too close to one (i.e., within two SD of unity)	NONE	NONE
Standardized factor loadings too small (e.g., $\lambda < \text{about } .5$ )	NONE	NONE
or too large (e.g., $\lambda > \text{about } .95$ )	NONE	NONE
Very large standard errors	$\eta_2$	$\eta_1$
 <i>Overall Model Fit: achievement of</i>		
Nonsignificant $\chi^2$ (e.g., $\chi^2$ with p-value $\geq .05$ )	NO	NO
Adequate statistical power of $\chi^2$ -test	YES	YES
Satisfactory incremental fit index (i.e., $\Delta \geq .9$ )	YES	YES
Satisfactory goodness-of-fit-index (i.e., AFGI $\geq .9$ or so)	YES	YES
Satisfactory model comparisons (e.g., $\chi^2$ difference tests)	YES	YES
Low root mean square residuals	YES	YES
 <i>Fit of Internal Structure of Model: achievement of</i>		
High composite reliabilities (e.g., $\rho_c \geq .6$ )	YES	YES
Average variance extracted $\geq .5$	YES	YES
Significant parameter estimates confirming hypotheses	$\beta_{2,3}; \beta_{2,4}$	$\beta_{1,2}; \beta_{1,3}$
Normalized residuals less than 2	NO	NO
Adequate power to detect casual paths	YES	YES

- the path-coefficient from the higher-order exchange performance construct to dealer effectiveness in the customer relationship ( $\beta_{2,4}$ ) was significant, but negative.

Taken together, these findings render the higher-order conceptualization of exchange performance not adequate. Apparently, exchange effectiveness and exchange efficiency need to be viewed as related, but distinct facets of exchange performance.

Two alternatives for specifying the exchange efficiency construct as a dependent variable in the structural model are available. First, consistent with its conceptualization, a formative, higher-order factor can be specified that comprises the three facets of bargaining costs, monitoring costs, and maladaptation costs. This operationalization has the disadvantage that the formative measure would be unidentified when used as a dependent variable in the structural model (Jarvis, MacKenzie, and Podsakoff 2003).<sup>54</sup> Therefore, the two facets of dealer effectiveness or any other reflective indicator would be needed to identify the higher-order factor.

Alternatively, consistent with their prior application by Dahlstrom and Nygaard (1999) the three facets could be treated as three individual variables that all represent aspects of exchange efficiency. Although this operationalization of exchange efficiency does not yield a single measure of exchange efficiency, it would not require additional variables in the structural model.

Testing of the two-factor operationalization of exchange performance (see Figure VII.6 b) revealed similar violations of Bagozzi and Yi's (1999) fit criteria as the original

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<sup>54</sup> Although this indeterminacy could also be resolved by fixing the error term to zero (Diamantopoulos and Winklhofer 2001) or another value (MacCallum and Browne 1993), Jarvis, MacKenzie, and Podsakoff (2003, p.213) argue "that these procedures may not be theoretically appropriate because the former assumes that the formative measures perfectly represent the latent construct, and the latter confounds construct level measurement error with structural error."

measurement model discussed above: The error variance of exchange efficiency ( $\eta_1$ ) was found to be large, negative, and non-significant and the error variance of dealer effectiveness ( $\eta_3$ ) in the customer relationship was found to be non-significant (see Table VII.17). Given these indications of model misfit, the two-factor operationalization of exchange performance will not be used for testing the research model in Chapter VIII. Similar to the first-order measurement model, all facets of exchange performance (one for exchange effectiveness and three for exchange efficiency) will be treated as distinct variables.

### **Vertical Integration**

Vertical integration in the context of the current study refers to common ownership of dealer and supplier. As described above, such common ownership usually occurs in situations in which distributors or manufacturers forward integrate. Backward integration appears to be rare in the study context of automotive tire replacement dealers. In order to operationalize vertical integration, two approaches were taken. First, a single-item measure of the degree to which the dealership is owned by the supplier was used:

Which of the following statements best describes your firm? (please check the ONE that best describes your firm) This dealership...

- is wholly owned by a manufacturer.
- is partially owned by a manufacturer. If yes, by what percent? \_\_\_%
- is wholly owned by a wholesale supplier or outlet.
- is partially owned by a wholesale supplier. If yes, what percent? \_\_\_%
- is franchised by a manufacturer.
- is franchised by a wholesale supplier or outlet.
- sells different brands, but its identity and loyalty are tied primarily to one supplier's brand.
- sells multiple brands, and its identity and loyalty are not tied to any one brand.

This measure is consistent with measures of vertical integration used in previous studies in marketing channels (e.g., Mohr, Fisher, and Nevin 1996), was used by Boyle, Dwyer, Robicheaux and Simpson (1992) in the US automotive tire replacement channel

**Table VII.18: Primary Data Collection Measures – Vertical Integration**

<b>Overall Model Fit:</b> $\chi^2(24) = 59.6; p = .00$ NFI = .98      TLI = .98      CFI = .99      RMSEA = .07      p(Close) = .08						
<i>Scale</i>	<i>Questionnaire Item</i>				<i>Factor Loading</i>	<i>(t-value)</i>
					<i>Unstand.</i>	<i>Stand.</i>
<i>Outcome-Based Incentives (VIO, <math>\alpha = .93, \rho = .93, AVE = .81</math>)**</i>						
Please indicate the extent to which your efforts are directly rewarded by your major supplier in reference to						
VIO 351*	...share of supplier-brand sales to total tire sales volume .....	1.00	.91			
VIO 353	...sales growth of supplier tire lines .....	.99	.90	(24.67)		
VIO 350	...total tire-sales volume.....	.96	.89	(23.79)		
VIO 352	...market share of supplier tire lines.....	*				
<i>Behavior-Based Incentives (VIB, <math>\alpha = .94, \rho = .94, AVE = .84</math>)**</i>						
Please indicate the extent to which your efforts are directly rewarded by your major supplier in reference to						
VIB 355*	...the way your firm sells tires and treats customers .....	1.00	.93			
VIB 354	...your firm's service capabilities.....	.93	.92	(28.21)		
VIB 357	...maintenance procedures followed .....	.92	.90	(26.94)		
VIB 356	...your firm's promotion and advertising of supplier tire lines .....	*				
VIB 358	... your firm's participation in the supplier's education and support activities .....	*				
<i>Supplier Direction (VID, <math>\alpha = .80, \rho = .82, AVE = .61</math>)***</i>						
Who in your relationship with your major supplier decides on the following issues?						
VID 369*	...tire brands that your firm carries.....	1.00	.80			
VID 370	...your firm's inventory of the major supplier's tire brands.....	.86	.93	(12.82)		
VID 373	...value-added services your firm provides to customers for the major supplier's tire brands .....	.60	.59	(10.62)		
VID 371	...sales and marketing strategies your firm uses for the major supplier's tire brands.....	*				
VID 372	...your firm's participation in sales promotion and training programs sponsored by the major supplier.....	*				
<i>Correlations</i>						
$\Phi_{VIO,VIB}$ .....	.83					
$\Phi_{VIB,VID}$ .....	.22					
$\Phi_{VID,VIO}$ .....	.14					

Note: \*fixed to 1.00; \*\*Scale Type: 7-pt. Likert; Anchors: Not at all rewarded by supplier – Strongly rewarded by supplier  
 \*\*\*Scale Type: 7-pt. Likert; Anchors: Our firm decides – Major supplier decides

and is continuously used by Modern Tire Dealer in industry studies to tap the grades of vertical integration outlined in Chapter III. In addition, to this single-item measure, a multi-item measure of *integrative influence strategies* was developed that is based on the analysis of influence strategies available under conditions of vertical integration presented in Chapter III (see Table VII.18). Here, measures for *outcome-based influence*, *behavior-based influence*, and *supplier direction* were used to reflect the two dimensional conceptualization of integrative influence strategies. Each is described in the following section.

*Outcome- and behavior based influence* are measured using a seven-item scale that is a modified version of Celly and Frazier's (1996) outcome- and behavior-based coordination efforts scale. Modifications were made to change the focus of the scale items from coordination to incentives. Here, the introductory sentence was changed from

“Please consider all your personal interaction, both formal and informal, with this supplier's sales and marketing personnel (e.g., sales representatives, sales managers, marketing managers) during the last year. Include both phone and face-to-face contacts regarding business issues. During such interactions in the past year, indicate below the extent to which the supplier's personnel focused on or emphasized each of the following areas of your business.”

to

“In your dealings with the supplier on each of the following areas of your business, please indicate the extent to which your efforts are directly rewarded by your major supplier.”

To be congruent with this change, the scale anchors were modified from “very little emphasis” and “a great deal of emphasis” to “not at all rewarded by supplier” and “strongly rewarded by supplier.” In addition, the areas of the dealer's business to which this measure refers were modified to reflect typical outcomes or behaviors that may be

influence by tire suppliers. The resulting measure, scored on a 7-point scale ranging from “not at all rewarded by supplier” to “strongly rewarded by supplier”, taps the degree to which the outcome- or behavior-based incentives are used in the exchange relationship.

*Supplier direction* is a five-item scale that is a modified version of Kim and Hsieh’s (2003) supplier control scale. First, the introductory question “Where does the control lie for each of the following decision-making issues?” was modified to “Who in your relationship with your major supplier decides on the following issues?” Further modifications were made to change the focus of the decision-making issues to phenomena that are relevant in the automotive tire replacement channel. For example, “value-added services to customers/end-users for this supplier’s line” was modified to “value-added services your firm provides to customers for the major supplier’s tire brands.” The resulting measure, scored on a 7-point scale ranging from “our firm decides” to “major supplier decides”, taps the degree to which the supplier controls or influences the dealer’s decisions and operations.

### **Measure Characteristics**

Confirmatory factor analysis was conducted for all three facets of integrative influence strategies as well as the direct measure of vertical integration. The measurement model for integrative influence strategies yielded a model with good fit ( $\chi^2(24) = 59.6$ ;  $p = .00$ , NFI = .98, TLI = .98, CFI = .99, RMSEA = .07, p(Close) = .08). In order to develop reliable measures, all scale items were critically evaluated in terms of their reliability and contribution to the construct measure (see Table VII.19 for criteria used to eliminate scale items).

**Table VII.19: Summary of Evaluation Criteria – Vertical Integration**

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<b><i>Preliminary Fit Criteria: absence of</i></b>	
Negative error variances	NONE
Error variances not significantly different from zero	NONE
Correlations greater than one	NONE
Correlations too close to one (i.e., within two SD of unity)	NONE
Standardized factor loadings too small (e.g., $\lambda < \text{about } .5$ )	NONE
or too large (e.g., $\lambda > \text{about } .95$ )	VIO352
Very large standard errors	NONE
<b><i>Overall Model Fit: achievement of</i></b>	
Nonsignificant $\chi^2$ (e.g., $\chi^2$ with p-value $\geq .05$ )	NO
Adequate statistical power of $\chi^2$ -test	YES
Satisfactory incremental fit index (i.e., $\Delta \geq .9$ )	YES
Satisfactory goodness-of-fit-index (i.e., AFGI $\geq .9$ or so)	YES
Satisfactory model comparisons (e.g., $\chi^2$ difference tests)	YES
Low root mean square residuals	YES
<b><i>Fit of Internal Structure of Model: achievement of</i></b>	
High composite reliabilities (e.g., $\rho_c \geq .6$ )	YES
Average variance extracted $\geq .5$	VID372
Significant parameter estimates confirming hypotheses	YES
Normalized residuals less than 2	VID371; VIB358; VIB356
Adequate power to detect casual paths	YES

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This procedure yielded a three item scale for outcome-based influence ( $\alpha = .93$ ,  $\rho = .93$ ), behavior-based influence ( $\alpha = .94$ ,  $\rho = .94$ ), and supplier direction ( $\alpha = .80$ ,  $\rho = .82$ ) with high scale reliabilities. To test for discriminant validity among the three facets of integrative influence strategies, the procedure suggested by Anderson and Gerbering (1988) was used. All constructs passed this test suggesting a significant level of discriminant validity between these measures. The resulting measure is a slightly modified version of measures used by Celly and Frazier (1996) as well as Kim and Hsieh (2003) and indicates the degree to which the supplier employs behavior-based rewards, outcome-based rewards, or direction to coordinate the exchange relationship.

### **Comprehensive Measurement Model for Research Model Constructs**

The previous section documented the steps taken in this study to operationalize the study constructs necessary to test the research model proposed in Chapter V. By following the steps recommended by Churchill (1979), the primary objective was to document validity and reliability of the measures taping each study construct. Measure purification procedures suggested by Bagozzi and Yi (1988) were used to develop parsimonious measures. All trimmed scale items showed adequate convergent validity and discriminant validity with other, closely related constructs.

In order to further evaluate each measure for external validity, a measurement model was specified that included all reflective study constructs developed above. All formative indicators had to be excluded from this measurement model due to a lack of model identification. In particular, one cannot include formative measures in a first-order confirmatory factor model and evaluate its discriminant validity and measurement properties unless each indicator is identified by at least two exogenous constructs or

reflective indicators (Jarvis, MacKenzie and Podsakoff 2003). In fact, Bagozzi (1994) advises that formative indices should be evaluated in comparison to measures of other variables and Diamantopoulos and Winklhofer (2001, p.272) suggest that “the very nature of formative measurement renders an internal consistency perspective inappropriate for assessing the suitability of indicators.”

The overall measurement model including all reflective study constructs performed well with the exception of the recurring finding that the three facets of relational norms appear to correlate highly and cause potential misspecification. This is consistent with the higher-order factor analysis for the relational norms facets presented above. For the purpose of this measurement model, the relational norm facet of solidarity was therefore excluded from the measurement model. The resulting model exhibits a good fit to the data ( $\chi^2(1205) = 2027.3$ ;  $p = .00$ , NFI = .85, TLI = .92, CFI = .93, RMSEA = .05,  $p(\text{Close}) = .97$ ) and all remaining factor loadings closely matched the factor structures developed in the previous section (see Table VII.20). Note that the final measurement model used to test the structural research model will be presented towards the end of this chapter after all control variables have been described.

### **Operationalization of Relational Exchange Framework**

The previous section introduced the operationalization of study constructs necessary to test the main research model. The following section will focus on the operationalization of constructs needed to test the proposed framework of relational exchange. This framework requires the measurement of relational norms, relational beliefs, relational intentions, and relational behaviors. The measure of relational norms was already introduced in the previous section. With the exception of relational intention,

**Table VII.20: Omnibus Factor Analysis – Research Model  
(First-Order Reflective Constructs Only)**

<b>Overall Model Fit:</b>		$\chi^2(1202) = 2027.35; p = .00$	NFI = .85	TLI = .92
		CFI = .93	RMSEA = .05	p(Close) = 0.97
<i>Parameter</i>	<i>Scale</i>	<i>Factor Loading</i>		<i>(t-value)</i>
		<i>Unstand.</i>	<i>Stand.</i>	
<i>Dealer Complementary Goals (DCG, <math>\eta_1</math>)</i>				
$\lambda_{1,1}$	DCG202*	1.00	.84	
$\lambda_{2,1}$	DCG201	.90	.79	(13.66)
$\lambda_{3,1}$	DCG204	.81	.66	(11.55)
<i>Supplier Switching Costs (SSC, <math>\eta_2</math>)</i>				
$\lambda_{4,2}$	SSC111*	1.00	.69	
$\lambda_{5,2}$	SSC102	.98	.72	(9.35)
$\lambda_{6,2}$	SSC117	.88	.64	(8.85)
<i>Supplier Complementary Goals (SCG, <math>\eta_3</math>)</i>				
$\lambda_{7,3}$	SCG125*	1.00	.80	
$\lambda_{8,3}$	SCG129	.98	.85	(16.17)
$\lambda_{9,3}$	SCG114	.84	.76	(14.27)
<i>Dealer Switching Costs (DSC, <math>\eta_4</math>)</i>				
$\lambda_{10,4}$	DSC220*	1.00	.79	
$\lambda_{11,4}$	DSC215	1.00	.85	(15.48)
$\lambda_{12,4}$	DSC214	.91	.71	(12.94)
$\lambda_{13,4}$	DSC217	.85	.67	(12.06)
$\lambda_{14,4}$	DSC209	.83	.62	(11.03)
<i>Supplier Behavioral Uncertainty (SUB, <math>\eta_5</math>)</i>				
$\lambda_{15,5}$	SUB120*	1.00	.79	
$\lambda_{16,5}$	SUB112	.81	.59	(7.00)
$\lambda_{17,5}$	SUB119	.66	.56	(6.85)
<i>Supplier Environmental Uncertainty</i>				
<i>Marketing Practices (DUE-m, <math>\eta_6</math>)</i>				
$\lambda_{18,6}$	DUE502*	1.00	.91	
$\lambda_{19,6}$	DUE503	.80	.70	(13.61)
$\lambda_{20,6}$	DUE501	.79	.68	(13.24)
<i>Competitor (DUE-c, <math>\eta_7</math>)</i>				
$\lambda_{21,7}$	DUE509*	1.00	.97	
$\lambda_{22,7}$	DUE510	.92	.87	(23.13)
$\lambda_{23,7}$	DUE508	.76	.74	(17.00)
<i>Customer (DUE-t, <math>\eta_8</math>)</i>				
$\lambda_{24,8}$	DUE505*	1.00	.94	
$\lambda_{25,8}$	DUE504	.94	.87	(21.34)
$\lambda_{26,8}$	DUE506	.82	.70	(15.24)
<i>Communication Bi-Directionality (CBD, <math>\eta_9</math>)</i>				
$\lambda_{27,9}$	COM339*	1.00	.87	
$\lambda_{28,9}$	COM338	.98	.85	(20.00)
$\lambda_{29,9}$	COM337	.86	.81	(18.17)

**Table VII.20 (cont.)**

<i>Communication Frequency (CFR, <math>\eta_{10}</math>)</i>			
$\lambda_{30,10}$	COM334*	1.00	.92
$\lambda_{31,10}$	COM333	.97	.89 (25.62)
$\lambda_{32,10}$	COM335	.96	.88 (24.56)
$\lambda_{33,10}$	COM331	.94	.87 (24.38)
$\lambda_{34,10}$	COM336	.89	.85 (22.91)
<i>Information Exchange (NIX, <math>\eta_{11}</math>)</i>			
$\lambda_{35,11}$	NIX362*	1.00	.90
$\lambda_{36,11}$	NIX361	.98	.92 (25.77)
$\lambda_{37,11}$	NIX360	.86	.80 (19.00)
<i>Flexibility (NFX, <math>\eta_{12}</math>)</i>			
$\lambda_{38,12}$	NFX363*	1.00	.92
$\lambda_{39,12}$	NFX366	.93	.83 (20.89)
$\lambda_{40,12}$	NFX365	.89	.88 (23.89)
<i>Exchange Effectiveness (EES, <math>\eta_{13}</math>)</i>			
$\lambda_{41,13}$	EES425*	1.00	.88
$\lambda_{42,13}$	EES424	.95	.85 (19.35)
$\lambda_{43,13}$	EES426	.86	.79 (17.20)
$\lambda_{44,13}$	EES427	.85	.71 (14.53)
<i>Behavior-Based Incentive (VIB, <math>\eta_{14}</math>)</i>			
$\lambda_{45,14}$	VIB355*	1.00	.93
$\lambda_{46,14}$	VIB354	.93	.92 (28.38)
$\lambda_{47,14}$	VIB357	.92	.90 (26.06)
<i>Supplier Direction (VID, <math>\eta_{15}</math>)</i>			
$\lambda_{48,15}$	VID369*	1.00	.82
$\lambda_{49,15}$	VID370	.83	.91 (13.89)
$\lambda_{50,15}$	VID373	.60	.60 (10.84)
<i>Outcome-Based Incentive (VIO, <math>\eta_{16}</math>)</i>			
$\lambda_{51,16}$	VIO351*	1.00	.91
$\lambda_{52,16}$	VIO353	.99	.91 (24.99)
$\lambda_{53,16}$	VIO350	.96	.89 (23.73)

Note: \*fixed to 1.00

**Table VII.20 (cont.)**

*Correlation Matrix*

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	$\eta 1$	$\eta 2$	$\eta 3$	$\eta 4$	$\eta 5$	$\eta 6$	$\eta 7$	$\eta 8$	$\eta 9$	$\eta 10$	$\eta 11$	$\eta 12$	$\eta 13$	$\eta 14$	$\eta 15$	$\eta 16$
$\eta 1$	1.00															
$\eta 2$	0.46	1.00														
$\eta 3$	0.57	0.36	1.00													
$\eta 4$	0.26	0.22	0.37	1.00												
$\eta 5$	-0.08	-0.05	-0.24	-0.13	1.00											
$\eta 6$	0.07	0.06	-0.12	0.01	0.04	1.00										
$\eta 7$	0.04	0.05	-0.02	0.21	-0.03	0.60	1.00									
$\eta 8$	-0.01	0.06	0.01	0.09	-0.02	0.68	0.47	1.00								
$\eta 9$	0.39	0.36	0.69	0.30	-0.29	-0.15	-0.04	-0.07	1.00							
$\eta 10$	0.43	0.34	0.69	0.22	-0.23	-0.13	-0.05	-0.06	0.91	1.00						
$\eta 11$	0.37	0.41	0.59	0.24	-0.17	-0.12	-0.05	-0.05	0.75	0.78	1.00					
$\eta 12$	0.41	0.33	0.57	0.25	-0.12	-0.11	-0.01	-0.06	0.67	0.73	0.90	1.00				
$\eta 13$	0.55	0.36	0.71	0.39	-0.19	-0.07	0.03	0.02	0.66	0.63	0.63	0.67	1.00			
$\eta 14$	0.27	0.30	0.54	0.25	-0.16	0.02	0.07	0.04	0.54	0.54	0.58	0.54	0.49	1.00		
$\eta 15$	0.02	-0.05	0.15	0.21	-0.20	0.09	0.11	0.18	0.21	0.13	0.08	0.03	0.08	0.22	1.00	
$\eta 16$	0.35	0.41	0.58	0.27	-0.19	0.03	0.05	0.00	0.49	0.48	0.51	0.49	0.53	0.83	0.14	1.00

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which was operationalized by a newly developed measure, all constructs are operationalized using pre-existing measures that were modified to fit the study context.

### **Relational Beliefs**

Relational behavioral beliefs (in short: relational beliefs) have been conceptualized as the subjective probability that specific relational behaviors enhance the well-being of the exchange relationship. Three relational beliefs have been identified above: trust, commitment, and long-term orientation. These beliefs toward behavior in the exchange reflect a set of relational beliefs that incorporates past (e.g., trust) and future transactions (e.g., commitment), but is not limited to immediate transactions (e.g., long-term orientation) (see Table VII.21).

In keeping with this conceptualization, relational beliefs can be operationalized as a composite using a reflective measure. In particular, relational beliefs in the exchange dyad can be viewed as causing the three underlying facets (e.g., Morgan and Hunt 1994; Ganesan 1994; Lusch and Brown 1996), because they capture the notion that such exchanges transpire over time (Dwyer, Schurr, and Oh 1987; Macneil 1980). Thus, relational beliefs are operationalized as a higher-order factor that is reflective of the level of trust, commitment, and long-term orientation in the dyad.

*Trust and Commitment* are operationalized using reflective measures developed by Morgan and Hunt (1994). Using these measures appears advantageous for two reasons. First, Morgan and Hunt (1994) conceptualize trust and commitment as relational beliefs. Second, these measures were developed by Morgan and Hunt (1994) for the same sampling context. Thus, the trust and commitment scales used by Morgan and Hunt (1994) were used as the basis for the operationalization of these constructs. However,

**Table VII.21: Primary Data Collection Measures – Dealer Relational Beliefs**

<b>Overall Model Fit:</b> $\chi^2(87) = 205.8; p = .00$ NFI = .96      TLI = .97      CFI = .98      RMSEA = .07      p(Close) = .02						
<i>Scale</i>	<i>Questionnaire Item</i>					<i>Factor Loading (t-value)</i> <i>Unstand. Stand.</i>
<i>Dealer Commitment (DCM, <math>\alpha = .95, \rho = .95, AVE = .82</math>)</i>						
My firm's relationship with the major supplier						
DCM408*	...is something my firm really cares about.....	1.00	.92			
DCM409	...deserves my firm's maximum effort to maintain.....	.98	.88	(25.40)		
DCM404	...is something my firm is very committed to.....	.95	.91	(27.33)		
DCM406	...is of very high significance to my firm.....	.89	.90	(26.65)		
DCM407	...is very much like being family to my firm.....	*				
DCM405	...is very important to my firm.....	*				
DCM224	Even if we could, my firm would not drop the supplier because we like being associated with it.....	*				
DCM225	We want to remain a member of the supplier's network because my firm genuinely enjoys our relationship with it.....	*				
DCM226	My firm's positive feelings towards the supplier are a major reason we continue to work with the supplier.....	*				
<i>Dealer Trust (DTR, <math>\alpha = .97, \rho = .97, AVE = .85</math>)</i>						
In this relationship, the major supplier						
DTR312*	...is always faithful.....	1.00	.92			
DTR310	...can be trusted completely.....	.99	.94	(31.26)		
DTR317	...is on our side.....	.97	.88	(25.86)		
DTR309	...is perfectly honest and truthful.....	.96	.93	(29.75)		
DTR311	...can be counted on to do what is right.....	.95	.94	(30.84)		
DTR314	...has high integrity.....	.89	.93	(30.28)		
DTR313	... is someone that our firm has great confidence in.....	*				
DTR316	...is like a friend.....	*				
DTR315	...cares for us.....	*				

Note: \*fixed to 1.00; Scale Type: 7-pt. Likert; Anchors: Strongly agree – Strongly disagree

**Table VII.21 (cont.)**

<i>Scale</i>	<i>Questionnaire Item</i>	<i>Factor Loading (t-value)</i>	
		<i>Unstand.</i>	<i>Stand.</i>
<i>Dealer Long-Term Orientation (DLT, <math>\alpha = .87, \rho = .87, AVE = .57</math>)</i>			
	In our relationship with our major supplier, my firm		
DLT380*	... expects to be working with this supplier for a long time .....	1.00	.87
DLT401	... believes that over the long run our relationship with this supplier will be profitable .....	.91	.85 (19.40)
DLT382	... focuses on the long-term goals of this relationship .....	.91	.81 (17.81)
DLT396	... believes that any concessions made to help this supplier will even out in the long-run .....	.87	.64 (12.52)
DLT394	... is more concerned with long-term outcomes in this relationship than with immediate gains. ....	.73	.64 (12.53)
DLT398	... is willing to make sacrifices to help the supplier out from time to time. ....	*	
 <i>Correlations</i>			
	$\Phi_{DLT,DTR}$ .....	.71	
	$\Phi_{DLT,DCM}$ .....	.73	
	$\Phi_{DCM,DTR}$ .....	.56	

Note: \*fixed to 1.00; Scale Type: 7-pt. Likert; Anchors: Strongly agree – Strongly disagree

these measures had to be extended to reflect more recent research on trust and commitment.

Given the conceptual evolution of the trust construct since Morgan and Hunt's (1994) study, the trust scale was modified to include the benevolence aspect of trust (e.g., Ganesan 1994; Lee, Sirgy, Brown, and Bird 2004). Items from Ganesan (1994) were used to reflect this facet of the trust construct. In keeping with the structure of Morgan and Hunt's (1994) measures the Ganesan (1994) scale items were modified as follows:

- (1) "This resource's representative cares for us" was modified to "In this relationship, the major supplier cares for us."
- (2) "This resource's representative is like a friend" was modified to "In this relationship, the major supplier is like a friend."
- (3) "We feel the resource's representative has been on our side" was modified to "In this relationship, the major supplier is on our side."

Similar to the modification of Morgan and Hunt's (1994) trust scale, their commitment scale was modified to include items that tap affective commitment. Here, three items from Kumar, Scheer, and Steenkamp (1995) were used to supplement the original scale items. A slight modification was made to one item used by Kumar, Scheer, and Steenkamp to clarify the target of the question. "Our positive feelings towards the supplier are a major reason we continue" was modified to "My firm's positive feelings towards the supplier are a major reason we continue to work with the supplier." All other items were identical with Kumar, Scheer, and Steenkamp (1995).

*Long-term Orientation* is a reflective measure composed of a seven-item scale that is a slightly modified version of the measure used by Ganesan (1994) to measure

long-term orientation. The modifications were made to (1) increase discriminant validity with the other two relational belief measures, (2) to more clearly allude to the focal exchange relationship with the dealer's major supplier, and (3) to provide a homogenous question structure across scale items that would help the respondent focus on the content of each scale item.

- (1) "Maintaining a long-term relationship with this resource is important to us" was modified to "In our relationship with our major supplier, my firm believes that over the long run our relationship with this supplier will be profitable." The original measure is very similar in content as one of the commitment measures used by Morgan and Hunt (1994). The modification was made to increase discriminant validity across both measures and to better reflect the conceptualization of the long-term orientation construct.
- (2) "We focus on long-term goals in this relationship" was modified to "In our relationship with our major supplier, my firm focuses on the long-term goals of this relationship."
- (3) "We are willing to make sacrifices to help this resource from time to time" was modified to "In our relationship with our major supplier, my firm is willing to make sacrifices to help the supplier out from time to time."
- (4) "We are only concerned with our outcomes in this relationship" was modified to "In our relationship with our major supplier, my firm is more concerned with long-term outcomes in this relationship than with immediate gains." In order to avoid reversed scaled items this scale item was reversed to be consistent with the other scale items used. However, the pre-test suggested

that a simple reversal of the original item was not very meaningful to the respondents. Thus, the present version of the revised scale item was developed to better reflect the mutuality of outcomes a dealer might strive for in an exchange relationship.

(5) “We expect this resource to be working with us for a long time” was modified to “In our relationship with our major supplier, my firm expects to be working with this supplier for a long time.”

(6) “Any concessions we make to help out this resource will even out in the long run” was modified to “In our relationship with our major supplier, my firm believes that any concessions made to help this supplier will even out in the long-run.”

### **Measure Characteristics**

Confirmatory factor analysis was conducted for all three facets of dealer relational beliefs (see Table VII.21). The first-order measurement model of dealer commitment, dealer trust, and dealer long-term orientation yielded a model with good fit ( $\chi^2(87) = 205.8$ ;  $p = .00$ , NFI = .96, TLI = .97, CFI = .98, RMSEA = .07,  $p(\text{Close}) = .02$ ). In order to develop reliable measures, all scale items were critically evaluated in terms of their reliability and contribution to the construct measure (see Table VII.22 for criteria used to drop scale items). This procedure yielded a four-item scale for dealer commitment ( $\alpha = .95$ ,  $\rho = .95$ ), a six-item scale for dealer trust ( $\alpha = .97$ ,  $\rho = .97$ ), and a five-item scale for dealer long-term orientation ( $\alpha = .87$ ,  $\rho = .87$ ) with high reliability. The three items used by Kumar, Scheer, and Steenkamp (1995) that were added to the Morgan and Hunt (1994) commitment scale did not converge well into one factor and had to be deleted

leaving the original scale items used by Morgan and Hunt (1994). The two of the three Ganesan (1994) items added to the Morgan and Hunt (1994) trust scale had to be deleted because it did not load well with the other scale items. The measure of long-term orientation performed as expected.

### **Higher-Order Factor Model for Dealer Relational Beliefs**

Consistent with the logic provided above, a higher-order factor model was specified using the trimmed scales from the first-order model, with a single, higher-order factor reflecting dealer commitment, trust, and long-term orientation (see Figure VII.7). The resulting second-order model displayed adequate fit and supported a higher-order factor solution without further trimming of the first-order measurement model ( $\chi^2(87) = 205.8$ ;  $p = .00$ , NFI = .96, TLI = .97, CFI = .98, RMSEA = .07,  $p(\text{Close}) = .02$ ; see Table VII.23).

### **Relational Behaviors**

The conceptualization of relational behavior suggested two exemplary behaviors (conflict harmonization and reciprocity maintenance). A modified version of the conflict harmonization measure used by Brown, Dev, and Lee (2000) and a newly developed measure based on to tap reciprocity maintenance were used to operationalize both constructs. In addition, a non-relational behavior, opportunism, was included in the study to assess convergent and discriminant validity of the relational behavior measures. This opportunism measure is a modified version of the opportunism scale used by Brown, Dev, and Lee (2000). The operationalization of all three measures is described in the next section (see Table VII.24).

*Conflict Harmonization* The modifications made to Brown, Dev, and Lee's (1996) conflict harmonization scale pertain to changes in the focus of the scale item to reflect the

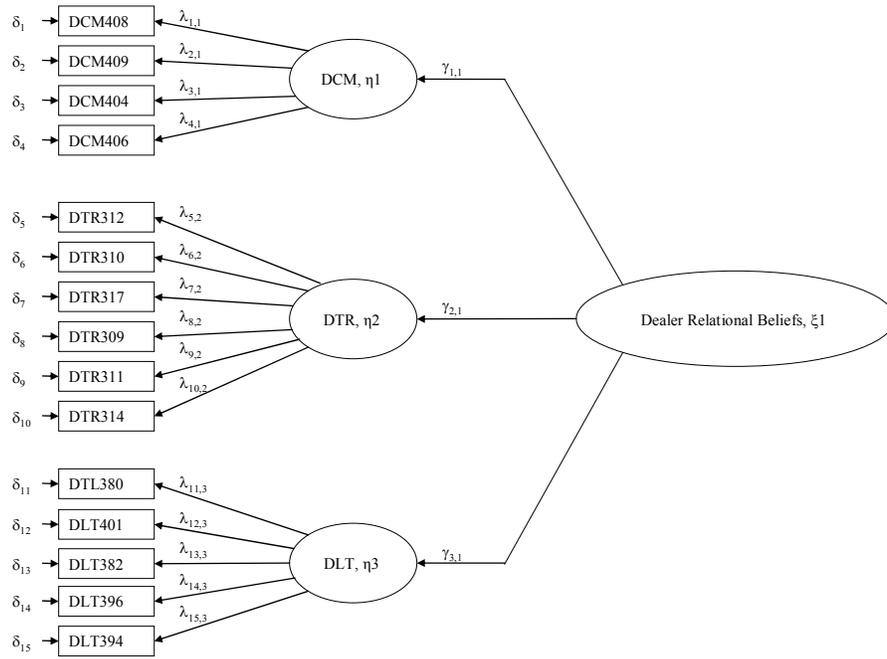
**Table VII.22: Summary of Evaluation Criteria – Dealer Relational Beliefs**

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<b><i>Preliminary Fit Criteria: absence of</i></b>	
Negative error variances	NONE
Error variances not significantly different from zero	NONE
Correlations greater than one	NONE
Correlations too close to one (i.e., within two SD of unity)	NONE
Standardized factor loadings too small (e.g., $\lambda < \text{about } .5$ )	DLT398; DCM224
or too large (e.g., $\lambda > \text{about } .95$ )	DCM405; DTR 313
Very large standard errors	NONE
<b><i>Overall Model Fit: achievement of</i></b>	
Nonsignificant $\chi^2$ (e.g., $\chi^2$ with p-value $\geq .05$ )	NO
Adequate statistical power of $\chi^2$ -test	YES
Satisfactory incremental fit index (i.e., $\Delta \geq .9$ )	YES
Satisfactory goodness-of-fit-index (i.e., AFGI $\geq .9$ or so)	YES
Satisfactory model comparisons (e.g., $\chi^2$ difference tests)	YES
Low root mean square residuals	YES
<b><i>Fit of Internal Structure of Model: achievement of</i></b>	
High composite reliabilities (e.g., $\rho_c \geq .6$ )	YES
Average variance extracted $\geq .5$	DCM225; DCM226
Significant parameter estimates confirming hypotheses	YES
Normalized residuals less than 2	DCM407; DTR316; DTR315
Adequate power to detect casual paths	YES

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**Figure VII.7: Measurement Model for Dealer Relational Beliefs**



**Table VII.23: Higher-Order Factor Analysis – Dealer Relational Beliefs**

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**Overall Model Fit:**  $\chi^2(87) = 205.8; p = .00$       NFI = .96      TLI = .97  
 CFI = .98      RMSEA = .07      p(Close) = .02

---

<i>Parameter</i>	<i>Scale</i>	<i>Factor Loading</i>		<i>(t-value)</i>
		<i>Unstand.</i>	<i>Stand.</i>	
<i>Dealer Commitment (DCM, <math>\eta_1</math>)</i>				
$\lambda_{1,1}$	DCM408*	1.00	.92	
$\lambda_{2,1}$	DCM409	.98	.88	(25.40)
$\lambda_{3,1}$	DCM404	.95	.91	(27.33)
$\lambda_{4,1}$	DCM406	.89	.90	(26.65)
<i>Dealer Trust (DTR, <math>\eta_2</math>)</i>				
$\lambda_{5,2}$	DTR312*	1.00	.92	
$\lambda_{6,2}$	DTR310	.99	.94	(31.26)
$\lambda_{7,2}$	DTR317	.97	.88	(25.86)
$\lambda_{8,2}$	DTR309	.96	.93	(29.75)
$\lambda_{9,2}$	DTR311	.95	.94	(30.84)
$\lambda_{10,2}$	DTR314	.89	.93	(30.28)
<i>Dealer Long-Term Orientation (DLT, <math>\eta_3</math>)</i>				
$\lambda_{11,3}$	DLT380*	1.00	.87	
$\lambda_{12,3}$	DLT401	.91	.85	(19.40)
$\lambda_{13,3}$	DLT382	.91	.81	(17.81)
$\lambda_{14,3}$	DLT396	.87	.64	(12.52)
$\lambda_{15,3}$	DLT394	.73	.64	(12.53)
<i>Higher-Order Model Parameters</i>				
$\gamma_{1,1}$	DCM	.88	.76	(11.69)
$\gamma_{2,1}$	DTR	.99	.73	(11.46)
$\gamma_{3,1}$	DLT*	1.00	.97	

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Note: \*fixed to 1.00

**Table VII.24: Primary Data Collection Measures – Relational Behavior**

<b>Overall Model Fit:</b> $\chi^2(41) = 117.3; p = .00$ NFI = .96      TLI = .96      CFI = .97      RMSEA = .08      p(Close) = .00						
<i>Scale</i>	<i>Questionnaire Item</i>					<i>Factor Loading (t-value)</i> <i>Unstand. Stand.</i>
<i>Conflict Harmonization (DCH, <math>\alpha = .91, \rho = .91, AVE = .73</math>)</i>						
In this relationship, our firm and the major supplier						
DCH 341*	...are generally able to resolve disagreements to both firms' satisfaction.....	1.00	.94			
DCH 342	...usually resolve any disagreements that arise in the relationship in good faith.....	.96	.95	(33.54)		
DCH 349	...usually settle disagreements to everyone's satisfaction.....	.86	.84	(23.19)		
DCH 348	...resolve disputes between the firms without third party intervention.....	.66	.65	(14.10)		
DCH 340	...are very conscientious, responsive, and resourceful in maintaining a cooperative relationship.....	*				
<i>Reciprocity Maintenance (DRM, <math>\alpha = .91, \rho = .91, AVE = .77</math>)</i>						
In this relationship, our firm and the major supplier						
DRM 346*	...make improvements to the business relationship that benefit the relationship as a whole.....	1.00	.90			
DRM 344	...treat the exchange as an ongoing relationship rather than a series of one-shot deals.....	.97	.89	(24.15)		
DRM 347	...work out a new agreement when some unexpected situation arises to keep the relationship performing.....	.95	.84	(21.29)		
DRM 343	...make sure that each partner benefits from the relationship.....	*				
DRM 345	...develop the business relationship in order to produce benefits for both firms.....	*				
<i>Dealer Opportunism (DOP, <math>\alpha = .86, \rho = .86, AVE = .61</math>)</i>						
In our relationship with our major supplier, my firm						
DOP 397*	...sometimes has to mask the true nature of our needs to get the needed support from the supplier.....	1.00	.78			
DOP 399	...sometimes overstates the difficulties our dealership faces to get the needed support from the supplier.....	.98	.82	(14.65)		
DOP 400	...sometimes has had to alter the facts slightly in order to get what we need from the supplier.....	.97	.80	(14.27)		
DOP 395	... has to lie to the supplier about certain things on occasion in order to protect our interests.....	.89	.73	(12.89)		
DOP 402	...sometimes finds it necessary to neglect some of our obligations to the supplier to maintain our product margins, tire sales, market share, etc.....	*				
<i>Correlation</i>						
	$\Phi_{DOP,DRM}$ .....	-.06				
	$\Phi_{DRM,DCH}$ .....	.94				
	$\Phi_{DOP,DCH}$ .....	-.11				

Note: \*fixed to 1.00; Scale Type: 7-pt. Likert; Anchors: Strongly agree – Strongly disagree

study context. The original items were used to assess conflict harmonization in the dyad between hotel headquarters and individual hotel properties. To fit the current study context, “my hotel” and “headquarters” was replaced by “my firm” and “the supplier.” Further modifications were driven by the pretest as follows:

- (1) “There are standard procedures for resolving disputes between my hotel/firm and headquarters/this hotel that do not involve third party intervention” was modified to “In this relationship, our firm and the major supplier resolve disputes between the firms without third party intervention.” Here, "standard procedures" were taken out to reduce conceptual overlap with the concept of bureaucracy. Pretests suggested that this item may perform less well, because the described situation rarely occurs unless a dealer defaults on payment.
- (2) “My hotel/firm and headquarters/this hotel are very conscientious, responsive, and resourceful in maintaining a cooperative relationship” was modified to “In this relationship, our firm and the major supplier are very conscientious, responsive, and resourceful in maintaining a cooperative relationship.”
- (3) “Both my hotel/firm and headquarters/this hotel are generally able to resolve disagreements to both parties' satisfaction” was modified to “In this relationship, our firm and the major supplier are generally able to resolve disagreements to both firms' satisfaction.”
- (4) “Both parties try to resolve any disagreements that arise between us in good faith” was modified to “In this relationship, our firm and the major supplier usually resolve any disagreements that arise in the relationship in good faith.” Here, "try" was replaced with "usually" to tap actual behavior rather than

intention and thereby increasing discriminant validity with the relational intentions construct.

- (5) “The high level of mutual trust between my hotel/firm and headquarters/this hotel enable us to settle our disagreements to everyone's satisfaction” was modified to “In this relationship, our firm and the major supplier usually settle disagreements to everyone's satisfaction.” Here, "high level of mutual trust" was eliminated to reduce conceptual overlap with the trust measure.

The resulting measures tap the degree to which exchange parties support the resolution of conflict in the exchange relationship by attempting to reach functional outcomes but avoid dysfunctional outcomes (see Table VII.24).

*Reciprocity Maintenance* refers to behavior that preserves reciprocity in the exchange by sustaining effective future interdependence between the exchange partners. Unfortunately, no scales appeared to be available that measured reciprocity maintenance behaviors. However, there are studies operationalizing Macneil's (1980) reciprocity maintenance norm. One of these studies, Kaufman and Dant (1992), was used as a basis for scale development of the reciprocity maintenance behavior measure. Therefore, the final measure was newly developed measure. Using extensive pre-existing and scale items of existing, related constructs the following five scale items were developed to reflect the conceptual domain of the construct:

- (1) “In this relationship, our firm and the major supplier develop the business relationship in order to produce benefits for both firms.” This scale item taps the dimension of “effective future interdependence” which can be understood as the situation in which exchange partners “desire to and are able to depend

on the other” (Macneil 1980, p. 92). Such interdependence might arise, for example, from a division of labor between the exchange partners in which both partners engage in mutually satisfying patterns of exchanging goods and services (Gouldner 1960). In the context of the automotive replacement tire channel, tire dealers and suppliers establish partnerships to develop coordinated marketing plans, effective advertising and promotions, as well as beneficial brand partnerships. These activities require input from and are intended to yield pay-offs for both parties.

- (2) “In this relationship, our firm and the major supplier make improvements to the business relationship that benefit the relationship as a whole.” Similar to the previous scale item, which taps relationship building activities, this item measures ongoing maintenance efforts to continue and improve mutually beneficial partnerships.
- (3) “In this relationship, our firm and the major supplier work out a new agreement when some unexpected situation arises to keep the relationship performing.” Building on the previous two scale items, this scale taps activities during a potential dissolution of a partnership. Here, activities that revive declining relationships are assessed.
- (4) “In this relationship, our firm and the major supplier make sure that each partner benefits from the relationship.” This scale item taps behaviors that distribute exchange outcomes across both exchange parties. Reciprocity refers to situations in which an exchange partner who receives benefits from another is required to some return, so that giving and receiving are mutually

contingent (Gouldner 1960). Thus, in a truly reciprocal partnership benefits are distributed across both parties to maintain reciprocity.

- (5) “In this relationship, our firm and the major supplier treat the exchange as an ongoing relationship rather than a series of one-shot deals.” Reciprocity depends on a series of interconnected exchanges in which individual transactions are a function of previous exchanges and anticipate future interaction between exchange parties. Thus, this item taps activities that reflect the ongoing nature of reciprocal exchange.

In sum, these newly developed measures assess the degree to which exchange parties try to preserve reciprocity in the exchange by sustaining effective future interdependence (see Table VII.24).

*Dealer Opportunism* refers to self-interest seeking with guile on behalf of the dealer (Williamson 1985, p. 47). In order to tap the level of dealer opportunistic behavior a five-item scale is used that is a slightly modified version of Brown, Dev, and Lee’s (2000) hotel opportunism scale. Modifications were made to change the focus of the questions from “headquarters” to “supplier.”

- (1) “To get the necessary support from headquarters, we sometimes mask the true nature of our needs” was modified to “In our relationship with our major supplier, my firm sometimes has to mask the true nature of our needs to get the needed support from the supplier.” For example, tire dealers may ask for special deliveries (hot shots) when they could have been avoided.
- (2) “To get the needed support from headquarters, we sometimes overstate the difficulties our hotel faces” was modified to “In our relationship with our

major supplier, my firm sometimes overstates the difficulties our dealership faces to get the needed support from the supplier.” For example, tire dealers may ask for increased advertising or promotion support although not "needed".

- (3) “In order to maintain our goals (i.e., profitability, sales revenue, or market share), we occasionally find it necessary to neglect some of our obligations to headquarters” was modified to “In our relationship with our major supplier, my firm sometimes finds it necessary to neglect some of our obligations to the supplier to maintain our product margins, tire sales, market share, etc.” These more specific examples for the notion of obligations were included in the scale item to make the item more transparent to the respondent. Here, tire dealers may, for example, purchase from "wholesalers" and avoid their purchase "obligation" with their distributor.
- (4) “Sometimes we have had to alter the facts slightly in order to get what we need from headquarters” was modified to “In our relationship with our major supplier, my firm sometimes has had to alter the facts slightly in order to get what we need from the supplier.” For example, tire dealers may ask for warranty replacements when in fact a mechanic or the customer caused the product failure.
- (5) “On occasion, my hotel has had to lie to headquarters about certain things in order to protect our interests” was modified to “In our relationship with our major supplier, my firm has to lie to the supplier about certain things on occasion in order to protect our interests.” For example, tire dealers may

overstate competitors' price quotes, delivery options, etc. to receive lower prices or favorable service.

The resulting measure, scored on a 7-point scale ranging from “strongly disagree” to “strongly agree”, taps the degree to which the retailer engages in opportunistic behavior in the exchange relationship (see Table VII.24).

### **Measure Characteristics**

Confirmatory factor analysis was conducted for all three facets of relational behavior (see Table VII.24). The first-order measurement model of conflict harmonization, reciprocity maintenance, and dealer opportunism yielded a model with good fit ( $\chi^2(41) = 117.3$ ;  $p = .00$ , NFI = .96, TLI = .96, CFI = .97, RMSEA = .08,  $p(\text{Close}) = .00$ ). In order to develop reliable measures, all scale items were critically evaluated in terms of their reliability and contribution to the construct measure (see Table VII.25 for criteria used to drop scale items). This procedure yielded a four-item scale for conflict harmonization ( $\alpha = .91$ ,  $\rho = .91$ ), a three-item scale for reciprocity maintenance ( $\alpha = .91$ ,  $\rho = .91$ ), and a four-item scale for dealer opportunism ( $\alpha = .86$ ,  $\rho = .86$ ) with high reliability.

### **Higher-Order Factor Model for Dealer Relational Behaviors**

Consistent with the logic provided above, a higher-order factor model was specified using the trimmed scales from the first-order model, with a single, higher-order factor reflecting conflict harmonization, reciprocity maintenance, and dealer opportunism (see Figure VII.8 a). The resulting second-order model supported the higher-order factor solution for conflict harmonization and reciprocity maintenance. Note that the first order factors of conflict harmonization and reciprocity maintenance reflect relational behaviors.

**Table VII.25: Summary of Evaluation Criteria – Relational Behavior**

---

***Preliminary Fit Criteria: absence of***

Negative error variances	NONE
Error variances not significantly different from zero	NONE
Correlations greater than one	NONE
Correlations too close to one (i.e., within two SD of unity)	NONE
Standardized factor loadings too small (e.g., $\lambda < \text{about } .5$ )	NONE
or too large (e.g., $\lambda > \text{about } .95$ )	DRM345
Very large standard errors	NONE

***Overall Model Fit: achievement of***

Nonsignificant $\chi^2$ (e.g., $\chi^2$ with p-value $\geq .05$ )	NO
Adequate statistical power of $\chi^2$ -test	YES
Satisfactory incremental fit index (i.e., $\Delta \geq .9$ )	YES
Satisfactory goodness-of-fit-index (i.e., AFGI $\geq .9$ or so)	YES
Satisfactory model comparisons (e.g., $\chi^2$ difference tests)	YES
Low root mean square residuals	YES

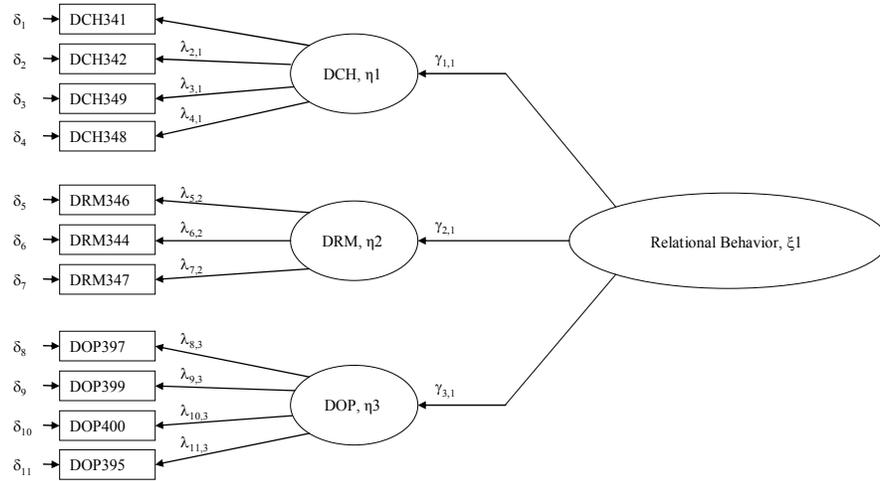
***Fit of Internal Structure of Model: achievement of***

High composite reliabilities (e.g., $\rho_c \geq .6$ )	YES
Average variance extracted $\geq .5$	DCH348; DOP402
Significant parameter estimates confirming hypotheses	YES
Normalized residuals less than 2	BCH340
Adequate power to detect casual paths	YES

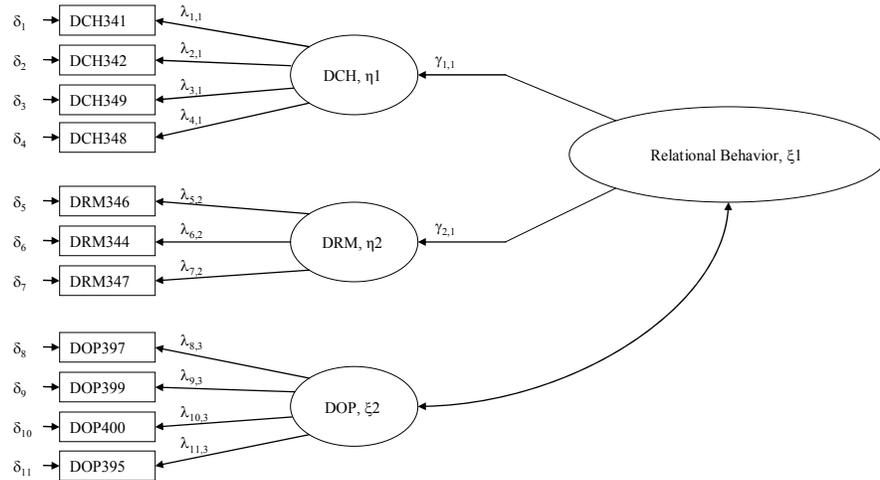
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**Figure VII.8: Measurement Model for Dealer Relational Behavior**

a. proposed model



b. revised model



Opportunism, however, is a behavior that negates relational behaviors. Thus, the higher-order construct, defined as relational behavior, should be positively associated with conflict harmonization and reciprocity maintenance. Yet, opportunism should be negatively related to this higher-order construct.

The positive higher-order factor loadings for conflict harmonization and reciprocity maintenance as well as the negative higher-order loading for opportunism provide evidence of nomological validity. Dealer opportunism loaded negatively on the second-order factor as expected, but the path-coefficient was not found to be significant at  $p < .01$ . Therefore, the second-order model was revised to only include conflict harmonization and reciprocity maintenance (see Figure VII.8 b). Unfortunately, a reflective higher-order measurement model with two facets remains unidentified unless it is tested in conjunction with additional variables. In this case dealer opportunism was included to identify the measurement model. The resulting model exhibited good fit with the data ( $\chi^2(42) = 120.6$ ;  $p = .00$ , NFI = .96, TLI = .96, CFI = .97, RMSEA = .08,  $p(\text{Close}) = .00$ ; see: Table VII.26). Consistent with the conceptualization of dealer relational behavior and dealer opportunism, the correlation between the higher-order factor and dealer opportunism was found to be negative.

### **Relational Intentions**

Relational Intentions refer to an exchange partner's subjective probability or subjective likelihood of engaging in relational behavior in the exchange. To the best of my knowledge, no empirical precedent exists for the operationalization of this construct. Therefore, a new measure had to be developed using the measure development process suggested by Churchill (1979). The resulting measure consists of six items that reflect the

**Table VII.26: Higher-Order Factor Analysis – Relational Behavior**

<b>Overall Model Fit:</b>				
$\chi^2$ (42) = 120.6; p = .00	NFI = .96	TLI = .96		
CFI = .97	RMSEA = .08	p(Close) = .00		
<i>Parameter</i>	<i>Scale</i>	<i>Factor Loading</i>		<i>(t-value)</i>
		<i>Unstand.</i>	<i>Stand.</i>	
<i>Dealer Conflict Harmonization (DCH, <math>\eta_1</math>)</i>				
$\lambda_{1,1}$	DCH341*	1.00	.94	
$\lambda_{2,1}$	DCH342	.96	.95	(33.58)
$\lambda_{3,1}$	DCH349	.85	.84	(23.20)
$\lambda_{4,1}$	DCH348	.65	.65	(14.11)
<i>Dealer Reciprocity Maintenance (DRM, <math>\eta_2</math>)</i>				
$\lambda_{5,2}$	DRM346*	1.00	.90	
$\lambda_{6,2}$	DRM344	.97	.89	(24.14)
$\lambda_{7,2}$	DRM347	.95	.84	(21.23)
<i>Dealer Opportunism (DOP, <math>\eta_3</math>)</i>				
$\lambda_{8,3}$	DOP397*	1.00	.78	
$\lambda_{9,3}$	DOP399	.98	.82	(14.65)
$\lambda_{10,3}$	DOP400	.97	.80	(14.29)
$\lambda_{11,3}$	DOP395	.89	.72	(12.87)
<i>Higher-Order Model Parameters</i>				
$\gamma_{1,1}$	DCH	.94	.95	(21.59)
$\gamma_{2,1}$	DRM*	1.00	.99	
<i>Correlations</i>				
$\Phi_{3,1}$				-.09

Note: \*fixed to 1.00

subjective probability or subjective likelihood that the dealer engages in relational behavior in the exchange with its supplier.

Churchill (1979, p. 67) points out that “researchers should have good reasons for proposing additional *new* measures given the many available for most marketing constructs of interest ... .” Although no empirical precedent exists for the operationalization of relational intentions, other types of intentions have frequently been operationalized and guidelines for properly measuring intentions exist (e.g., Ajzen and Fishbein 1980). Therefore, the measure development process used in this study builds on this body of knowledge.

First, a sample of items was generated following the guidelines for measuring behavioral intentions (Ajzen and Fishbein 1980) to reflect the conceptual domain of relational intentions (Churchill 1979; see Table VII.27). Fishbein and Ajzen (1975, p.292) note that intentions involve four different elements – the *behavior*, the *target* at which the behavior is directed, the *situation* in which the behavior is to be performed, and the *time* at which the behavior is to be performed – that may vary along a dimension of specificity. Any operationalization of intentions must therefore consider the level of specificity within each element that is appropriate for the measurement of the particular intention at hand. For relational intentions it is not one specific behavior but a range of relational behaviors that need to be captured. Therefore, a number of general relational behaviors were chosen based on existing literature on relational exchange:

- maintaining an effective and fair exchange,
- acting flexibly,
- putting maximum effort behind the relationship,

**Table VII.27: Primary Data Collection Measures – Relational Intentions**

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**Overall Model Fit:**  $\chi^2(9) = 73.8$ ;  $p = .00$  NFI = .94 TLI = .91 CFI = .95 RMSEA = .15 p(Close) = .00

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<i>Scale</i>	<i>Questionnaire Item</i>	<i>Factor Loading (t-value)</i>	
		<i>Unstand.</i>	<i>Stand.</i>
<i>Dealer Relational Intentions (DRI, <math>\alpha = .90</math>, <math>\rho = .91</math>, AVE = .62)</i>			
	In our relationship with our major supplier, my firm intends		
DRI 378*	...to maintain an effective and fair exchange .....	1.00	.91
DRI 377	...to act flexibly in our dealings with the supplier.....	.99	.86 (22.12)
DRI 381	...to put maximum effort behind the relationship.....	.84	.77 (17.84)
DRI 403	...to resolve conflict that arises in a mutually beneficial way that improves the exchange relationship.....	.79	.72 (15.84)
DRI 393	...to provide any information that might help to this supplier.....	.77	.69 (14.91)
DRI 379	...to be perfectly honest and truthful .....	.72	.71 (15.56)
DRI 383	...to work with the supplier for a long time.....	*	
DRI 376	...to treat problems that arise as joint, rather than individual responsibilities .....	*	

---

Note: \*fixed to 1.00; Scale Type: 7-pt. Likert; Anchors: Strongly agree – Strongly disagree

- resolving conflict that arises in a mutually beneficial way that improves the exchange relationship,
- providing information that might be helpful,
- being perfectly honest and truthful,
- working with the partner for a long time, and
- treating problems that arise as joint, rather than individual responsibilities.

Following Fishbein and Ajzen's (1975, p.293) suggestion that any set of intentions may represent a common underlying dimension, the behaviors listed above are intended to reflect the dimension of relational intentions. The target of the intention is a specific exchange partner: the major supplier. Therefore the measure states "In our relationship with our major supplier, my firm intends... ." Implicit in this statement is that relational intentions refer to any current or future interaction with this major supplier within the scope of the ongoing exchange relationship. Therefore, relational intentions are operationalized more generally with respect to the situation and time dimension.

In the second step, all scale items were subjected to confirmatory factor analysis to purify the measure and increase its reliability (Churchill 1979). According to Fishbein and Ajzen (1974, p. 294), confirmatory factor analysis can be used to determine whether a set of intentions represents a common underlying dimension. For the relational intentions scales developed in this study, confirmatory factor analysis yielded a six item scale for the newly developed relational intentions measure (see Table VII.27). Two items (DRI376 and DRI378) were removed to achieve adequate fit of the measurement model (see Table VII.28 for criteria used to drop scale items). All other scale items performed as expected. The confirmatory factor analysis yielded a model with good fit

**Table VII.28: Summary of Evaluation Criteria – Relational Intentions**

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<b><i>Preliminary Fit Criteria: absence of</i></b>	
Negative error variances	NONE
Error variances not significantly different from zero	NONE
Correlations greater than one	NONE
Correlations too close to one (i.e., within two SD of unity)	NONE
Standardized factor loadings too small (e.g., $\lambda < \text{about } .5$ )	NONE
or too large (e.g., $\lambda > \text{about } .95$ )	NONE
Very large standard errors	NONE
<b><i>Overall Model Fit: achievement of</i></b>	
Nonsignificant $\chi^2$ (e.g., $\chi^2$ with p-value $\geq .05$ )	NO
Adequate statistical power of $\chi^2$ -test	YES
Satisfactory incremental fit index (i.e., $\Delta \geq .9$ )	YES
Satisfactory goodness-of-fit-index (i.e., AFGI $\geq .9$ or so)	YES
Satisfactory model comparisons (e.g., $\chi^2$ difference tests)	YES
Low root mean square residuals	YES
<b><i>Fit of Internal Structure of Model: achievement of</i></b>	
High composite reliabilities (e.g., $\rho_c \geq .6$ )	YES
Average variance extracted $\geq .5$	DRI376
Significant parameter estimates confirming hypotheses	YES
Normalized residuals less than 2	DRI383
Adequate power to detect casual paths	YES

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( $\chi^2(9) = 73.8$ ;  $p = .00$ , NFI = .94, TLI = .91, CFI = .95, RMSEA = .15, p(Close) = .00) and high reliability ( $\alpha = .90$ ,  $\rho = .91$ ).

### **Discriminant Validity of Relational Intentions**

Despite its high reliability, a measure may lack discriminant validity with other, related measures. Therefore, as recommended by Churchill (1979), a confirmatory factor analysis involving all study constructs used for testing the relational exchange framework was conducted (see Table VII.29). It is important to note that this step of the measure development process not only tests the discriminant validity between relational intentions and other measures, but rather serves as a test of discriminant validity for all measures. Therefore, all scales were trimmed to achieve an overall parsimonious measurement model with high levels of convergent and discriminant validity (see Table VII.30 for criteria used to delete additional scale items).

In addition, to the procedure suggested by Churchill (1979), the method suggested by Anderson and Gerbering (1988) for the assessment of discriminant validity in structural equation modeling, a chi-square difference test of values obtained for the constrained (fixing the correlation parameter between two constructs to 1.0) and unconstrained models, was employed to document discriminant validity for the newly developed relational intentions measure. The resulting chi-square tests documented a significantly lower value for all unconstrained models compared to their constrained counterparts at the first- and second-order construct levels (see Table VII.31 for results of this procedure). This indicates that these constructs "... are not perfectly correlated and that discriminant validity is achieved" (Bagozzi and Phillips 1982, p.476).

**Table VII.29: Omnibus Factor Analysis – Relational Exchange Framework**

<b>Overall Model Fit:</b>		$\chi^2(313) = 686.1; p = .00$	NFI = .92	TLI = .95
		CFI = .96	RMSEA = .06	p(Close) = .00
<i>Parameter</i>	<i>Scale</i>	<i>Factor Loading</i>		<i>(t-value)</i>
		<i>Unstand.</i>	<i>Stand.</i>	
<i>Dealer Relational Beliefs (<math>\zeta_1</math>)</i>				
Dealer Commitment (DCM, $\eta_1$ )				
$\lambda_{1,1}$	DCM404*	1.00	.93	
$\lambda_{2,1}$	DCM409	.97	.86	(22.86)
$\lambda_{3,1}$	DCM406	.93	.91	(26.03)
$\lambda_{4,1}$	DCM408	*		
Dealer Trust (DTR, $\eta_2$ )				
$\lambda_{5,2}$	DTR310*	1.00	.95	
$\lambda_{6,2}$	DTR309	.97	.95	(34.63)
$\lambda_{7,2}$	DTR314	.87	.91	(30.68)
$\lambda_{8,2}$	DTR317	*		
$\lambda_{9,2}$	DTR311	*		
$\lambda_{10,2}$	DTR312	*		
Dealer Long-Term Orientation (DLT, $\eta_3$ )				
$\lambda_{11,3}$	DLT382*	1.00	.82	
$\lambda_{12,3}$	DLT396	.99	.67	(12.65)
$\lambda_{13,3}$	DLT401	.94	.81	(15.91)
$\lambda_{14,3}$	DLT394	.83	.66	(12.42)
$\lambda_{15,3}$	DLT380	*		
<i>Relational Norms (<math>\zeta_2</math>)</i>				
Information Exchange (NIX, $\eta_4$ )				
$\lambda_{16,4}$	NIX362*	1.00	.91	
$\lambda_{17,4}$	NIX361	.95	.91	(24.83)
$\lambda_{18,4}$	NIX368	*		
$\lambda_{19,4}$	NIX360	*		
Solidarity (NSL, $\eta_5$ )				
$\lambda_{20,5}$	NSL367*	1.00	.89	
$\lambda_{21,5}$	NSL364	.92	.87	(21.94)
$\lambda_{22,5}$	NSL359	.81	.64	(13.01)
Flexibility (NFX, $\eta_6$ )				
$\lambda_{23,6}$	NFX363*	1.00	.92	
$\lambda_{24,6}$	NFX366	.93	.84	(22.31)
$\lambda_{25,6}$	NFX365	.89	.89	(25.20)
<i>Dealer Relational Intentions (DRI, <math>\zeta_3</math>)</i>				
$\lambda_{33,3}$	DRI378*	1.00	.95	
$\lambda_{34,3}$	DRI377	.97	.87	(21.26)
$\lambda_{35,3}$	DRI379	.67	.68	(14.56)
$\lambda_{36,3}$	DRI381	*		
$\lambda_{37,3}$	DRI403	*		
$\lambda_{38,3}$	DRI393	*		

**Table VII.29 (cont.)**

<i>Parameter</i>	<i>Scale</i>	<i>Factor Loading</i>		<i>(t-value)</i>
		<i>Unstand.</i>	<i>Stand.</i>	
<i>Dealer Relational Behavior (ξ4)</i>				
<i>Dealer Conflict Harmonization (DCH, η7)</i>				
$\lambda_{26,7}$	DCH341*	1.00	.93	
$\lambda_{27,7}$	DCH342	.97	.96	(33.68)
$\lambda_{28,7}$	DCH349	.85	.84	(22.96)
$\lambda_{29,7}$	DCH348	*		
<i>Dealer Reciprocity Maintenance (DRM, η8)</i>				
$\lambda_{30,8}$	DRM346*	1.00	.92	
$\lambda_{31,8}$	DRM344	.93	.89	(25.18)
$\lambda_{32,8}$	DRM347	.93	.85	(22.94)
<i>Higher-Order Model Parameters</i>				
$\gamma_{1,1}$	DCM	.88	.79	(12.38)
$\gamma_{2,1}$	DTR*	1.00	.74	
$\gamma_{3,1}$	DLT	.89	.93	(12.76)
$\gamma_{4,2}$	NIX*	1.00	.92	
$\gamma_{5,2}$	NSL	.99	.95	(18.77)
$\gamma_{6,2}$	NFX	.98	.95	(19.86)
$\gamma_{7,4}$	DCH	.94	.94	(21.77)
$\gamma_{8,4}$	DRM*	1.00	.95	
<i>Correlation Coefficients</i>				
$\Phi_{1,2}$	Dealer Relational Beliefs – Dealer Relational Norms			.81
$\Phi_{1,3}$	Dealer Relational Beliefs – Dealer Relational Intentions			.70
$\Phi_{1,4}$	Dealer Relational Beliefs – Dealer Relational Behavior			.86
$\Phi_{2,3}$	Dealer Relational Norms – Dealer Relational Intentions			.47
$\Phi_{2,4}$	Dealer Relational Norms – Dealer Relational Behavior			.88
$\Phi_{3,4}$	Dealer Relational Intentions – Dealer Relational Behavior			.53

Note: \*fixed to 1.00

**Table VII.30: Summary of Evaluation Criteria – Relational Exchange Framework**

***Preliminary Fit Criteria: absence of***

Negative error variances	NONE
Error variances not significantly different from zero	NONE
Correlations greater than one	NONE
Correlations too close to one (i.e., within two SD of unity)	NONE
Standardized factor loadings too small (e.g., $\lambda < \text{about } .5$ )	NONE
or too large (e.g., $\lambda > \text{about } .95$ )	NONE
Very large standard errors	NONE

***Overall Model Fit: achievement of***

Nonsignificant $\chi^2$ (e.g., $\chi^2$ with p-value $\geq .05$ )	NO
Adequate statistical power of $\chi^2$ -test	YES
Satisfactory incremental fit index (i.e., $\Delta \geq .9$ )	YES
Satisfactory goodness-of-fit-index (i.e., AFGI $\geq .9$ or so)	YES
Satisfactory model comparisons (e.g., $\chi^2$ difference tests)	YES
Low root mean square residuals	YES

***Fit of Internal Structure of Model: achievement of***

High composite reliabilities (e.g., $\rho_c \geq .6$ )	YES
Average variance extracted $\geq .5$	YES
Significant parameter estimates confirming hypotheses	YES
Normalized residuals less than 2	DTR311; DRI403; NIX360; DTR317; DCH348; DLT380; DCM408; DTR312; NIX368; DRI 381; DRI393
Adequate power to detect casual paths	YES

**Table VII.31: Results of the Discriminant Validity Procedure**

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*Construct Comparison Results with Dealer Relational Intentions*

	<i>fix</i>	$\chi^2$ ( <i>d.f.</i> ) <i>free</i>
<i>First-Order Construct Level</i>		
Dealer Trust .....	668.0 (27)	79.9 (26)
Dealer Long-Term Orientation .....	237.5 (20)	100.4 (19)
Dealer Commitment.....	539.8 (14)	56.4 (13)
Solidarity Norm .....	318.6 (14)	42.4 (13)
Flexibility Norm.....	536.1 (14)	45.2 (13)
Information Exchange Norm .....	558.8 (14)	51.0 (13)
Conflict Harmonization .....	580.4 (20)	99.0 (19)
Relationship Maintenance.....	546.9 (14)	49.4 (13)
<i>Second-Order Construct Level</i>		
Dealer Relational Beliefs .....	397.6 (101)	240.9 (100)
Relational Norms .....	690.0 (63)	162.8 (62)
Dealer Relational Behavior.....	658.5 (43)	166.6 (42)

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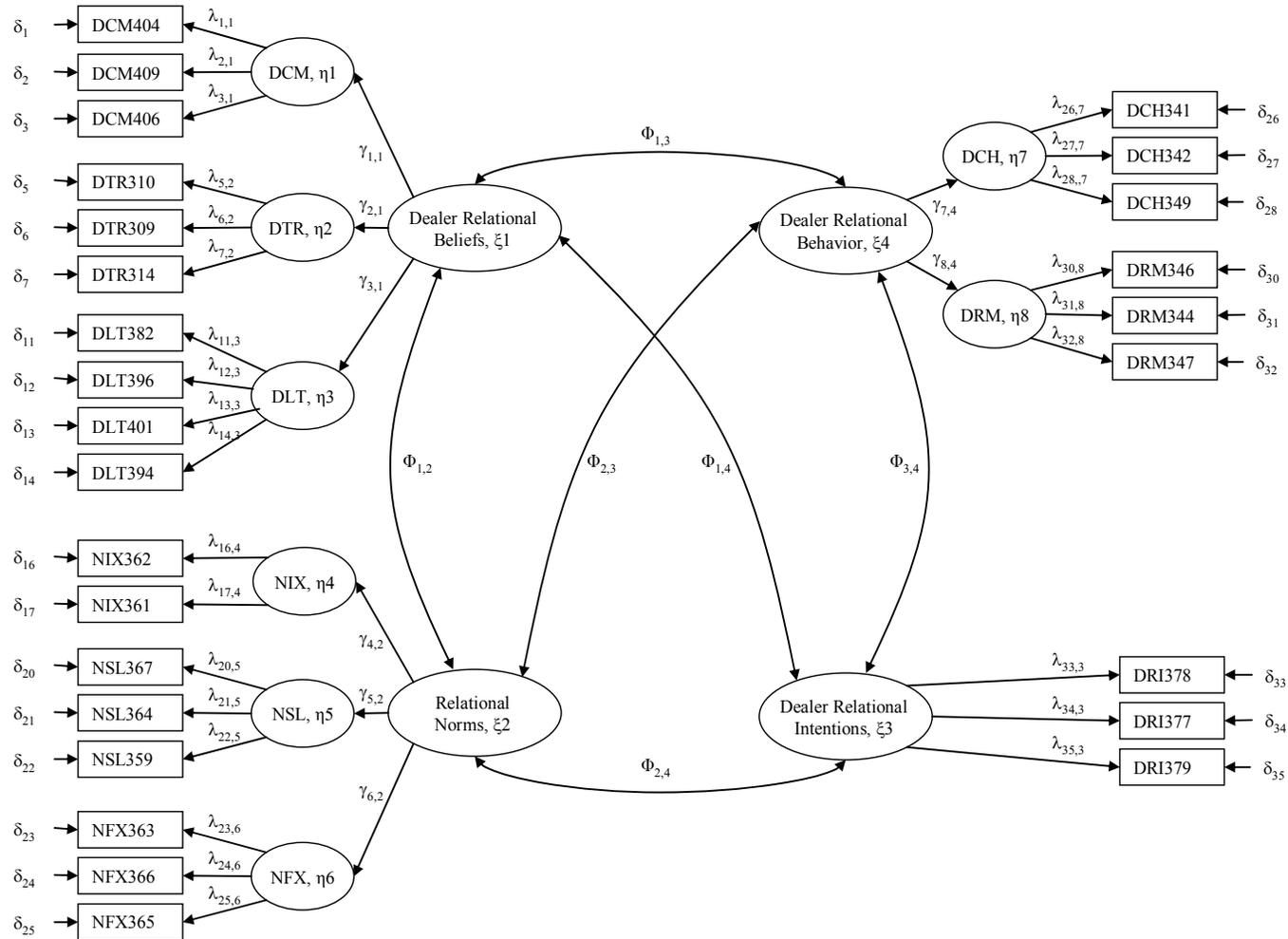
The resulting measure, scored on a 7-point Likert scale composed of three scale items that taps the dealer's subjective probability or subjective likelihood of engaging in relational behavior in the exchange with its major supplier. The resulting omnibus confirmatory factor model using the trimmed scales (see Figure VII.9) further displayed adequate fit to the data ( $\chi^2(313) = 686.1$ ;  $p = .00$ , NFI = .92, TLI = .95, CFI = .96, RMSEA = .06,  $p(\text{Close}) = .00$ ) and supported the final item assignment for each construct (Table VII.29).

### **Operationalization of Control Variables**

To anticipate the possibility that other variables might account for a substantial amount of variance in the degree of relational exchange or performance in an exchange relationship, five control variables were included in the survey instrument. These are 1) economies of scale realized by the dealer, 2) firm size, 3) dealer loyalty, 4) channel competition, and 5) the relationship life-cycle. Consider briefly the rationale for each (see Table VII.32).

First, the market structure in the particular sub-market in which the retailer is operating might influence the performance of the exchange (e.g., Parkhe 1993). To control for this possibility, a measure of the number of alternative suppliers available and the number of brands carried by the retailer was included in the survey. Second, economies of scale have been found to be a variable influencing the degree of vertical integration in an exchange relationship. Third, a measure of supplier loyalty, in particular the degree to which the dealer relies on other sources for its tire needs may influence the type of relationship and performance to be realized with the major supplier. Similarly, a measure of relationship life-cycle (e.g., Jap 2001) and relationship duration (age) were

**Figure VII.9: Measurement Model for Relational Exchange Framework**



**Table VII.32: Primary Data Collection Measures – Control Variables**

*Channel Competition (COMP,  $c = .76, \rho = .87, AVE = .77$ )*

- COMP236 About how many tire suppliers would deliver to your location?  
 COMP231 About how many suppliers compete for your location's business?  
 COMP237 About how many tire suppliers would your firm consider purchasing tires from?

*Economies of Scale (SCLE,  $\alpha = .77, \rho = .77, AVE = .46$ )*

- Are large tire dealers in your area significantly more efficient than small ones because of:  
 SCALE515 ...more intense use of personnel and facilities?  
 SCALE516 ...a better ability to attract and hold quality personnel?  
 SCALE517 ...an ability to obtain quantity discounts or favorable advertising rates?  
 SCALE518 ...an ability to gain entry and develop relationships with prospective customers?

*Dealer Loyalty (LOYL,  $\alpha = .44, \rho = .53, AVE = .35$ )*

- LOYA230 About how many tire suppliers is your firm currently purchasing the majority of tires from?  
 LOYA233 How many tire brands of any of this supplier's major competitors does your firm carry?  
 LOYA533\* About what percentage of tire-related sales is attributed to the products of your major supplier?

*Duration of the Exchange Relationship*

- AGE230 About how many years has your firm done business with your major supplier?

*Relationship Life-Cycle*

- PHASE374 Relationships typically evolve through a number of phases over time. Please indicate which one of the following best describes your firm's relationship with the major supplier today:
- Both firms are discovering and testing the goal compatibility, integrity, and performance of the other, as well as potential obligations, benefits, and burdens involved with working together on a long-term basis.
  - Both firms are receiving increasing benefits from the relationship, and a level of trust and satisfaction has been developed such that they are more willing to become committed to the relationship on a long-term basis.
  - Both firms have an ongoing, long-term relationship in which both are receiving acceptable levels of satisfaction and benefits from the relationship.
  - One or both members have begun to experience dissatisfaction and are contemplating relationship termination, considering alternative manufacturers or customers, and beginning to communicate intent to end the relationship.
  - The firms have begun to negotiate terms for ending the relationship and/or are currently in the process of resolving the relationship.

*Firm Size (SIZE,  $\alpha = .83, \rho = .84, AVE = .58$ )*

- SIZE607 About how many employees do you have? (Full-time, Part-time)  
 SIZE611 How many bays does your dealership operate?  
 SIZE612 How many other locations does your firm operate?  
 SIZE614 What was your firm's total sales volume last year?  
                   \_\_\_\_\_ Up to \$499k           \_\_\_\_\_ \$500k - \$999k           \_\_\_\_\_ \$1M - \$2,999k  
                   \_\_\_\_\_ \$3M - \$4,999k       \_\_\_\_\_ \$5M - \$9,999k       \_\_\_\_\_ \$10 million and up

Note: \*reverse coded.

included to capture the developmental stage of the exchange dyad. Finally, to account for the possibility that large retailers may experience different relationships with their supplier than do smaller ones (e.g. Brown, Dev, and Lee 2000), a measure of relative firm size was included.

As with all other constructs in this research, the control variables were subjected to the measure purification procedures used above. In addition, some measures consisted of items with different scale types. In order to meaningfully combine these items into one, reflective measure each scale item for dealer loyalty and firm size was z-transformed. Further, consistent with prior research the AGE230 was natural log-transformed ( $\ln(x)$ ). In addition, the loyalty scale item LOYA533 had to be reversed. All measures performed well individually; however, the joint measurement model showed that the COMP237 measure cross-loaded with the dealer loyalty. In addition, the AGE230 measure exhibited a negative error variance. Both measures were subsequently dropped from further analysis. Table VII.33 presents the resulting measurement model for all control variables.

### **Comprehensive Measurement Model Including Control Variables**

The next step in developing an overall measurement model that provides the basis for analyzing structural research model was to include the reflective control variables. Including all four control variables (Economies of Scale, Firm Size, Loyalty, and Competition) lead to an improper solution due to negative error variances for one scale item of the competition measure (comp231). Fixing the error variance to a range of positive values as suggested by Bollen (1989) in order to arrive at a proper solution only resulted in not positive definite covariance matrices. Therefore, the measure of

**Table VII.33: Measurement Model – Control Variables**

<b>Overall Model Fit:</b>		$\chi^2$ (59) = 108.5; p = .00	NFI = .92	TLI = .95
		CFI = .96	RMSEA = .05	p(Close) = .43
<i>Parameter</i>	<i>Scale</i>	<i>Factor Loading</i>		<i>(t-value)</i>
		<i>Unstand.</i>	<i>Stand.</i>	
<i>Competition (COMP, <math>\eta_1</math>)</i>				
$\lambda_{1,1}$	COMP236*	1.00	.93	
$\lambda_{2,1}$	COMP231	.81	.82	(6.90)
<i>Economies of Scale (SCLE, <math>\eta_2</math>)</i>				
$\lambda_{3,2}$	SCALE515*	1.00	.79	
$\lambda_{4,2}$	SCALE516	.90	.75	(11.31)
$\lambda_{5,2}$	SCALE518	.82	.69	(10.79)
$\lambda_{6,2}$	SCALE517	.60	.47	(7.46)
<i>Loyalty (LOYL, <math>\eta_3</math>)</i>				
$\lambda_{7,3}$	LOYA238*	1.00	.95	
$\lambda_{8,3}$	LOYA233	.36	.34	(2.51)
$\lambda_{9,3}$	LOYA533	.19	.18	(2.08)
<i>Firm Size (SIZE, <math>\eta_4</math>)</i>				
$\lambda_{10,4}$	SIZE607*	1.00	.91	
$\lambda_{11,4}$	SIZE612	.83	.75	(14.30)
$\lambda_{12,4}$	SIZE614	.75	.68	(12.76)
$\lambda_{13,4}$	SIZE611	.68	.62	(11.39)
<i>Correlation Coefficients</i>				
$\Phi_{1,2}$		-.03		
$\Phi_{1,3}$		.33		
$\Phi_{1,4}$		.06		
$\Phi_{2,3}$		-.09		
$\Phi_{2,4}$		.22		
$\Phi_{3,4}$		.03		

Note: \*fixed to 1.00

competition was excluded from further analysis. The resulting measurement model including all reflective research constructs as well as the remaining, reflective control variables exhibits a good fit to the data ( $\chi^2 (2020) = 3197.9$ ;  $p = .00$ , NFI = .81, TLI = .91, CFI = .92, RMSEA = .04,  $p(\text{Close}) = 1.00$ ) and all factor loadings closely matched the factor structures of the previous measurement model (see Table VII.34).

The final step in specifying the overall measurement model to test the research model was to (a) include the higher-order latent constructs and (b) single-item measures as well as to (c) eliminate the variables for the moderating variable of collaborative communication. Higher-order constructs specified in this step are the reflective latent variable for relational norms and formative latent variable for safeguarding need. Single item indicators included in this step are those for supplier transaction specific investments, interdependence magnitude, interdependence symmetry, and vertical integration. The corresponding first-order constructs were excluded from the measurement model because they are captured by the single-item measures. Again, the measurement model provides a good fit to the data ( $\chi^2 (1079) = 1951.0$ ;  $p = .00$ , NFI = .82, TLI = .89, CFI = .91, RMSEA = .05,  $p(\text{Close}) = .30$ ) and all factor loadings closely matched the factor structures of the previous measurement model (see Table VII.35).

### **Summary**

This chapter documented the operationalization of each construct needed for testing the research model proposed in Chapter V. In operationalizing the research constructs, Churchill's (1979) method for developing constructs was closely followed. Pretest results were used to select and refine scale items, which were then tested for reliability and validity using sample data. Structural equation modeling techniques were

**Table VII.34: Omnibus Factor Analysis – Research Model  
(First-Order Reflective Constructs and Control Variables)**

<b>Overall Model Fit:</b>		$\chi^2$ (2020) = 3197.86; p = .00	NFI = .81	TLI = .91
		CFI = .92	RMSEA = .04	p(Close) = 1.00
<i>Parameter</i>	<i>Scale</i>	<i>Factor Loading</i>		<i>(t-value)</i>
		<i>Unstand.</i>	<i>Stand.</i>	
<i>Dealer Complementary Goals (DGC, <math>\eta_1</math>)</i>				
$\lambda_{1,1}$	DCG202*	1.00	.84	
$\lambda_{2,1}$	DCG201	.90	.79	(13.72)
$\lambda_{3,1}$	DCG204	.81	.66	(11.59)
<i>Supplier Switching Costs (SSC, <math>\eta_2</math>)</i>				
$\lambda_{4,2}$	SSC111*	1.00	.69	
$\lambda_{5,2}$	SSC102	.98	.72	(9.39)
$\lambda_{6,2}$	SSC117	.89	.65	(8.92)
<i>Supplier Complementary Goals (SCG, <math>\eta_3</math>)</i>				
$\lambda_{7,3}$	SCG125*	1.00	.81	
$\lambda_{8,3}$	SCG129	.98	.85	(16.31)
$\lambda_{9,3}$	SCG114	.84	.76	(14.31)
<i>Dealer Switching Costs (DSC, <math>\eta_4</math>)</i>				
$\lambda_{10,4}$	DSC220*	1.00	.79	
$\lambda_{11,4}$	DSC215	1.01	.85	(15.53)
$\lambda_{12,4}$	DSC214	.92	.72	(12.93)
$\lambda_{13,4}$	DSC217	.85	.67	(11.97)
$\lambda_{14,4}$	DSC209	.83	.62	(10.99)
<i>Supplier Behavioral Uncertainty (SUB, <math>\eta_5</math>)</i>				
$\lambda_{15,5}$	SUB120*	1.00	.81	
$\lambda_{16,5}$	SUB112	.77	.58	(7.17)
$\lambda_{17,5}$	SUB119	.63	.54	(6.96)
<i>Supplier Environmental Uncertainty</i>				
<i>Marketing Practices (DUE-m, <math>\eta_6</math>)</i>				
$\lambda_{18,6}$	DUE502*	1.00	.92	
$\lambda_{19,6}$	DUE503	.79	.70	(13.75)
$\lambda_{20,6}$	DUE501	.78	.68	(13.25)
<i>Competitor (DUE-c, <math>\eta_7</math>)</i>				
$\lambda_{21,7}$	DUE509*	1.00	.97	
$\lambda_{22,7}$	DUE510	.92	.87	(23.16)
$\lambda_{23,7}$	DUE508	.76	.74	(17.00)
<i>Customer (DUE-t, <math>\eta_8</math>)</i>				
$\lambda_{24,8}$	DUE505*	1.00	.94	
$\lambda_{25,8}$	DUE504	.93	.86	(21.45)
$\lambda_{26,8}$	DUE506	.82	.71	(15.31)
<i>Communication Bi-Directionality (CBD, <math>\eta_9</math>)</i>				
$\lambda_{27,9}$	COM339*	1.00	.87	
$\lambda_{28,9}$	COM338	.98	.86	(20.25)
$\lambda_{29,9}$	COM337	.85	.80	(18.11)

**Table VII.34 (cont.)**

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<i>Communication Frequency (CFR, <math>\eta_{10}</math>)</i>			
$\lambda_{30,10}$	COM334*	1.00	.92
$\lambda_{31,10}$	COM333	.97	.89 (25.63)
$\lambda_{32,10}$	COM335	.95	.87 (24.68)
$\lambda_{33,10}$	COM331	.94	.88 (24.41)
$\lambda_{34,10}$	COM336	.89	.85 (23.03)
 <i>Information Exchange (NIX, <math>\eta_{11}</math>)</i>			
$\lambda_{35,11}$	NIX362*	1.00	.90
$\lambda_{36,11}$	NIX361	.98	.92 (25.69)
$\lambda_{37,11}$	NIX360	.86	.80 (19.09)
 <i>Flexibility (NFX, <math>\eta_{12}</math>)</i>			
$\lambda_{38,12}$	NFX363*	1.00	.92
$\lambda_{39,12}$	NFX366	.93	.83 (20.99)
$\lambda_{40,12}$	NFX365	.89	.88 (23.84)
 <i>Exchange Effectiveness (EES, <math>\eta_{13}</math>)</i>			
$\lambda_{41,13}$	EES425*	1.00	.88
$\lambda_{42,13}$	EES424	.95	.85 (19.49)
$\lambda_{43,13}$	EES426	.86	.79 (17.25)
$\lambda_{44,13}$	EES427	.84	.70 (14.47)
 <i>Behavior-Based Incentive (VIB, <math>\eta_{14}</math>)</i>			
$\lambda_{45,14}$	VIB355*	1.00	.93
$\lambda_{46,14}$	VIB354	.93	.92 (28.60)
$\lambda_{47,14}$	VIB357	.92	.90 (26.85)
 <i>Supplier Direction (VID, <math>\eta_{15}</math>)</i>			
$\lambda_{48,15}$	VID369*	1.00	.82
$\lambda_{49,15}$	VID370	.83	.90 (14.07)
$\lambda_{50,15}$	VID373	.60	.60 (10.86)
 <i>Outcome-Based Incentive (VIO, <math>\eta_{16}</math>)</i>			
$\lambda_{51,16}$	VIO351*	1.00	.90
$\lambda_{52,16}$	VIO353	1.01	.91 (24.91)
$\lambda_{53,16}$	VIO350	.98	.89 (23.57)
 <i>Dealer Opportunism (DOP, <math>\eta_{17}</math>)</i>			
$\lambda_{54,17}$	DOP397*	1.00	.78
$\lambda_{55,17}$	DOP399	.98	.82 (14.73)
$\lambda_{556,17}$	DOP400	.97	.80 (14.38)
$\lambda_{5717}$	DOP395	.89	.73 (12.96)
 <i>Economics of Scale (SCLE, <math>\eta_{18}</math>)</i>			
$\lambda_{58,18}$	SCALES15*	1.00	.79
$\lambda_{59,18}$	SCALES16	.90	.75 (11.54)
$\lambda_{60,18}$	SCALES18	.81	.69 (10.91)
$\lambda_{61,18}$	SCALES17	.60	.47 (7.53)

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**Table VII.34 (cont.)**

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<i>Firm Size (SIZE, <math>\eta_{19}</math>)</i>				
$\lambda_{62,19}$	SIZE607*	1.00	.90	
$\lambda_{63,19}$	SIZE612	.84	.75	(14.71)
$\lambda_{64,19}$	SIZE614	.77	.69	(13.32)
$\lambda_{65,19}$	SIZE611	.69	.62	(11.65)
 <i>Loyalty (LOYL, <math>\eta_{20}</math>)</i>				
$\lambda_{66,20}$	LOYA238*	1.00	.59	
$\lambda_{67,20}$	LOYA233	.85	.50	(4.80)
$\lambda_{68,20}$	LOYA533	.56	.33	(3.89)

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Note: \*fixed to 1.00

Table VII.34 (cont.)

*Correlation Matrix*

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	$\eta 1$	$\eta 2$	$\eta 3$	$\eta 4$	$\eta 5$	$\eta 6$	$\eta 7$	$\eta 8$	$\eta 9$	$\eta 10$	$\eta 11$	$\eta 12$	$\eta 13$	$\eta 14$	$\eta 15$	$\eta 16$	$\eta 17$	$\eta 18$	$\eta 19$	$\eta 20$	
$\eta 1$	1.00																				
$\eta 2$	0.46	1.00																			
$\eta 3$	0.57	0.36	1.00																		
$\eta 4$	0.26	0.22	0.37	1.00																	
$\eta 5$	-0.08	-0.05	-0.23	-0.13	1.00																
$\eta 6$	0.07	0.05	-0.12	0.01	0.03	1.00															
$\eta 7$	0.04	0.06	-0.02	0.21	-0.03	0.60	1.00														
$\eta 8$	-0.01	0.06	0.01	0.09	-0.02	0.68	0.47	1.00													
$\eta 9$	0.39	0.35	0.69	0.30	-0.27	-0.15	-0.04	-0.07	1.00												
$\eta 10$	0.43	0.34	0.69	0.22	-0.22	-0.13	-0.05	-0.06	0.90	1.00											
$\eta 11$	0.37	0.41	0.59	0.24	-0.16	-0.12	-0.05	-0.05	0.75	0.78	1.00										
$\eta 12$	0.41	0.33	0.57	0.25	-0.12	-0.11	-0.01	-0.06	0.66	0.73	0.90	1.00									
$\eta 13$	0.56	0.36	0.71	0.39	-0.18	-0.07	0.03	0.02	0.66	0.63	0.63	0.67	1.00								
$\eta 14$	0.27	0.30	0.54	0.25	-0.15	0.02	0.07	0.04	0.54	0.54	0.58	0.54	0.49	1.00							
$\eta 15$	0.02	-0.05	0.15	0.21	-0.20	0.09	0.11	0.18	0.21	0.13	0.08	0.03	0.08	0.22	1.00						
$\eta 16$	0.35	0.42	0.58	0.26	-0.19	0.03	0.05	0.00	0.49	0.48	0.51	0.49	0.53	0.82	0.14	1.00					
$\eta 17$	-0.12	-0.01	-0.04	0.04	0.12	0.23	0.06	0.17	0.03	-0.04	-0.01	-0.05	-0.12	0.09	0.08	0.11	1.00				
$\eta 18$	0.04	0.00	0.07	0.17	-0.04	0.23	0.16	0.21	0.02	0.03	-0.01	0.04	0.00	0.02	0.13	0.09	0.13	1.00			
$\eta 19$	0.19	0.23	0.04	0.06	-0.17	0.22	0.14	0.15	0.05	0.13	-0.04	-0.02	0.10	0.07	-0.06	0.26	0.05	0.22	1.00		
$\eta 20$	-0.14	-0.02	-0.26	-0.31	0.22	0.13	-0.02	0.23	-0.14	-0.14	-0.05	-0.08	-0.12	-0.04	-0.13	-0.20	0.16	-0.13	0.00	1.00	

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**Table VII.35: Omnibus Factor Analysis – Research Model  
(Second-Order Constructs and Control Variables)**

<b>Overall Model Fit:</b>				
$\chi^2(1079) = 1951.0$	$p = .00$	NFI = .82	TLI = .90	
CFI = .91		RMSEA = .05	p(Close) = .30	
<i>Parameter</i>	<i>Scale</i>	<i>Factor Loading</i>		<i>(t-value)</i>
		<i>Unstand.</i>	<i>Stand.</i>	
<b>Safeguarding Need (SSN, <math>\eta_1</math>)</b>				
<i>Supplier Transaction Specific Investments (SSI, <math>\eta_2</math>)</i>				
$\lambda_{1,2}$	SSI*	1.00	.91	
<i>Supplier Behavioral Uncertainty (SUB, <math>\xi_3</math>)</i>				
$\lambda_{2,3}$	SUB120*	1.00	.82	
$\lambda_{3,3}$	SUB112	.79	.60	(7.50)
$\lambda_{4,3}$	SUB119	.60	.53	(7.04)
<i>Supplier Environmental Uncertainty (DUE, no latent construct)</i>				
<i>Marketing Practices (DUE-m, <math>\xi_4</math>)</i>				
$\lambda_{5,4}$	DUE502*	1.00	.92	
$\lambda_{6,4}$	DUE503	.79	.70	(13.44)
$\lambda_{7,4}$	DUE501	.78	.68	(13.18)
<i>Competitor (DUE-c, <math>\xi_5</math>)</i>				
$\lambda_{8,5}$	DUE509*	1.00	.97	
$\lambda_{9,5}$	DUE510	.92	.87	(23.27)
$\lambda_{10,5}$	DUE508	.75	.73	(16.65)
<i>Customer (DUE-t, <math>\xi_6</math>)</i>				
$\lambda_{11,6}$	DUE505*	1.00	.95	
$\lambda_{12,6}$	DUE504	.92	.86	(21.10)
$\lambda_{13,6}$	DUE506	.82	.71	(15.24)
<b>Interdependence (single item indicators)</b>				
<i>Interdependence Magnitude (IDM, <math>\eta_7</math>)</i>				
$\lambda_{14,7}$	IDM*	1.00	.91	
<i>Interdependence Symmetry (IDM, <math>\eta_8</math>)</i>				
$\lambda_{15,8}$	IDS*	1.00	.91	
<b>Relational Norms (NRM, <math>\xi_9</math>)</b>				
<i>Information Exchange (NIX, <math>\eta_{10}</math>)</i>				
$\lambda_{16,10}$	NIX362*	1.00	.88	
$\lambda_{17,10}$	NIX361	.97	.90	(23.56)
$\lambda_{18,10}$	NIX360	.87	.79	(17.93)
<i>Flexibility (NFX, <math>\eta_{11}</math>)</i>				
$\lambda_{19,11}$	NFX363*	1.00	.91	
$\lambda_{20,11}$	NFX366	.93	.81	(19.21)
$\lambda_{21,11}$	NFX365	.86	.85	(21.23)

**Table VII.35 (cont.)**

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**Exchange Performance (no latent construct)**

*Exchange Effectiveness (EES,  $\eta_{12}$ )*

$\lambda_{22,12}$	EES425*	1.00	.85	
$\lambda_{23,12}$	EES424	.94	.81	(15.71)
$\lambda_{24,12}$	EES426	.83	.72	(13.63)
$\lambda_{25,12}$	EES427	.83	.63	(11.56)

*Exchange Efficiency (EEY,  $\eta_{13}$ )*

$\lambda_{26,13}$	EEY*	1.00	.60	
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**Vertical Integration (no latent construct)**

*Behavior-Based Incentive (VIB,  $\eta_{14}$ )*

$\lambda_{25,14}$	VIB355*	1.00	.92	
$\lambda_{26,14}$	VIB354	.94	.91	(25.89)
$\lambda_{27,14}$	VIB357	.92	.89	(24.57)

*Supplier Direction (VID,  $\eta_{15}$ )*

$\lambda_{28,15}$	VID369*	1.00	.82	
$\lambda_{29,15}$	VID370	.82	.90	(13.54)
$\lambda_{30,15}$	VID373	.59	.60	(10.50)

*Outcome-Based Incentive (VIO,  $\eta_{16}$ )*

$\lambda_{31,16}$	VIO353*	1.00	.89	
$\lambda_{32,16}$	VIO351	1.00	.88	(21.41)
$\lambda_{33,16}$	VIO350	.97	.87	(21.25)

*Vertical Integration (VI,  $\eta_{17}$ )*

$\lambda_{34,17}$	V601*	1.00	.91	
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**Dealer Opportunism (DOP,  $\eta_{18}$ )**

$\lambda_{35,18}$	DOP397*	1.00	.78	
$\lambda_{36,18}$	DOP399	.98	.82	(14.15)
$\lambda_{37,18}$	DOP400	.97	.79	(13.77)
$\lambda_{38,18}$	DOP395	.88	.71	(12.33)

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**Table VII.35 (cont.)**

**Control Variables (no latent construct)**

*Economics of Scale (SCLE,  $\eta_{19}$ )*

$\lambda_{39,19}$	SCALE515*	1.00	.79	
$\lambda_{40,19}$	SCALE516	.90	.75	(11.47)
$\lambda_{41,19}$	SCALE518	.81	.68	(10.76)
$\lambda_{42,19}$	SCALE517	.58	.46	(7.30)

*Firm Size (SIZE,  $\eta_{20}$ )*

$\lambda_{43,20}$	SIZE607*	1.00	.90	
$\lambda_{44,20}$	SIZE612	.86	.75	(14.44)
$\lambda_{45,20}$	SIZE614	.78	.68	(12.79)
$\lambda_{46,20}$	SIZE611	.75	.64	(11.93)

*Loyalty (LOYL,  $\eta_{21}$ )*

$\lambda_{47,21}$	LOYA233*	1.00	.52	
$\lambda_{48,21}$	LOYA238	.98	.53	(5.18)
$\lambda_{49,21}$	LOYA533	.68	.36	(4.22)

**Higher-Order Model Parameters**

*Safeguarding Need (SSN,  $\eta_1$ , formative)*

$\gamma_{2,1}$	SSI*	1.00	.23
$\gamma_{3,1}$	SUB*	1.00	.38
$\gamma_{4,1}$	DUE-m*	1.00	.33
$\gamma_{5,1}$	DUE-c*	1.00	.38
$\gamma_{6,1}$	DUE-t*	1.00	.32

*Relational Norms (NRM,  $\zeta_9$ , reflective)\**

$\beta_{9,10}$	NIX*	1.00	.93
$\beta_{9,11}$	NFX*	1.00	.95

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Note: \*fixed to 1.00

Table VII.35 (cont.)

*Correlations*

	$\eta_2$	$\xi_3$	$\xi_4$	$\xi_5$	$\xi_6$	$\eta_7$	$\eta_8$	$\xi_9$	$\eta_{12}$	$\eta_{13}$	$\eta_{14}$	$\eta_{15}$	$\eta_{16}$	$\eta_{17}$	$\eta_{18}$	$\eta_{19}$	$\eta_{20}$	$\eta_{21}$
$\eta_2$	1.00																	
$\xi_3$	-0.14	1.00																
$\xi_4$	0.03	0.05	1.00															
$\xi_5$	0.08	-0.03	0.59	1.00														
$\xi_6$	0.09	-0.02	0.66	0.46	1.00													
$\eta_7$	0.68	-0.12	-0.02	0.05	0.02	1.00												
$\eta_8$	-0.03	0.25	0.16	-0.01	-0.05	-0.04	1.00											
$\xi_9$	0.42	-0.08	-0.14	-0.07	-0.08	0.41	-0.09	1.00										
$\eta_{12}$	0.42	-0.12	-0.11	-0.01	0.01	0.50	-0.19	0.57	1.00									
$\eta_{13}$	0.08	-0.03	-0.53	-0.42	-0.37	0.13	-0.22	0.47	0.40	1.00								
$\eta_{14}$	0.41	-0.12	0.01	0.05	0.03	0.35	-0.19	0.50	0.36	0.30	1.00							
$\eta_{15}$	0.13	-0.20	0.07	0.11	0.18	0.10	-0.17	0.00	0.04	0.02	0.19	1.00						
$\eta_{16}$	0.43	-0.15	0.03	0.02	-0.02	0.41	-0.11	0.40	0.38	0.21	0.80	0.11	1.00					
$\eta_{17}$	-0.04	0.30	-0.02	-0.03	0.08	-0.17	0.15	0.17	-0.01	0.16	0.12	-0.22	-0.02	1.00				
$\eta_{18}$	0.08	0.10	0.21	0.04	0.16	-0.02	-0.09	-0.03	-0.15	-0.31	0.11	0.10	0.12	-0.06	1.00			
$\eta_{19}$	-0.09	-0.03	0.22	0.14	0.19	0.05	-0.04	-0.04	-0.05	-0.27	-0.03	0.11	0.06	-0.19	0.12	1.00		
$\eta_{20}$	0.02	-0.14	0.22	0.11	0.12	0.10	0.30	-0.11	0.00	-0.30	0.00	-0.09	0.18	-0.05	-0.01	0.23	1.00	
$\eta_{21}$	0.02	0.24	0.14	0.01	0.25	-0.21	0.26	0.05	-0.01	-0.15	0.05	-0.13	-0.13	0.40	0.16	-0.12	0.07	1.00
<b>Mean</b>	3.92	4.97	3.35	3.67	3.47	8.34	0.93	4.74	4.30	5.27	3.82	1.85	4.16	n/a	2.38	3.73	0.00	0.00
<b>S.D.</b>	1.24	1.53	1.32	1.50	1.33	1.83	0.75	1.39	1.40	1.25	1.82	1.31	1.76	n/a	1.44	1.36	0.81	0.69
<b>Min.</b>	1.00	1.00	1.00	1.00	1.00	2.41	0.00	1.00	1.00	1.00	1.00	1.00	1.00	n/a	1.00	1.00	-0.69	-1.09
<b>Max.</b>	7.00	7.00	7.00	7.00	7.00	12.81	4.73	7.00	7.00	7.00	7.00	7.00	7.00	n/a	7.00	7.00	7.74	4.19

employed to conduct confirmatory factor analyses for first- and second-order measurement models. Criteria developed by Bagozzi and Yi (1988) were applied to refine each measure. In addition, chi-square difference tests suggested by Anderson and Gerbering (1988) were used to provide additional evidence of discriminant validity between construct measures. The resulting scale items largely behaved as expected and the refined scales exhibit high levels of convergent and discriminant validity.

In developing the higher-order factor structures proposed in this research, three problems emerged. First, the data did not support a formative, higher-order factor for the two performance facets of exchange efficiency and exchange effectiveness. Given that exchange performance is tied into the research model as dependent variable, treating each facet of exchange efficiency and effectiveness as separate research variables that represent different aspects of exchange performance emerged as a reasonable solution.

Second, the three first-order relational norm facets appeared to correlate highly leading to a not positive-definite covariance matrix in the measurement model. The solidarity facet was therefore excluded from the final second-order operationalization of relational norms. Finally, a unifying second-order factor for the relational behaviors of reciprocity maintenance, conflict harmonization, and dealer opportunism (inverse) did not yield a significant second-order path coefficient for dealer opportunism. Dealer opportunism was therefore excluded from the second-order operationalization of relational behavior. Congruent with Anderson and Gerbering's (1988) two-step approach, the following chapter will present the second step in testing the research model: the structural model will be specified and results of its empirical test will be described.

## CHAPTER VIII

### STRUCTURAL MODEL TEST

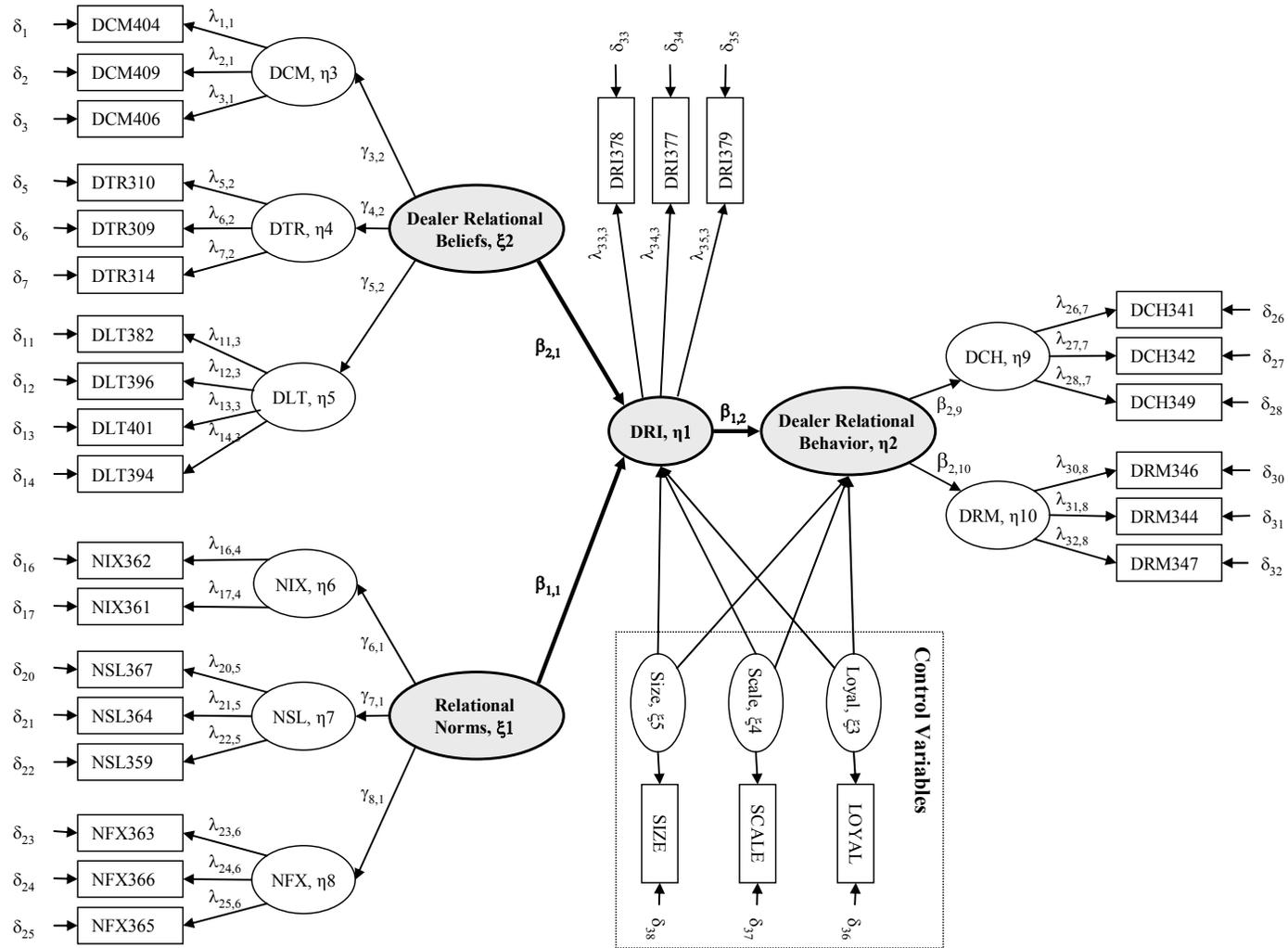
This Chapter provides empirical results of the structural model test conducted on data gathered via the mail survey from the automotive tire replacement industry. Amos 5.0 is used to test two structural models – the relational exchange and the research model developed in Chapter 5. In addition, moderated regression analysis using SPSS 11.5 is used to test an alternate research model. In the following section the specification of each model and the results of the model tests are presented followed by a discussion of these results in Chapter IX.

#### Relational Exchange Model

##### Model Specification

To test hypothesis one, a structural equation model of Figure VIII.1 was tested using maximum likelihood estimation. The exogenous variables were allowed to correlate, with the exception that control variables remained uncorrelated with the exogenous research model variables because none of these correlations were found to be significant in the measurement model. In the model there were five exogenous variables. Only two of these variables, dealer relational beliefs and dealer relational norms, were of substantive interest to this research. The other three exogenous variables were control variables (firm size, loyalty, and economies of scale). Consistent with the measurement model presented in the previous chapter, these control variables were modeled as latent constructs. Because no substantive hypotheses were developed for these control variables, they were allowed to affect each endogenous variable in the model. In addition

**Figure VIII.1: Structural Model for Relational Exchange Framework**



to these exogenous variables, there were two endogenous variables in the model (dealer relational intentions, dealer relational behavior). Although the chi-square goodness-of-fit measure for the overall model was not statistically significant ( $\chi^2(541) = 1234.9$ ;  $p < .00$ ), other indicators were close enough to the .90 benchmark to suggest that the model fit the data acceptably (GFI = .83, CFI = .92, TLI = .91) but has some room for improvement. These fit indices as well as the structural parameters and variance explained by each structural equation is reported in Table VIII.1. The correlation matrix can be found in Table VII.29.

## Results

Hypothesis one argues that relational intentions mediate the link between relational beliefs, relational norms and relational behavior:

- (d) The greater the degree of relational beliefs of an exchange partner, the greater his/her relational intentions.

Relational Beliefs                       $\longrightarrow$                       Relational Intentions

- (e) The greater the degree of relational norms of an exchange partner, the greater his/her relational intentions.

Relational Norms                       $\longrightarrow$                       Relational Intentions

- (f) The greater the degree of relational intentions of an exchange partner, the greater his/her relational behavior.

Relational Intentions                       $\longrightarrow$                       Relational Behavior

The results in Table VIII.1 show that dealer relational intentions are positively influenced by dealer relational beliefs ( $\beta_{2,1} = .89$ ,  $t = 7.52$ ), but are not affected by dealer relational norms ( $\beta_{1,1} = -.14$ ,  $t = -1.40$ ). Further, relational behavior is found to be positively affected by dealer relational intentions ( $\beta_{1,2} = .70$ ,  $t = 10.74$ ). Thus, the results lend support for  $H_{1(a)}$  and  $H_{1(c)}$ , but none for  $H_{1(b)}$ .

**Table VIII.1: Relational Exchange Model Results**

		<b>Endogenous Latent Variables</b>	
<b>Independent Latent Variables</b>		<b>BRI</b>	<b>BBH</b>
		<b>(<math>\eta_1</math>)</b>	<b>(<math>\eta_2</math>)</b>
<i>Research Model Variables*</i>			
<b>BRN</b>	<b>(<math>\xi_1</math>)</b>	-0.14 (-1.40)	-
<b>BRB</b>	<b>(<math>\xi_2</math>)</b>	<b>0.86</b> <b>(7.52)</b>	-
<b>BRI</b>	<b>(<math>\eta_1</math>)</b>	-	<b>0.61</b> <b>(10.74)</b>
<i>Control Variables</i>			
<b>LOYAL</b>	<b>(<math>\xi_3</math>)</b>	0.01 (0.16)	-0.11 (-1.49)
<b>SCALE</b>	<b>(<math>\xi_4</math>)</b>	0.06 (1.17)	-0.03 (-0.57)
<b>SIZE</b>	<b>(<math>\xi_5</math>)</b>	-0.05 (-0.98)	0.07 (1.33)
<b>Goodness-of-Fit Measures</b>		<b>Correlations</b>	
SMC**		.58	.38
$\chi^2$	1234.9		$\Phi_{\xi_1, \xi_2} = 0.79$
df	541		$\Phi_{\xi_3, \xi_4} = -0.12$
p	.00		$\Phi_{\xi_4, \xi_5} = 0.22$
GFI	0.83		$\Phi_{\xi_3, \xi_5} = 0.02$
CFI	0.92		
TLI	0.91		
RMSEA	0.06		
p(Close)	0.00		

NOTE: \* Standardized Direct Effect  
(t - value)

\*\* SMC = Squared Multiple Correlations (Variance Explained)

BRN = Buyer Relational Norms  
 BRB = Buyer Relational Beliefs  
 BRI = Buyer Relational Intentions  
 BBH = Buyer Relational Behavior  
 LOYAL = Loyalty  
 SCALE = Economies of Scale  
 SIZE = Size

## Research Model

### Model Specification

To test the remaining hypotheses developed in Chapter V, a structural equation model of Figure V.1 was tested using maximum likelihood estimation. In the model, there were nine exogenous variables. Five of these variables, symmetry of interdependence, and magnitude of interdependence, as well as supplier behavioral uncertainty, dealer environmental uncertainty, and supplier transaction specific investments were of substantive interest to this research. The other four exogenous variables were control variables: economies of scale, firm size, dealer loyalty, and duration of the exchange relationship. The primary rationale for this approach was to partial out any effects of these control variables on structural paths in the model. Consistent with the rationale for including each control variable, economies of scale and firm size were allowed to affect each endogenous variable in the model. Dealer loyalty and duration of the exchange relationship were allowed to influence the focal research variable, relational exchange. Exogenous variables were allowed to correlate, but all error terms of reflective indicators<sup>55</sup> in the model remained uncorrelated.

In addition to these exogenous variables, there were eight endogenous variables in the model: relational exchange, vertical integration, dealer opportunism, exchange effectiveness, exchange efficiency, and the three facets of integrative influence strategies modeled separately as described in the previous chapter. Consistent with their conceptualization as aspects of vertical integration and exchange performance, the error term of the vertical integration variable was allowed to correlate with those of integrative

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<sup>55</sup> Following Jarvis, Mackenzie, and Podsakoff (2003) the error terms for the formative construct of transaction specific investments are allowed to correlate.

influence strategies and the error term of exchange effectiveness was allowed to correlate with that of exchange efficiency.

In order to test the proposed moderating effect of collaborative communication, a stacked, two-group model was estimated. The moderator, collaborative communication, was used to determine membership in two groups employing a median split. The median split created a significant difference in sub-sample means of the moderator variable (CCM<sub>high</sub>: M = 5.43, SD = .75; CCM<sub>low</sub>: M = 3.08, SD = .93; F = 11.09, p < .01) allowing a meaningful between-group comparison. All paths that were not hypothesized to be moderated by collaborative communication were fixed across groups and remained in the model regardless of their significance.

One important issue for testing multi-group structural models is assessing the degree of measurement invariance across groups (e.g., Bollen 1989, p.354; Steenkamp and Baumgartner 1998). Here, if evidence supporting the measurement model's invariance across groups is lacking, conclusions based on these scales is "at best ambiguous and at worst erroneous" (Steenkamp and Baumgartner 1998). This is because it remains unclear whether differences in relationships between scales indicate true differences in structural relations between constructs or nonequivalence of scales involved. The focal constructs for the invariance test in the research model are relational norms and safeguarding need. All other constructs in the model are not hypothesized to vary across groups and were estimated with fixed parameters across groups.

In order to address the problem of measurement invariance several testing hierarchies have been developed to systematically assess equality of measurement across groups (e.g. Jöreskog 1971; Bollen 1989; Kaplan 2000; Steenkamp and Baumgartner

1998). Generally, these testing hierarchies rely on Chi-square difference tests and other fit indices to demonstrate that increasingly restrictive measurement models fit the data well. In order to test the degree of measurement invariance across high and low levels of collaborative communication in the research model, the hierarchy suggested by Bollen (1989, p.355ff.) was used. As shown in Table VIII.2, the measurement model for each construct exhibits equality in form (same dimensions and same patterns of fixed, free, and constrained elements in  $\Lambda_x$ ,  $\Theta_\delta$ , and  $\Phi$ ), equality in scaling (coefficients linking the latent to the observed variables;  $\Lambda_{x1} = \Lambda_{x2}$ ), and only moderate equality in measurement error variances ( $\Theta_{\delta1} = \Theta_{\delta2}$ ) across high and low levels of collaborative communication. Although the chi-square difference test suggested a significant difference in measurement error variance across groups, other fit indices do not indicate a sharp decline in fit. As a result of this analysis, and because the focus of this analysis is on the structural relationships among the latent variables,  $\Lambda_x$  and  $\Theta_\delta$  will be constrained to be equal across groups.<sup>56</sup>

**Overall Model Fit.** Overall, the model did not fit the data extremely well. Here, the overall fit of the model indicates the degree to which the estimated parameters map onto the observed covariance matrix of the sample (Bollen 1989). Although the chi-square goodness-of-fit measure for the overall model was not statistically significant ( $\chi^2(1173) = 2297.8$ ;  $p < .00$ ), other indicators were close to the .90 benchmark to suggest that the model fit the data acceptably (GFI = .75, CFI = .88, TLI = .86, RMSEA = .06, p(Close) = .00) but has some room for improvement. These fit indices as well as the structural parameters are reported in Table VIII.3. The correlation matrix of correlations

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<sup>56</sup> With the exception of the safeguarding need – relational exchange path which was hypothesized to be moderated by collaborative communication.

**Table VIII.2: Tests of Invariance for Research Model Interaction Term**

Hypothesis	$\chi^2$	d.f.	$\chi^2/\text{d.f.}$	$\Delta \chi^2$	$\Delta \text{d.f.}$	p-value for $\Delta$	TLI	CFI
<i>Relational Exchange</i>								
H <sub>form</sub>	162.5	52	3.13	-	-	-	.93	.95
H <sub>Γ</sub>	179.1	60	2.99	16.6	8	p < .04	.93	.94
H <sub>ΓB</sub>	227.9	69	3.3	48.8	9	p < .00	.92	.92
<i>Safeguarding</i>								
H <sub>form</sub>	308.9	194	1.59	-	-	-	.92	.95
H <sub>Γ</sub>	326.1	202	1.61	17.2	8	p < .03	.92	.95
H <sub>ΓB</sub>	351	213	1.65	24.9	11	p < .00	.92	.94

Note: Each research construct was tested separately for invariance across high and low levels of collaborative communication.

H<sub>form</sub> = Null model: all parameters freed across groups; item assignment as in measured model.

H<sub>Γ</sub> = Equality in scaling: path coefficients ( $\lambda$ 's) fixed across groups; all other parameters freed across groups.

H<sub>ΓB</sub> = Equality in measurement error: path coefficients fixed across groups; error terms ( $\delta$ 's) fixed across groups.

**Table VIII.3: Research Model Results**

Independent Latent Variables	Endogenous Latent Variables						Performance Variables	
	Vertical Integration Variables				RE	DOP	EES	EEY
	VI ( $\eta_1$ )	VIO ( $\eta_2$ )	VIB ( $\eta_3$ )	VID ( $\eta_4$ )	( $\eta_5$ )	( $\eta_6$ )	( $\eta_7$ )	( $\eta_8$ )
<i>Research Model Variables*</i>								
<b>IDM</b> ( $\xi_1$ )	-	-	-	-	<b>.39</b> (5.33)	-	-	-
<b>IDS</b> ( $\xi_2$ )	-	-	-	-	.04 (0.47)	-	-	-
<b>SSN</b> ( $\eta_0$ )	-.09 (-1.36)	.07 (1.18)	<b>.13</b> (2.10)	.11 (1.70)	<b>-.16</b> (-2.27)	-	-	-
<b>VI</b> ( $\eta_1$ )	-	-	-	-	<b>-.17</b> (-2.56)	.00 (-0.04)	<b>.13</b> (2.11)	-.03 (-0.48)
<b>VIO</b> ( $\eta_2$ )	-	-	-	-	-.03 (-0.25)	.07 (0.47)	<b>.28</b> (2.41)	.13 (1.04)
<b>VIB</b> ( $\eta_3$ )	-	-	-	-	<b>.44</b> (3.67)	.11 (0.80)	-.11 (-0.89)	.01 (0.11)
<b>VID</b> ( $\eta_4$ )	-	-	-	-	-.09 (-1.49)	.04 (0.64)	.03 (0.58)	.02 (0.36)
<b>RE</b> ( $\eta_5$ )	-	-	-	-	-	-.14 (-1.87)	<b>.58</b> (8.80)	<b>.28</b> (4.28)
<b>DOP</b> ( $\eta_6$ )	-	-	-	-	-	-	<b>-.15</b> (-2.77)	<b>-.25</b> (-4.18)
<i>Control Variables</i>								
<b>SIZE</b> ( $\xi_3$ )	.09 (1.28)	<b>.24</b> (4.11)	.08 (1.18)	-.09 (-1.31)	<b>-.31</b> (-2.01)	-.05 (-0.75)	.08 (1.27)	<b>-.21</b> (-3.23)
<b>SCLE</b> ( $\xi_4$ )	<b>.19</b> (2.54)	.01 (0.17)	-.04 (-0.62)	.12 (1.62)	.10 (1.36)	.13 (1.74)	-.07 (-1.11)	<b>-.17</b> (-2.62)
<b>AGE</b> ( $\xi_5$ )	-	-	-	-	.16 (1.07)	-	-	-
<b>LOYL</b> ( $\xi_6$ )	-	-	-	-	.09 (1.01)	-	-	-

Table VIII.3 (cont.)

		Endogenous Latent Variables							
		Vertical Integration Variables				Performance Variables			
Goodness-of-Fit Measures		VI (η1)	VIO (η2)	VIB (η3)	VID (η4)	RE (η5)	DOP (η6)	EES (η7)	EEY (η8)
SMC**		.05	.08	.03	.03	.36	.05	.42	.27
$\chi^2$	2297.8								
d.f.	1173								
<i>p</i>	.00								
GFI	.75								
CFI	.88								
TLI	.86								
RMSEA	.06								
p(Close)	.00								

NOTE: \* Standardized Direct Effect (t-value)

\*\* SMC = Squared Multiple Correlations (Variance Explained)

		Correlations Among Exogenous Variables											
		IDM	IDS	DUE-T	DUE-C	DUE-M	SSI	SIZE	SCALE	AGE	LOYAL	SUB	
IDM	= Interdependence Magnitude	<b>IDM</b>	1.00										
IDS	= Interdependence Symmetry	<b>IDS</b>	.04	1.00									
VI	= Vertical Integration	<b>DUE-T</b>	.02	-.05	1.00								
VIO	= Outcome-Based Incentives	<b>DUE-C</b>	.05	-.01	.46	1.00							
VIB	= Behavior-Based Incentives	<b>DUE-M</b>	-.02	.16	.67	.59	1.00						
VID	= Supplier Direction	<b>SSI</b>	.69	-.03	.09	.08	.03	1.00					
RE	= Relational Exchange	<b>SIZE</b>	.12	.30	.22	.12	.12	.03	1.00				
DOP	= Dealer Opportunism	<b>SCALE</b>	.05	-.03	.25	.16	.21	-.08	.22	1.00			
EES	= Exchange Effectiveness	<b>AGE</b>	.25	-.09	.11	.17	-.12	.28	.76	.03	1.00		
EEY	= Exchange Efficiency	<b>LOYAL</b>	-.20	.27	.22	-.03	.14	.00	.08	-.12	.01	1.00	
SIZE	= Size	<b>SUB</b>	-.12	.23	-.03	-.03	.04	-.14	-.14	-.02	-.27	.22	1.00
SCALE	= Economies of Scale												
AGE	= Relationship Duration												
LOYAL	= Loyalty												
SSN	= Safeguarding Need (Subdimensions: DUE = Environmental Uncertainty, SUB = Behavioral Uncertainty, SSI = Transaction Specific Investments)												

among exogenous variables as well as the variance explained by each structural equation is also reported in Table VIII.3.<sup>57</sup>

Several reasons may explain the lack of model fit. First, structural equation models with large number of variables are likely to increase the potential for omitted (not explicitly estimated) relationships. This is especially true in a parsimonious model in which structural paths that are not consistent with the core theoretical model are not tested. Further, the Chi-square statistic is very sensitive to model misspecification (Fornell and Larcker 1981) and its use should be constrained by the size and complexity of the model being tested. Despite the weak fit, the research model shed light on several significant relationships predicted by the research model. The following section will describe these results in detail.

## Results

In the following section, the estimation results for each endogenous variable will be described. The aggregated results are summarized in Table VIII.3.

**Determinants of Relational Exchange.** Taken together, H<sub>3</sub> and H<sub>4</sub> argue that supplier safeguarding need affects the level of relational exchange in the exchange dyad and that this relationship is moderated by the level of collaborative communication among exchange partners. The results in Table VIII.3 show that, contrary to H<sub>3</sub>, supplier safeguarding need has a negative influence on relational exchange in the dyad ( $\beta_{0,5} = -.16$ ,  $t = -2.27$ ). Splitting this main effect across high and low levels of collaborative communication reveals that, consistent with H<sub>4</sub>, safeguarding need only affects the level of relational exchange under high levels of collaborative communication ( $\beta_{0,5}^{(high)} = -.24$

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<sup>57</sup> The correlation matrix for all research model constructs can be found in Table VII.35 of the previous chapter.

,  $t = -3.17$ ) but not in exchanges with low levels of collaborative communication ( $\beta_{0,5}^{(low)} = -.13$ ,  $t = -1.65$ ).<sup>58</sup> However, the chi-square difference across the fixed and freed two-group models was not found to be significant ( $\chi^2(3658) = 6499.4$ ;  $\chi^2(3656) = 6498.5$ ; Bollen 1989).

The results in Table VIII.3 also show that relational exchange is influenced by interdependence in the dyad. Consistent with H<sub>6</sub>, interdependence magnitude was found to have a strong positive effect on relational exchange ( $\beta_{1,5} = .39$ ,  $t = 5.33$ ).

Interdependence symmetry, however, was not found to influence the level of relational exchange ( $\beta_{2,5} = .04$ ,  $t = .47$ ) lending no support to H<sub>7</sub>.

H<sub>5</sub> posits that the level of vertical integration in the dyad is the third factor that influences the strength of relational exchange among exchange parties. Interestingly, the results in Table VIII.3 show that higher levels of vertical integration decrease the level of relational exchange in the dyad ( $\beta_{1,5} = -.17$ ,  $t = -2.56$ ).<sup>59</sup> Turning to the results pertaining to the incentive structure employed in the dyad, shows that the outcome-based incentives (typical for less integrated exchanges) did not have a significant effect on relational exchange ( $\beta_{2,5} = -.03$ ,  $t = -.25$ ). However, behavior-based incentives (typical for more integrated exchanges) were found to have a strong, positive effect on the level of relational exchange in the dyad ( $\beta_{3,5} = .44$ ,  $t = 3.67$ ). The level of direction in the dyad had no significant effect on the level of relational exchange ( $\beta_{4,5} = -.09$ ,  $t = -1.49$ ).

In sum, although the need for safeguarding is found to influence the level of relational norms in the dyad, the direction of influence was found to be reversed [H<sub>3</sub>].

Despite a change in effect size across levels of collaborative communication, no

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<sup>58</sup> Using a tursile split, similar results were found: ( $\beta_{0,5}^{(high)} = -.21$ ,  $t = -2.25$ ;  $\beta_{0,5}^{(low)} = -.09$ ,  $t = -.91$ ).

<sup>59</sup> Note that high values on the vertical integration variable designate more independent exchange dyads. Vice versa low values on the vertical integration variable designate high levels of quasi-vertical integration.

significant improvement in model fit was found for the moderating role of collaborative communication [H<sub>4</sub>]. Further, the magnitude of interdependence but not its symmetry was found to positively contribute to the level of relational exchange in the dyad [H<sub>6, 7</sub>]. Finally, quasi-vertical integration affects relational exchange but also in the opposite than predicted direction [H<sub>5</sub>].

**Determinants of Vertical Integration.** Vertical integration was hypothesized to be influenced by the supplier's need for safeguarding [H<sub>2</sub>]. The data did not support this link ( $\beta_{0,1} = -.09$ ,  $t = -1.36$ ). Probing the types of incentives used in the dyad, behavior-based incentives are found to increase as the need for safeguarding increases in the dyad ( $\beta_{0,3} = .13$ ,  $t = 2.10$ ). Outcome-based incentives ( $\beta_{0,2} = .07$ ,  $t = 1.18$ ) as well as direction used by the supplier ( $\beta_{0,4} = .11$ ,  $t = 1.70$ ) are not found to be affected by the level of safeguarding need. Therefore, support for H<sub>2</sub> is limited to the use of behavior-based incentives in the dyad.

**Outcomes of Relational Exchange.** H<sub>8</sub> posits that the level of relational exchange has a positive effect on exchange performance. Table VIII.3 shows that relational exchange positively affects exchange effectiveness ( $\beta_{5,7} = .58$ ,  $t = 8.80$ ) exchange efficiency ( $\beta_{5,8} = .28$ ,  $t = 4.28$ ). Thus, these results fully support H<sub>8</sub>.

**Outcomes of Vertical Integration.** Similar to H<sub>8</sub>, H<sub>9</sub> predicts that high levels of vertical integration enhance exchange performance. As hypothesized, vertical integration has a positive effect on exchange effectiveness ( $\beta_{1,7} = .13$ ,  $t = 2.11$ ). However, the data fails to support the relationship between vertical integration exchange efficiency ( $\beta_{1,8} = -.03$ ,  $t = -.48$ ).

Analyzing the incentive structure employed in the exchange, higher levels of outcome-based incentives are found to increase exchange effectiveness ( $\beta_{2,7} = .28$ ,  $t = 2.41$ ) but not exchange efficiency ( $\beta_{2,8} = .13$ ,  $t = 1.04$ ). No support was found for the positive influence of behavior-based incentives on any exchange performance facet. Behavior-based incentives did not affect exchange effectiveness ( $\beta_{3,7} = -.11$ ,  $t = -.89$ ) or exchange efficiency ( $\beta_{3,8} = .01$ ,  $t = .11$ ). Similarly, supplier direction did not have a significant influence on exchange performance. It did not affect exchange effectiveness ( $\beta_{4,7} = .03$ ,  $t = .58$ ) or exchange efficiency ( $\beta_{4,8} = .02$ ,  $t = .36$ ).

Summarizing these results for outcomes of vertical integration, mixed support was found for H<sub>9</sub>. First, vertical integration was found to have a positive effect on exchange effectiveness, but no significant influence on exchange efficiency. Looking at the specific incentives employed in the exchange, only outcome-based incentives (typical for market exchanged) are found to have a positive effect on exchange effectiveness. Behavior-based incentives and supplier direction (typical for more integrated exchanges) had no impact on exchange performance.

**Mediating Role of Dealer Opportunism.** The level of dealer opportunism was hypothesized to be a function of the level of relational exchange [H<sub>11</sub>] and vertical integration [H<sub>10</sub>] in the exchange. The results in Table VIII.3 provide only marginal support for the role of relational exchange ( $\beta_{5,6} = -.14$ ,  $t = -1.87$ ), and do not support the opportunism curbing role of vertical integration. Neither vertical integration ( $\beta_{1,6} = .00$ ,  $t = -.04$ ) nor the three facets of incentive structure are found to have a significant effect on dealer opportunism: outcome-based incentives ( $\beta_{2,6} = .07$ ,  $t = .47$ ), behavior-based incentives ( $\beta_{3,6} = .11$ ,  $t = .80$ ), and supplier direction ( $\beta_{4,6} = .04$ ,  $t = .64$ ).

Despite these findings, the data emphasizes the importance of dealer opportunism because it supports its negative influence on exchange performance [H<sub>12</sub>]. In particular, dealer opportunism decreases exchange effectiveness ( $\beta_{6,7} = -.15, t = -2.77$ ) and reduces exchange efficiency ( $\beta_{6,8} = -.25, t = -4.18$ ).

In sum, the data suggests that opportunism does not significantly mediate the link between relational exchange and exchange performance. Similarly, vertical integration does not appear to influence exchange performance through a reduction in opportunism. However, the detrimental role of dealer opportunism becomes evident in its strongly exchange performance decreasing influence.

**The Effect of Control Variables.** As described above, four control variables were included in the model and no formal hypotheses were developed for the influence of these variables on study constructs. The results are therefore descriptive in nature. As shown in Table VIII.3, only firm size had a significant, negative effect on the level of relational exchange in the dyad ( $\gamma_{3,5} = -.31, t = -2.01$ ) suggesting that larger dealers employ less relational exchange in their dealings with their major supplier than smaller dealerships. Further, economies of scale were found to have a positive effect on vertical integration ( $\gamma_{4,1} = .19, t = 2.54$ ) suggesting that economies of scale may be an incentive to increase the level of vertical integration. In addition, as firm size increased more outcome-based incentives were used in the dyad ( $\gamma_{3,2} = .24, t = 4.11$ ).

The control variables were also found to have some influence on the performance variables included in the research model. Firm size was found to have a negative effect on exchange efficiency ( $\gamma_{3,8} = -.21, t = -3.23$ ). Interestingly, the data further suggests that as scale economies increase, exchange efficiency may decrease ( $\gamma_{4,8} = -.17, t = -2.62$ ).

The control variables were not found to have a significant effect on exchange effectiveness or on the mediating variable dealer opportunism.

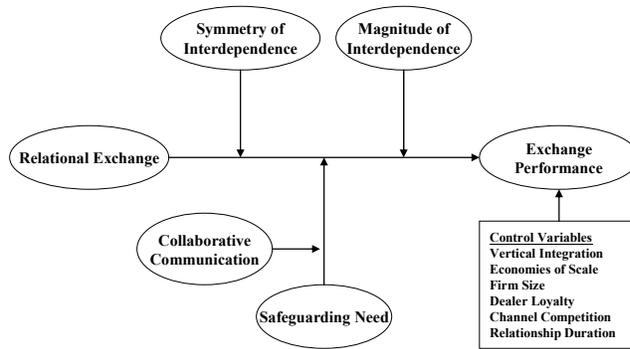
### **Alternate Model**

#### **Model Specification**

Prior to data collection and the empirical test of the research model, an alternative model specification was developed. Any proposed research model must be viewed as an approximation of a more complex phenomenon of interest. In providing such a perspective, the research model developed in Chapter V implies a central nomological status for relational exchange. Note that the research model posits relational exchange as key mediating variable between exchange conditions and exchange performance. However, one may argue that this research model relies on the assumption that the level of relational exchange observed in the dyad is approximately optimal. Given the time it takes to develop the desired level of relational exchange (e.g. Dwyer, Shurr and Oh 1987) and the potential persistence of relational exchange beyond its immediate, performance enhancing utility, the observed level of relational exchange in the dyad may deviate significantly from the performance-enhancing optimum.

Following this alternative view, one may propose an alternative research model (see: Figure VIII.2). This alternate model posits that relational exchange influences exchange performance contingent on a set of moderating conditions in the dyad. Building on the theory provided to develop the research model (Chapter V), one can easily argue that those exchange conditions that are hypothesized to prompt the development of relational exchange in the research model can be viewed as moderating its performance

**Figure VIII.2: The Alternate Model**



enhancing influence. This model posits that the influence of relational exchange on exchange performance is moderated by (a) interdependence magnitude, (b) symmetry as well as (c) safeguarding need in interaction with collaborative communication.

The resulting alternate model addresses the inherent assumption of the research model by suggesting that the level of relational exchange may not be optimally chosen. Only levels of relational exchange that are consistent with the levels of the moderating variables in the alternate model are posited to enhance exchange performance in the dyad. Another advantage of the alternate model in comparison to the research model is that it identifies the degree to which the influence of relational exchange on exchange performance is contingent on the moderating variables included in the research model.

To test this alternate model, moderated regression analysis (Aiken and West 1991; Cohen, Cohen, West, Aiken 2003) using 3-stage least squares estimation was used. The 3-stage least squares algorithm simultaneously estimates all four regression models and explicitly takes into account the correlations among dependent variables in the model estimates. This is important, because all four dependent variables in the alternate model are conceptually and empirically related facets of exchange performance. Taken together, the hypotheses for the alternate model imply the following regression equation:

$$\begin{aligned} \text{Exchange Performance}_i = & \\ & + \beta_{i1} \text{ Relational Exchange} \\ & + \beta_{i2} \text{ Safeguarding Need} \\ & + \beta_{i3} \text{ Collaborative Communication} \\ & + \beta_{i4} \text{ Interdependence Magnitude} \\ & + \beta_{i5} \text{ Interdependence Symmetry} \end{aligned}$$

- +  $\beta_{i6}$  Relational Exchange x Safeguarding Need
- +  $\beta_{i7}$  Safeguarding Need x Collaborative Communication
- +  $\beta_{i8}$  Relational Exchange x Collaborative Communication
- +  $\beta_{i9}$  Safeguarding Need x Relational Exchange x Collaborative Communication
- +  $\beta_{i10}$  Interdependence Magnitude x Relational Exchange
- +  $\beta_{i11}$  Interdependence Symmetry x Relational Exchange
  
- +  $\beta_{i12}$  Outcome-Based Incentives
- +  $\beta_{i13}$  Behavior-Based Incentives
- +  $\beta_{i14}$  Supplier Direction
- +  $\beta_{i15}$  Economies of Scale
- +  $\beta_{i16}$  Size
- +  $\beta_{i17}$  Loyalty
- +  $\beta_{i18}$  Channel Competition
- +  $\beta_{i19}$  Relationship Duration
- +  $\beta_{i0}$

, with  $i =$  (Exchange Effectiveness, Bargaining Costs, Monitoring Costs, and Maladaptation Costs).

This equation contains several interaction terms that reflect the moderated effect of relational exchange on exchange performance. Baron and Kenny (1986) suggest using a regression model to test moderation if both variables are continuously scaled. In particular, Baron and Kenney (1986) suggest the moderating effect of a variable can be

determined by regressing the dependent variable on (a) the predictor variable, (b) the moderator variable, and (c) the interaction of (a) and (b). The moderator hypothesis is supported if the interaction (c) is significant. There may also be significant main effects for the predictor and the moderator (a and b), but these are not directly conceptually relevant to testing the moderator hypothesis. In addition, it is desirable that the moderator variable be uncorrelated with both the predictor and the dependent variable to provide a clearly interpretable interaction term (Baron and Kenney 1986).

An important concern in using moderated regression analysis to test the alternate model is the possible multicollinearity between the interaction terms and their components (Jaccard, Turrisi, and Wan 1990). In order to reduce the problem of possible multicollinearity in the regression model Aiken and West (1991; Cohen, Cohen, West, Aiken 2003) suggest to mean-center each predictor variable. Here, the mean of each scale was subtracted from each observation and then the interaction terms were calculated by multiplying the relevant mean-centered scales. This mean centering procedure not only resulted in variance inflation factors well below the suggested 10.0 cut-off (Mason and Perreault 1991; maximum VIF = 3.45), but also aids the interpretation of interaction terms. This same mean-centering procedure was employed for the control variables outcome-based incentives, behavior-based incentives, supplier direction and economies of scale. In addition, each research variable was standardized by dividing it by its standard deviation in order to allow for a direct comparison of effect sizes across path coefficients. Firm size, loyalty and channel competition required a z-transformation due to the different scaling of individual items. This z-transformation was applied to each scale item prior to construct calculation. Finally, relationship duration was included as a

natural log transformation. Table VIII.4 presents the correlation matrix of all variables used to test the alternate model.

## Results

In the following section, the estimation results for each exchange performance variable will be described. The aggregated results are summarized in Table VIII.5-8 and to probe significant interaction terms plots of the interaction terms were used (see Figure VIII.3-7).

**Exchange Effectiveness.** Table VIII.5 reports the parameter estimates of the 3-stage least squares, moderated regression analysis for the dependent variable exchange effectiveness. The estimated equation explains 59% of the variance in exchange effectiveness (adjusted  $R^2 = 0.57$ ;  $F = 22.93$ ;  $p = .000$ ). As expected, the level of relational exchange has a positive, direct effect on exchange effectiveness ( $\beta_1 = .28$ ,  $t = 4.36$ ). The results further support the hypothesis that the influence of relational exchange on exchange effectiveness is moderated by the level of safeguarding need in the dyad ( $\beta_6 = .13$ ,  $t = 2.18$ ). As shown in Figure VIII.3, an increasing level of relational exchange in the dyad has a greater positive influence on exchange effectiveness under conditions of high safeguarding need than in situations in which the safeguarding need in the dyad is low. However, the proposed three-way interaction between relational exchange, safeguarding need and collaborative communication does not find support in this study ( $\beta_9 = .01$ ,  $t = .29$ ).

Consistent with the proposed alternate model, the effect of relational exchange on exchange effectiveness is also moderated by the level of interdependence magnitude among exchange partners ( $\beta_{10} = -.17$ ;  $t = -3.01$ ). As indicated by the negative regression

**Table VIII.4: Correlation Matrix for Alternate Model**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
<b>1</b>	1.00																							
<b>2</b>	<b>0.19</b>	1.00																						
<b>3</b>	<b>0.28</b>	<b>0.77</b>	1.00																					
<b>4</b>	<b>0.40</b>	<b>0.53</b>	<b>0.58</b>	1.00																				
<b>5</b>	<b>0.65</b>	<b>0.22</b>	<b>0.32</b>	<b>0.43</b>	1.00																			
<b>6</b>	<i>0.12</i>	<b>-0.28</b>	<b>-0.21</b>	<b>-0.30</b>	0.08	1.00																		
<b>7</b>	<b>0.64</b>	<b>0.18</b>	<b>0.28</b>	<b>0.48</b>	<b>0.74</b>	0.01	1.00																	
<b>8</b>	<b>0.65</b>	0.09	<b>0.17</b>	<b>0.20</b>	<b>0.56</b>	<b>0.22</b>	<b>0.62</b>	1.00																
<b>9</b>	<b>-0.14</b>	-0.09	-0.07	<b>-0.18</b>	-0.09	0.05	<b>-0.16</b>	-0.06	1.00															
<b>10</b>	-0.06	-0.03	-0.02	-0.05	-0.10	0.02	-0.06	-0.07	0.01	1.00														
<b>11</b>	-0.07	<i>-0.13</i>	<b>-0.14</b>	-0.03	-0.07	-0.02	-0.02	-0.07	-0.06	<b>0.72</b>	1.00													
<b>12</b>	<b>-0.18</b>	-0.05	-0.09	-0.10	<b>-0.35</b>	-0.06	<b>-0.23</b>	<b>-0.17</b>	-0.04	<i>0.11</i>	0.11	1.00												
<b>13</b>	<i>0.12</i>	<i>-0.11</i>	0.03	<i>-0.13</i>	<i>0.13</i>	<b>0.51</b>	0.08	<b>0.14</b>	-0.01	<b>-0.36</b>	<b>-0.27</b>	-0.08	1.00											
<b>14</b>	-0.18	-0.02	-0.08	-0.06	<b>-0.26</b>	-0.07	<b>-0.17</b>	-0.11	<i>-0.12</i>	<b>0.27</b>	<b>0.18</b>	<b>0.71</b>	<b>-0.17</b>	1.00										
<b>15</b>	0.05	-0.01	0.00	0.00	0.06	0.01	-0.05	<i>-0.13</i>	<b>-0.14</b>	0.00	-0.01	-0.04	-0.07	0.10	1.00									
<b>16</b>	<b>0.49</b>	<i>0.11</i>	<b>0.18</b>	<b>0.25</b>	<b>0.50</b>	<i>0.14</i>	<b>0.47</b>	<b>0.54</b>	-0.09	<i>-0.11</i>	-0.05	<b>-0.21</b>	<i>0.13</i>	<i>-0.11</i>	0.00	1.00								
<b>17</b>	<b>0.48</b>	<i>0.13</i>	<b>0.21</b>	<b>0.35</b>	<b>0.55</b>	<b>0.17</b>	<b>0.53</b>	<b>0.48</b>	<i>-0.13</i>	-0.09	-0.06	<b>-0.14</b>	<i>0.11</i>	-0.07	0.02	<b>0.77</b>	1.00							
<b>18</b>	0.10	-0.03	0.04	0.03	0.07	<i>0.12</i>	<b>0.17</b>	<b>0.15</b>	<i>-0.12</i>	-0.09	<b>-0.14</b>	-0.07	0.06	-0.06	0.01	<i>0.13</i>	<b>0.20</b>	1.00						
<b>19</b>	0.04	-0.04	0.01	-0.06	0.03	0.04	0.02	0.01	<b>0.14</b>	-0.08	<b>-0.15</b>	-0.02	<i>0.11</i>	0.00	0.00	<i>0.11</i>	-0.06	-0.04	1.00					
<b>20</b>	0.09	<b>-0.16</b>	<b>-0.18</b>	<i>-0.13</i>	0.01	0.10	0.09	<b>0.17</b>	<b>0.15</b>	-0.02	0.02	-0.11	0.00	-0.06	0.06	<b>0.25</b>	0.07	-0.03	0.06	1.00				
<b>21</b>	-0.11	<b>-0.21</b>	<b>-0.15</b>	-0.10	-0.07	<i>0.11</i>	-0.12	<b>-0.23</b>	<i>0.11</i>	-0.03	0.04	0.05	<b>0.16</b>	0.00	-0.06	<b>-0.16</b>	-0.04	-0.09	<b>0.25</b>	-0.02	1.00			
<b>22</b>	-0.01	<b>-0.16</b>	<i>-0.12</i>	<b>-0.16</b>	0.01	<b>0.19</b>	0.00	0.06	0.00	-0.05	0.00	<b>-0.17</b>	0.05	<b>-0.15</b>	-0.01	0.06	0.01	<i>0.12</i>	-0.01	<i>0.13</i>	-0.06	1.00		
<b>23</b>	<i>0.11</i>	-0.06	-0.06	-0.01	0.07	0.05	0.05	<b>0.15</b>	-0.02	0.03	0.05	-0.06	0.03	-0.01	0.09	<b>0.14</b>	0.05	0.04	0.05	<b>0.30</b>	-0.04	-0.01	1.00	

Note: bold: Correlation is significant at the .01 level (2-tailed); italicized: Correlation is significant at the .05 level (2-tailed)

1	EES	= Exchange Effectiveness	9	IDS	= Interdependence Symmetry	17	VIB	= Behavior-Based Incentives
2	EEY-m	= Monitoring Costs	10	SSN x RE	= Interaction (SSN, RE)	18	VID	= Supplier Direction
3	EEY-b	= Bargaining Costs	11	SSN x CCM	= Interaction (SSN, CCM)	19	COMP	= Channel Competition
4	EEY-a	= Maladaptation Costs	12	CCM x RE	= Interaction (CCM, RE)	20	SIZE	= Size
5	RE	= Relational Exchange	13	SSN x RE x CCM	= Interaction (SSN, RE, CCM)	21	LOYAL	= Loyalty
6	SSN	= Safeguarding Need	14	IDM x RE	= Interaction (IDM, RE)	22	SCALE	= Economies of Scale
7	CCM	= Collaborative Communication	15	IDS x RE	= Interaction (IDS, RE)	23	AGE	= Relationship Duration
8	IDM	= Interdependence Magnitude	16	VIO	= Outcome-Based Incentives			

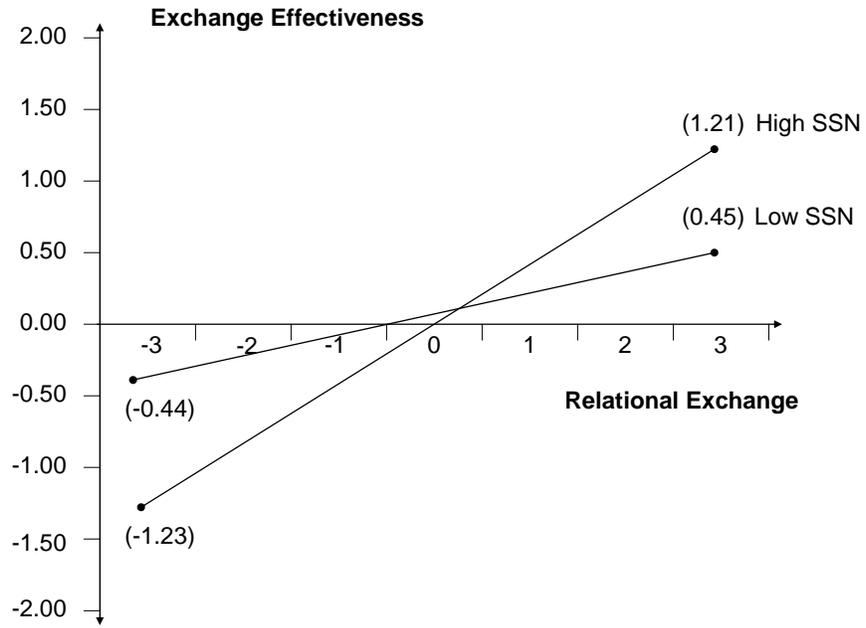
**Table VIII.5: Alternate Model Results – Exchange Effectiveness**

Parameter	Variable	Parameter Estimate		Standard Error	t-Value	p
		Unstandardized	Standardized			
<i>Intercept term</i>						
<b>b<sub>0</sub></b>		<b>4.22</b>	<b>.00</b>	<b>.21</b>	<b>20.35</b>	<b>.00</b>
<i>Independent Variables</i>						
<b>b<sub>1</sub></b>	<b>RE</b>	<b>.39</b>	<b>.28</b>	<b>.09</b>	<b>4.36</b>	<b>.00</b>
b <sub>2</sub>	SSN	-.01	-.01	.07	-1.17	.86
<b>b<sub>3</sub></b>	<b>CCM</b>	<b>.26</b>	<b>.18</b>	<b>.09</b>	<b>2.88</b>	<b>.00</b>
<b>b<sub>4</sub></b>	<b>IDM</b>	<b>.50</b>	<b>.35</b>	<b>.08</b>	<b>6.47</b>	<b>.00</b>
b <sub>5</sub>	IDS	-.10	-.07	.06	-1.79	.07
<b>b<sub>6</sub></b>	<b>RE x SSN</b>	<b>.16</b>	<b>.13</b>	<b>.07</b>	<b>2.18</b>	<b>.03</b>
b <sub>7</sub>	SSN x CCM	-.14	-.11	.07	-1.89	.06
<b>b<sub>8</sub></b>	<b>RE x CCM</b>	<b>.17</b>	<b>.15</b>	<b>.06</b>	<b>2.71</b>	<b>.01</b>
b <sub>9</sub>	SSN x RE x CCM	.01	.01	.04	.29	.77
<b>b<sub>10</sub></b>	<b>IDM x RE</b>	<b>-.19</b>	<b>-.17</b>	<b>.06</b>	<b>-3.01</b>	<b>.00</b>
<b>b<sub>11</sub></b>	<b>IDS x RE</b>	<b>.14</b>	<b>.11</b>	<b>.05</b>	<b>2.71</b>	<b>.01</b>
<i>Control Variables</i>						
<b>b<sub>12</sub></b>	<b>VIO</b>	<b>.19</b>	<b>.14</b>	<b>.10</b>	<b>2.00</b>	<b>.05</b>
b <sub>13</sub>	VIB	-.06	-.04	.10	-.59	.56
b <sub>14</sub>	VID	-.03	-.02	.06	-.59	.56
b <sub>15</sub>	COMP	.01	.01	.07	.11	.91
b <sub>16</sub>	SCALE	-.03	-.03	.04	-.65	.52
b <sub>17</sub>	SIZE	-.01	-.01	.07	-.14	.89
b <sub>18</sub>	LOYAL	.09	.05	.09	1.09	.28
b <sub>19</sub>	DUR	.03	.01	.08	.33	.74

Note: R<sup>2</sup> = .59; F = 22.93; d.f. = 19; p = .00

- RE = Relational Exchange
- SSN = Safeguarding Need
- CCM = Collaborative Communication
- IDM = Interdependence Magnitude
- IDS = Interdependence Symmetry
- VIO = Outcome-Based Incentives
- VIB = Behavior-Based Incentives
- VID = Supplier Direction
- COMP = Competition
- SCALE = Economies of Scale
- SIZE = Size
- LOYAL = Loyalty
- DUR = Relationship Duration

**Figure VIII.3: The Effects of Safeguarding Need on the Relationship between Relational Exchange and Exchange Effectiveness**



coefficient, plotting the interaction term (see Figure VIII.4 (a)) shows that increasing levels of interdependence magnitude reduce the positive effect of relational exchange on exchange effectiveness.

In addition, support was found for the interaction between interdependence symmetry and relational exchange ( $\beta_{11} = .11$ ,  $t = 2.71$ ). Decomposing this interaction effect reveals that relational exchange has a greater positive effect on exchange effectiveness when interdependence is asymmetrical (symmetry is low; see Figure VIII.4 (B)). Vice versa, a high level of interdependence symmetry reduces the positive effect of relational exchange on exchange effectiveness.<sup>60</sup> In other words, as interdependence in the relationship becomes more asymmetrical, the positive effect of relational exchange on exchange performance intensifies.

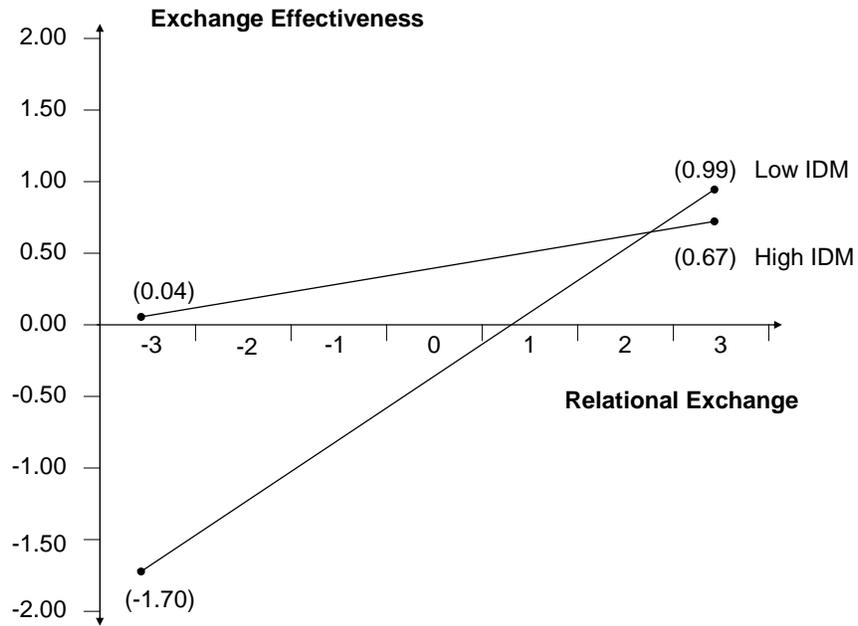
**Bargaining Costs.** Table VIII.6 reports the parameter estimates of the 3-stage least squares, moderated regression analysis. The estimated equation explains 26% of the variance in bargaining costs (adjusted  $R^2 = 0.22$ ;  $F = 5.62$ ;  $p = .000$ ). As expected, the level of relational exchange has a negative, direct effect on bargaining costs ( $\beta_1 = -.22$ ,  $t = -2.60$ ). The results further support the hypothesis that this main effect is moderated by the level of safeguarding need in the dyad ( $\beta_6 = -.27$ ;  $t = -3.44$ ). As depicted in Figure VIII.5, increasing relational exchange has a strong, negative effect on bargaining costs in the exchange when safeguarding need is high. In contrast, when safeguarding need is low, relational exchange has a slightly positive effect on bargaining costs.

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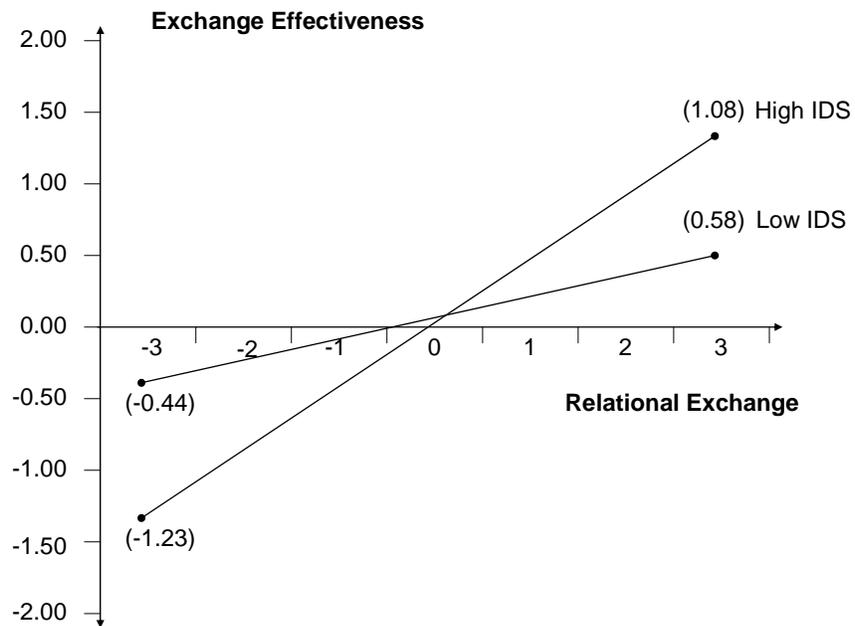
<sup>60</sup> Note that interdependence symmetry is coded so that high values indicate asymmetrical dyads and low numbers indicate symmetrical dyads.

**Figure VIII.4: The Effects of Interdependence on the Relationship between Relational Exchange and Exchange Effectiveness**

**(a) Interdependence Magnitude (IDM)**



**(a) Interdependence Symmetry (IDS)**



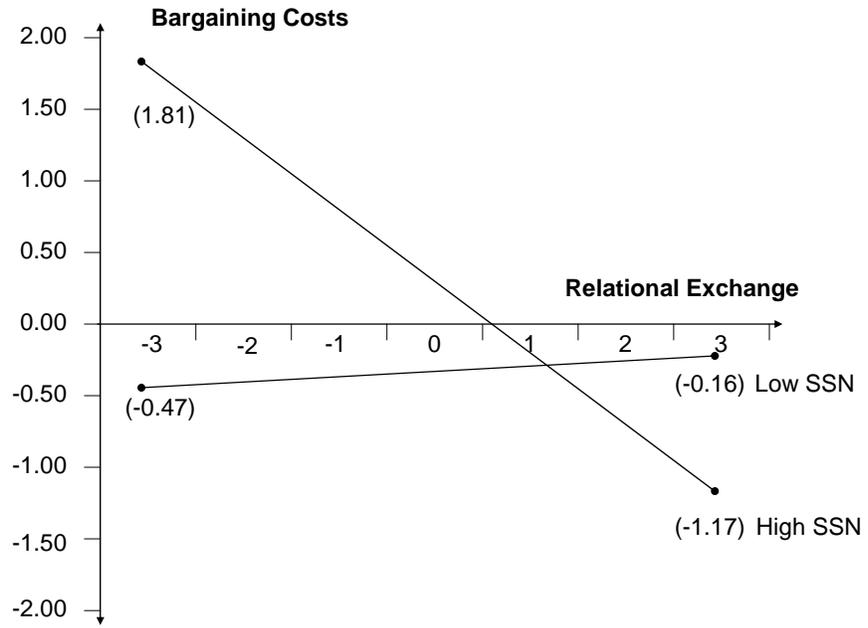
**Table VIII.6: Alternate Model Results – Exchange Efficiency, Bargaining Costs**

Parameter	Variable	Parameter Estimate		Standard Error	t-Value	p
		Unstandardized	Standardized			
<i>Intercept term</i>						
<b>b<sub>0</sub></b>		<b>-5.44</b>		<b>.29</b>	<b>-18.71</b>	<b>.00</b>
<i>Independent Variables</i>						
<b>b<sub>1</sub></b>	<b>RE</b>	<b>-.33</b>	<b>-.22</b>	<b>.13</b>	<b>-2.60</b>	<b>.01</b>
<b>b<sub>2</sub></b>	<b>SSN</b>	<b>.47</b>	<b>.32</b>	<b>.10</b>	<b>4.90</b>	<b>.00</b>
b <sub>3</sub>	CCM	-.07	-.05	.13	-.55	.58
b <sub>4</sub>	IDM	-.03	-.02	.11	-.30	.77
b <sub>5</sub>	IDS	.01	.01	.08	.12	.91
<b>b<sub>6</sub></b>	<b>RE x SSN</b>	<b>-.35</b>	<b>-.27</b>	<b>.10</b>	<b>-3.44</b>	<b>.00</b>
<b>b<sub>7</sub></b>	<b>SSN x CCM</b>	<b>.34</b>	<b>.25</b>	<b>.10</b>	<b>3.30</b>	<b>.00</b>
b <sub>8</sub>	RE x CCM	-.06	-.05	.09	-.62	.54
<b>b<sub>9</sub></b>	<b>SSN x RE x CCM</b>	<b>-.15</b>	<b>-.19</b>	<b>.05</b>	<b>-2.80</b>	<b>.01</b>
b <sub>10</sub>	IDM x RE	.09	.07	.09	.94	.35
b <sub>11</sub>	IDS x RE	-.02	-.02	.07	-.27	.79
<i>Control Variables</i>						
b <sub>12</sub>	VIO	-.06	-.04	.14	-.45	.65
b <sub>13</sub>	VIB	-.10	-.07	.13	-.75	.46
b <sub>14</sub>	VID	-.01	-.01	.08	-.12	.91
b <sub>15</sub>	COMP	-.03	-.02	.09	-.33	.74
b <sub>16</sub>	SCALE	.06	.06	.06	1.09	.28
<b>b<sub>17</sub></b>	<b>SIZE</b>	<b>.25</b>	<b>.14</b>	<b>.10</b>	<b>2.44</b>	<b>.02</b>
b <sub>18</sub>	LOYAL	.23	.11	.12	1.86	.06
b <sub>19</sub>	DUR	.08	.04	.11	.76	.45

Note: R<sup>2</sup> = .26; F = 5.62; d.f. = 19; p = .00

RE = Relational Exchange  
 SSN = Safeguarding Need  
 CCM = Collaborative Communication  
 IDM = Interdependence Magnitude  
 IDS = Interdependence Symmetry  
 VIO = Outcome-Based Incentives  
 VIB = Behavior-Based Incentives  
 VID = Supplier Direction  
 COMP = Competition  
 SCALE = Economies of Scale  
 SIZE = Size  
 LOYAL = Loyalty  
 DUR = Relationship Duration

**Figure VIII.5: The Effects of Safeguarding Need on the Relationship between Relational Exchange and Bargaining Costs**



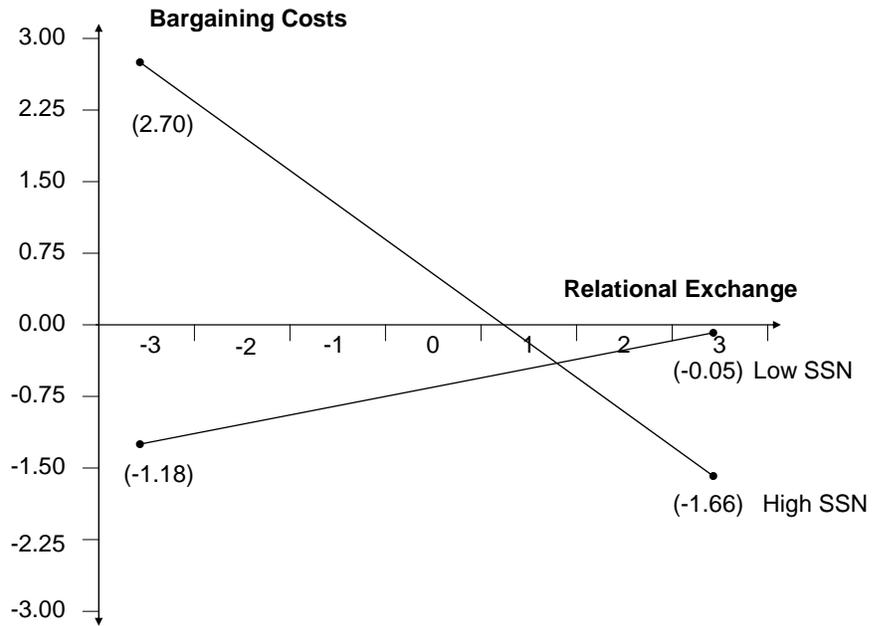
Further, the regression model shows that this interaction effect needs to be decomposed by the level of collaborative communication in the dyad ( $\beta_9 = -.19$ ,  $t = -2.80$ ). As suggested by Aiken and West (1991), Figure VIII.6 shows the decomposition of the three-way interaction into high (Figure VIII.6 (a)) and low (Figure VIII.6 (b)) levels of collaborative communication. These Figures show that under conditions of low collaborative communication, increasing relational exchange in the dyad has a greater negative effect on bargaining costs for high levels of safeguarding need than for low levels of safeguarding need. However, increasing the level of relational exchange in dyads with high collaborative communication leads to increasing bargaining cost when safeguarding need is low and to decreasing bargaining cost when safeguarding need is high. Therefore, increasing collaborative communication under conditions of low safeguarding need reverses the negative effect of relational exchange on bargaining costs. In contrast, such increase in collaborative communication intensifies the negative effect of relational exchange on bargaining cost when safeguarding need is high.

Contrary to the alternate model's prediction, interdependence magnitude and interdependence symmetry had no significant moderating effect on the positive relationship between relational exchange and bargaining costs ( $\beta_{10} = .07$ ;  $t = .94$ ;  $\beta_{11} = -.02$ ;  $t = -.27$ ).

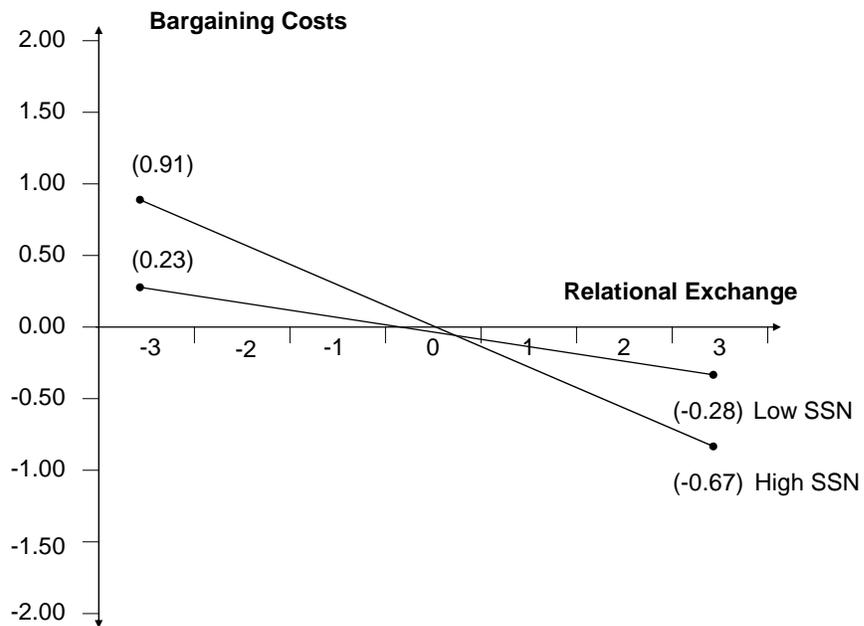
**Monitoring Costs.** Table VIII.7 reports the parameter estimates of the 3-stage least squares, moderated regression analysis. The estimated equation explains 23% of the variance in monitoring costs (adjusted  $R^2 = 0.18$ ;  $F = 4.70$ ;  $p = .000$ ). Similar to the results for bargaining costs, the support is found for the negative main effect of relational

**Figure VIII.6: The Effects of Safeguarding Need on the Relationship between Relational Exchange and Bargaining Costs**

**(a) High Collaborative Communication**



**(b) Low Collaborative Communication**



**Table VIII.7: Alternate Model Results – Exchange Efficiency, Monitoring Costs**

Parameter	Variable	Parameter Estimate		Standard Error	t-Value	p
		Unstandardized	Standardized			
<i>Intercept term</i>						
<b>b<sub>0</sub></b>		<b>-5.71</b>		<b>.29</b>	<b>-19.82</b>	<b>.00</b>
<i>Independent Variables</i>						
<b>b<sub>1</sub></b>	<b>RE</b>	<b>-.31</b>	<b>-.22</b>	<b>.12</b>	<b>-2.53</b>	<b>.01</b>
<b>b<sub>2</sub></b>	<b>SSN</b>	<b>.38</b>	<b>.27</b>	<b>.09</b>	<b>4.01</b>	<b>.00</b>
b <sub>3</sub>	CCM	.03	.02	.12	.24	.81
b <sub>4</sub>	IDM	.03	.02	.11	.27	.79
b <sub>5</sub>	IDS	.07	.05	.08	.83	.41
<b>b<sub>6</sub></b>	<b>RE x SSN</b>	<b>-.20</b>	<b>-.16</b>	<b>.10</b>	<b>-1.97</b>	<b>.05</b>
<b>b<sub>7</sub></b>	<b>SSN x CCM</b>	<b>.30</b>	<b>.23</b>	<b>.10</b>	<b>2.98</b>	<b>.00</b>
b <sub>8</sub>	RE x CCM	-.02	-.01	.09	-.17	.86
b <sub>9</sub>	SSN x RE x CCM	-.01	-.02	.05	-.25	.81
b <sub>10</sub>	IDM x RE	.02	.02	.09	.19	.85
b <sub>11</sub>	IDS x RE	.04	.03	.07	.62	.54
<i>Control Variables</i>						
b <sub>12</sub>	VIO	-.07	-.05	.13	-.54	.59
b <sub>13</sub>	VIB	-.05	-.04	.13	-.39	.70
b <sub>14</sub>	VID	.07	.05	.08	.90	.37
b <sub>15</sub>	COMP	.01	.01	.09	.10	.92
b <sub>16</sub>	SCALE	.11	.10	.06	1.89	.06
b <sub>17</sub>	SIZE	.19	.11	.10	1.81	.07
<b>b<sub>18</sub></b>	<b>LOYAL</b>	<b>.34</b>	<b>.17</b>	<b>.12</b>	<b>2.85</b>	<b>.01</b>
b <sub>19</sub>	DUR	.05	.03	.11	.51	.61

Note: R<sup>2</sup> = .23; F = 4.696; d.f. = 19; p = .00

- RE = Relational Exchange
- SSN = Safeguarding Need
- CCM = Collaborative Communication
- IDM = Interdependence Magnitude
- IDS = Interdependence Symmetry
- VIO = Outcome-Based Incentives
- VIB = Behavior-Based Incentives
- VID = Supplier Direction
- COMP = Competition
- SCALE = Economies of Scale
- SIZE = Size
- LOYAL = Loyalty
- DUR = Relationship Duration

exchange on monitoring costs ( $\beta_1 = -.22$ ;  $t = -2.53$ ). This main effect is also moderated by the level of safeguarding need in the dyad ( $\beta_6 = -.16$ ;  $t = -1.97$ ). As shown in Figure VIII.7 (a), increasing relational exchange in a dyad leads to sharply decreasing monitoring costs when safeguarding need is high. However, under conditions of low safeguarding need monitoring costs decrease only slightly when the relational exchange increases. Therefore, as the level of safeguarding need in the dyad increases, the negative effect of relational exchange on monitoring costs increases.

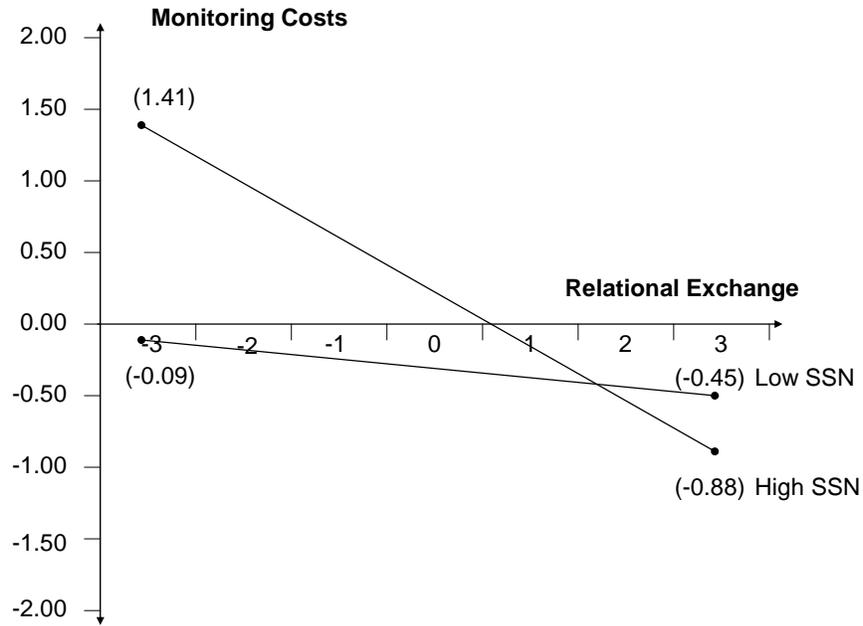
Contrary to the alternate model's prediction, the third-order interaction between relational exchange, safeguarding need, and collaborative communication was not found to significantly influence monitoring costs in the dyad ( $\beta_9 = -.02$ ,  $t = -.25$ ). However, the two-way interaction between safeguarding need and collaborative communication was found to be significant ( $\beta_7 = -.02$ ,  $t = -.25$ ). This finding, although not hypothesized, suggests that collaborative communication may intensify the safeguarding problem as shown in Figure VIII.7 (b). Here, if the safeguarding need is high, increasing collaborative communication increases monitoring costs in the exchange. Vice versa, if safeguarding need is low, monitoring costs decrease as collaborative communication increases.

Similar to the findings for bargaining costs and contrary to the alternate model's prediction, the interaction of relational exchange with either interdependence magnitude and interdependence symmetry had no significant effect on monitoring costs ( $\beta_{10} = .02$ ;  $t = .19$ ;  $\beta_{11} = .03$ ;  $t = .62$ ).

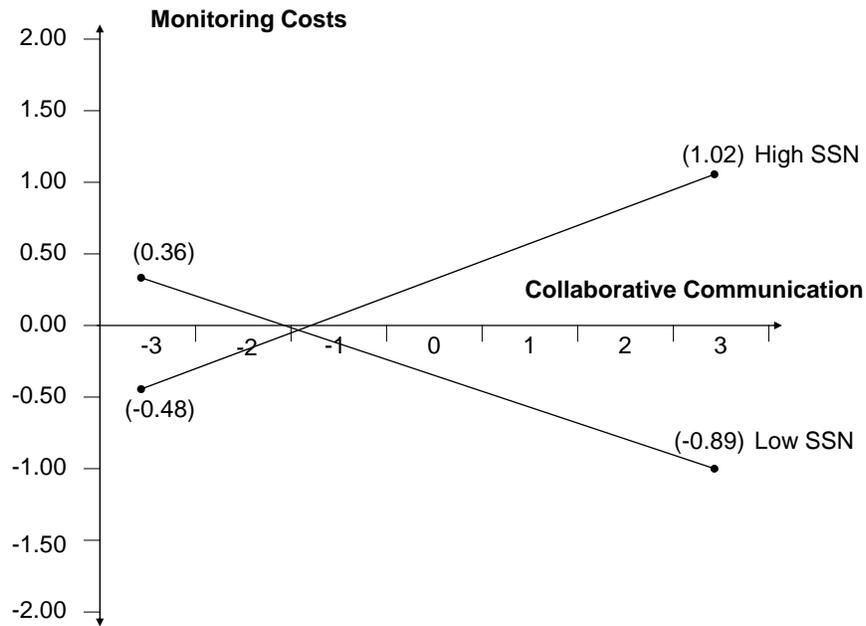
**Maladaptation Costs.** Table VIII.8 reports the parameter estimates of the 3-stage least squares, moderated regression analysis. The estimated equation explains 40% of the

**Figure VIII.7: The Effects of Safeguarding Need on the Relationship between Relational Exchange, Collaborative Communication and Monitoring Costs**

**(a) Relational Exchange**



**(b) Collaborative Communication**



**Table VIII.8: Alternate Model Results – Exchange Efficiency, Adaptation Costs**

Parameter	Variable	Parameter Estimate		Standard	t-Value	p
		Unstandardized	Standardized	Error		
<i>Intercept term</i>						
<b>b<sub>0</sub></b>		<b>-4.78</b>		<b>.27</b>	<b>-17.84</b>	<b>.00</b>
<i>Independent Variables</i>						
<b>b<sub>1</sub></b>	<b>RE</b>	<b>-.22</b>	<b>-.15</b>	<b>.12</b>	<b>-1.88</b>	<b>.06</b>
<b>b<sub>2</sub></b>	<b>SSN</b>	<b>.40</b>	<b>.27</b>	<b>.09</b>	<b>4.59</b>	<b>.00</b>
<b>b<sub>3</sub></b>	<b>CCM</b>	<b>-.53</b>	<b>-.35</b>	<b>.12</b>	<b>-4.55</b>	<b>.00</b>
b <sub>4</sub>	IDM	.18	.12	.10	1.75	.08
b <sub>5</sub>	IDS	.09	.06	.07	1.23	.22
b <sub>6</sub>	RE x SSN	-.00	-.00	.09	-.01	.99
b <sub>7</sub>	SSN x CCM	.04	.03	.10	.42	.68
b <sub>8</sub>	RE x CCM	-.00	-.00	.08	-.05	.96
b <sub>9</sub>	SSN x RE x CCM	.03	.04	.05	.64	.52
b <sub>10</sub>	IDM x RE	.02	.01	.08	.21	.84
b <sub>11</sub>	IDS x RE	.01	.01	.07	.22	.83
<i>Control Variables</i>						
b <sub>12</sub>	VIO	.03	.02	.12	.26	.80
<b>b<sub>13</sub></b>	<b>VIB</b>	<b>-.31</b>	<b>-.21</b>	<b>.12</b>	<b>-2.50</b>	<b>.01</b>
b <sub>14</sub>	VID	.05	.04	.07	.76	.45
b <sub>15</sub>	COMP	.05	.03	.08	.57	.57
b <sub>16</sub>	SCALE	.09	.08	.05	1.72	.09
<b>b<sub>17</sub></b>	<b>SIZE</b>	<b>.21</b>	<b>.11</b>	<b>.10</b>	<b>2.17</b>	<b>.03</b>
b <sub>18</sub>	LOYAL	.07	.03	.11	.58	.60
b <sub>19</sub>	DUR	-.05	-.03	.10	-.57	.57

Note: R<sup>2</sup> = .40; F = 10.609; d.f. = 19; p = .00

RE = Relational Exchange  
 SSN = Safeguarding Need  
 CCM = Collaborative Communication  
 IDM = Interdependence Magnitude  
 IDS = Interdependence Symmetry  
 VIO = Outcome-Based Incentives  
 VIB = Behavior-Based Incentives  
 VID = Supplier Direction  
 COMP = Competition  
 SCALE = Economies of Scale  
 SIZE = Size  
 LOYAL = Loyalty  
 DUR = Relationship Duration

variance in maladaptation costs (adjusted  $R^2 = 0.36$ ;  $F = 10.61$ ;  $p = .000$ ). The results support the hypothesis that an increasing relational exchange decreases maladaptation costs in the exchange only marginally ( $\beta_1 = -.15$ ;  $t = -1.88$ ). In addition, the interaction terms of relational exchange with safeguarding need ( $\beta_6 = .00$ ;  $t = -.01$ ), with safeguarding need and collaborative communication ( $\beta_9 = .04$ ;  $t = .64$ ), with interdependence magnitude ( $\beta_{10} = .01$ ;  $t = .21$ ), and with interdependence symmetry ( $\beta_{11} = .01$ ;  $t = .22$ ) are not supported in this study.

*Control Variables.* As noted previously, the dependent variables might be affected by the control variables included in the regression models. Table VIII.5-8 show that the influence of these control variables varies across the four performance variables. First, outcome-based incentives were found to positively influence exchange effectiveness ( $\beta_{12} = .14$ ;  $t = 2.00$ ). Second, firm size increased bargaining costs significantly ( $\beta_{16} = .14$ ;  $t = 2.44$ ). Third, loyalty increased monitoring costs in the exchange ( $\beta_{17} = .17$ ;  $t = 2.85$ ). Finally, maladaptation costs significantly increased as firm size increased ( $\beta_{16} = .11$ ;  $t = 2.17$ ) and were found to decrease when behavior-based incentives were employed in the dyad ( $\beta_{13} = -.20$ ;  $t = -2.50$ ). No other control variables were found to have a significant influence on the four facets of exchange performance.

### **Summary**

This chapter reported the results of the structural model tests conducted to provide supportive evidence for the proposed research model (see: Chapter V; Table VIII.9). Overall, the research model did not fit the data very well but provided some interesting insights into the proposed relationships.

**Table VIII.9: Summary of Research Model Results by Hypotheses**

<b>Research Hypothesis</b>	<b>Test Results</b>
<i>The System of Relational Exchange</i>	
H1: Relational intentions mediate the link between relational beliefs, relational norms and relational behavior:	
(a) The greater the degree of relational beliefs of an exchange partner, the greater his/her relational intentions .....	√
(b) The greater the degree of relational norms of an exchange partner, the greater his/her relational intentions. ....	x
(c) The greater the degree of relational intentions of an exchange partner, the greater his/her relational behavior. ....	√
<i>Need for Safeguarding as Antecedent</i>	
H2: The greater the degree to which exchange parties need to safeguard transaction specific investments, the higher the degree of vertical integration in the exchange. ....	x
H3: The greater the degree to which exchange parties need to safeguard transaction specific investments, the higher the degree of relational exchange in the exchange. ....	x
H4: The greater the degree to which communication between the exchange partners is collaborative, the greater the degree to which the need to safeguard transaction specific investments leads to relational exchange. ....	x
H5: The greater the degree of vertical integration in the exchange, the greater the degree of relational exchange in the dyad. ....	x
<i>Interdependence as Antecedent</i>	
H6: The greater the magnitude of interdependence between the exchange partners, the greater the degree of relational exchange in the exchange relationship. ....	√
H7: The greater the degree to which interdependence between the exchange partners is asymmetric, the lower the degree of relational exchange in the exchange relationship. ....	x
<i>Performance and Opportunism as Outcomes</i>	
H8: The higher the degree of relational exchange, the higher the performance of the exchange relationship .....	√
H9: The higher the degree of vertical integration, the higher the performance of the exchange relationship. ....	x
H10: The higher the degree vertical integration, the lower the degree of opportunism in the exchange relationship. ....	√
H11: The higher the degree of relational exchange, the lower the degree of opportunism in the exchange relationship. ....	x
H12: The higher the degree of opportunism, the lower the performance of the exchange relationship. ....	√

Note: √ supported x rejected

## CHAPTER IX

### DISCUSSION AND IMPLICATIONS

This chapter explores each boundary condition of relational exchange developed in Chapter V in the light of the empirical results presented in the previous chapter. Following this discussion, the theoretical and managerial implications of these findings will be examined. Directions for future research and a summary conclusion are offered.

#### Discussion

*Relational exchange model.* The first part of this study examined the nomological network of constructs comprising the domain of relational exchange in business exchanges. Here, support was found for the conceptual distinction of relational beliefs, relational norms, relational intentions and relational behaviors which as different, yet related aspects of relational exchange subsume a number of constructs used in previous studies to investigate the importance of relational exchange. The structural model results provide mixed support for the proposed interrelationships among these constructs based on theory of reasoned action. Although relational intentions are found to mediate the influence of relational beliefs on relational behavior, relational norms appear to have no significant influence on relational intentions. In addition, the fit indices for the structural model suggest some room for improvement. Taken together, these results suggest that (1) relational exchange consists of at least three conceptually distinct components, (2) relational beliefs and relational norms affect relational behavior through different mechanisms, and (3) relational intentions may be a catalyst for the effect of relational beliefs on relational behavior in the exchange.

Given the prominence of relational norms in the research model (operationalization of relational exchange), the non-significant link between relational norms and relational intentions is troubling. However, given the specification of relational intentions as central mediating variable in the relational exchange model as well as the potential for improvement in goodness-of-fit, a direct effect of relational norms on relational behavior appears to be logical model re-specification. Another possibility is that the proposed paths in the relational exchange model are influenced by outside variables. In particular, the influence of relational norms on relational behavior may be moderated by circumstances surrounding the exchange. An extension of the core model consistent with Theory of Planned Behavior may provide an explanation (see Chapter III).

*Research model.* The following section discusses the results of the research model developed in Chapter V and the rival model examined in Chapter VIII. Taken together, these models shed light on the boundary conditions of relational exchange developed in Chapter IV and are therefore discussed together. The first boundary condition of relational exchange developed above builds on transaction cost literature. Here, a high level of safeguarding need in the dyad was proposed to give rise to relational exchange among exchange partners. Contrary to the hypothesized effect, the research model results suggest that a need for safeguarding leads to a reduction in relational exchange in the dyad.

However, consistent with transaction cost theory relational exchange is found to contribute to exchange performance under conditions of high levels of safeguarding need in the rival model. This suggests that relational exchange may function as alternative

mechanism to vertical integration in curbing opportunism in the exchange. This effect also finds some support in the research model results. Here, the results show that opportunism damages exchange effectiveness and efficiency and relational exchange reduces partner opportunism.<sup>61</sup> Therefore, the effect of relational exchange on exchange performance is partially mediated by its effect on opportunism in the exchange.

Contrary to transaction cost theory, high levels of safeguarding need also reduced the level of vertical integration in the dyad but this finding may be unreliable due to the lack of cases for more integrated relationships. Note that most respondents reported on exchanges involving independent dealerships that either sell different brands, but tie their identity and loyalty primarily to one supplier's brand as well as independent dealerships that sell multiple brands and do not tie their identity and loyalty to any one brand. Manufacturer owned, wholesaler owned and franchised dealerships were less well represented in the sample.<sup>62</sup>

Consistent with transaction cost theory, high levels of safeguarding need were found to increase the use of behavior-based incentives. Here, behavior-based incentives may be more sensitive in measuring coordination efforts in less integrated dyads used to mimic other, more vertically integrated forms of exchange. Similarly, the results show that behavior-based incentives, but not vertical integration, increase the level of relational exchange in the dyad.

Taken together, these findings provide some support for the research model predictions and offer insights on the mechanisms linking vertical integration and relational exchange. First, behavior-based incentives may be viewed as supporting

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<sup>61</sup>  $p < .10$

<sup>62</sup> As outlined in Chapter VI, this is representative of the sampling population.

socialization among exchange partners, because they align goals and define exchange processes in the dyad. The significant effect of this mechanism on relational exchange in the dyad therefore provides some support for the rationale offered by Williamson (1975) that vertically integrated exchanges promote relational exchange due to the inherent socialization process.

At the same time, direction was found to be unrelated to the level of relational exchange in the dyad. Direction is one mechanism in vertically integrated exchange that may deprive an exchange partner of self-control and autonomy and, thus, may promote reactive opportunism (Brown, Dev and Lee 2000; Wathne and Heide 2000). Taking into account the non-significant effect of direction on the level of opportunism in the dyad, exchange partners may not see reactive opportunism as a threat and do not employ relational exchange to combat such reactive opportunism in this study.

*Summarizing* this discussion on the emergence of relational exchange as a result of a need for safeguarding, the results show that this effect is mainly indirect and driven by the incentive system employed in vertically integrated exchanges. Here, behavior-based incentives appear to be a central mediating variable supporting Williamson's (1975) view that socialization processes in the firm promote relationship development.

The research model proposes a second boundary condition of relational exchange based on power-dependence theory. The research model results in Chapter V provide strong support for the importance of interdependence magnitude as a driver of relational exchange in the dyad. Apparently exchange partners attempt to establish good relationships with firms that mediate channel outcomes. Turning to the rival model results, interdependence magnitude was found to moderate the effect of relational

exchange on exchange effectiveness but not on exchange efficiency suggesting that the effect of interdependence magnitude on relational exchange may be more driven by channel members' interest in achieving exchange outcomes that are available through cooperation with other channel members but less by the desire to optimize the way these outcomes are achieved in the channel.

Interestingly, relational exchange was found to have a stronger impact on exchange effectiveness for low levels of interdependence magnitude than for high levels of interdependence magnitude. Taking the results of both models into account, increasing levels of interdependence magnitude may provide an incentive to develop relational exchange in order to facilitate the joint exploitation of such interdependence and realize desired channel outcomes but the contribution of relational exchange to such outcomes may decrease as interdependence magnitude increases. In other words, developing relational exchange appears to have a decreasing rate of return as interdependence magnitude increases and maintaining relational exchange may be of less value once exchange partners have established high levels of interdependence.

Interdependence symmetry was not found to play the expected role of facilitating relational exchange and had no significant effect on the level of relational exchange in the dyad. However, the rival model results suggest that two conflicting mechanisms may be at work. On one hand, high levels of interdependence asymmetry were found to enhance the positive effect of relational exchange on exchange effectiveness. Here interdependence asymmetry may necessitate higher levels of relational exchange to avoid the drawbacks of power imbalances in the dyad. This rationale is fundamentally based on effectiveness considerations and targets potentially dysfunctional outcomes of

interdependence asymmetry. On the other hand, interdependence symmetry was not found to moderate the effect of relational exchange on exchange efficiency. Here interdependence symmetry was proposed to facilitate the development of relational exchange in the dyad, a rationale that is fundamentally based on efficiency considerations taking into account the costs of relationship development. Given that both mechanisms result in contrary predictions concerning the emergence of relational exchange in response to interdependence symmetry, the non-significant relationship found in the research model can be explained. Further, the findings of the rival model suggest that, overall, exchange effectiveness considerations seem to be prevalent in the management of partner interdependence through relational exchange. Thus, in the context of this study, the proposed efficiency-based rationale for the effect of interdependence asymmetry on the development of relational exchange needs to be dismissed.

*Summarizing* this discussion on the emergence of relational exchange as a result of interdependence, the results show that interdependence magnitude triggers the development of relational exchange; however, as interdependence magnitude increases, the performance incentive of further nurturing relational exchange appears to decrease. Exceptions to this are dyads with high interdependence asymmetry. Here, continued reliance on relational exchange further supports exchange performance. Apparently, this finding is limited to exchange effectiveness, because no exchange efficiency benefits of interdependence were documented in this study.

Finally, the research model proposed that relational exchange emerges because it enhances exchange performance. The research model results strongly support the positive effect of relational exchange on exchange efficiency and exchange effectiveness. Taking

into account the discussion above, relational exchange enhances exchange effectiveness for highly interdependent exchanges, however with a decreasing rate of return under conditions of balanced interdependence. Also, as described above, relational exchange contributes to both, exchange effectiveness and efficiency, under conditions of high levels of safeguarding need and the effect of relational exchange on exchange performance is partially mediated by its effect on opportunism in the exchange supporting transaction cost theory. An exception to this are maladaptation costs. The results of the rival model suggest that behavior-based incentives provide an effective mechanism for adapting to new exchange environments and relational exchange was not found to significantly decrease costs associated with maladaptation when the need for safeguarding was high. Thus, relational exchange may not be needed to supplement vertical integration as a more flexible control mechanism under conditions of environmental diversity as suggested by Ouchi (1979). In addition to these contingent effects of relational exchange on exchange effectiveness, a strong positive main effect is found suggesting that additional boundary conditions for the performance enhancing role of relational exchange may exist.

*Summarizing* this discussion on the emergence of relational exchange as a result of its performance enhancing properties, the results show that relational exchange has a strong impact on exchange effectiveness – both for conditions of high need for safeguarding as well as high interdependence. However, exchange efficiency appears to be enhanced by relational exchange only if the need for safeguarding is high and interdependence does not appear to play a role. Interestingly, support for the mediating role of opportunism is found to be less strong and strong main effects of relational

exchange on both exchange effectiveness and efficiency suggest that other boundary conditions of relational exchange may exist.

### **Implications**

The overall objective of this research was to investigate the boundary conditions for relational exchange— conditions that determine how relational exchange contributes to exchange performance in marketing channels. In particular, the impact of boundary conditions emerging from transaction cost theory and power-dependence theory on the emergence of relational exchange in the dyad and its performance contribution were studied. Important implications for both marketing channel managers as well as researchers resulted from this inquiry.

### **Managerial Implications**

This research shows that efforts to build relational exchange should be motivated by specific exchange conditions in the dyad. Despite its positive effect on performance under these conditions, relational exchange was also found to not affect performance or even harm it under other conditions. First, consistent with prior research this study shows that relational exchange enhances exchange performance if the need for safeguarding is high. Interestingly, however, exchange partners do not increase the level of relational exchange directly in response to such safeguarding need, but rather rely more heavily on behavior-based incentives. It is those behavior-based incentives that increase relational exchange indirectly as a result of safeguarding need in the dyad.

Turning to the effect of vertical integration and relational exchange on partner opportunism, vertical integration does not directly affect partner opportunism and decreases the level of relational exchange in the dyad. Relational exchange, however,

reduces partner opportunism and the total effect of vertical integration on opportunism is found to be positive. This opportunism enhancing effect is only partially reduced when behavior-based incentives are employed in vertically integrated exchanges, but remains dominant. Therefore, in order to utilize the opportunism reducing and performance enhancing effect of relational exchange under conditions of high levels of safeguarding need, exchange partners need to further promote relational exchange because vertical integration alone is insufficient to reduce partner opportunism. A careful selection of incentive structure employed in the vertically integrated exchange may facilitate these efforts.

Second, the impact of relational exchange on exchange effectiveness depends on the magnitude and symmetry of interdependence in the dyad. Here, although increasing magnitude of interdependence leads to increased levels of relational exchange, the impact of relational exchange on exchange effectiveness decreases as interdependence magnitude increases. This suggests that relational exchange can be used to reach desired exchange outcomes, but may have a decreasing rate of return when such outcomes become increasingly visible and accessible to both exchange partners. In other words, relational exchange may not be needed because interdependence magnitude may grow to be sufficient for achieving desired exchange outcomes. Exceptions to this effect are asymmetric interdependent exchanges in which one partner is largely dependent on another. In these dyads, exchange partners continue to benefit from relational exchange for the achievement of exchange outcomes.

## **Research Implications**

The finding that vertical integration does little to limit partner opportunism is not consistent with transaction cost theory, but confirms prior findings (e.g., Brown, Dev and Lee 2000). Also, similar to Brown, Dev and Lee's study, bilateral governance is found to limit partner opportunism. In particular, exchange partners appear to safeguard transaction specific investments by implementing a behavior-based incentive structure that supports the development of relational exchange. It is these close ties that are found to limit partner opportunism and not the degree of vertical integration among partners. Curiously, when faced with the need for safeguarding, exchange partners increase their use of behavior-based incentives but relational exchange is found to decrease.

One possible explanation for this is the easy implementation of these incentives compared to relational exchange. Exchange partners may want to safeguard their transaction specific investments immediately and are willing to focus their partner-specific efforts on the design and implementation of these incentives; possibly neglecting the exchange relationship. Only after these incentives are in place may partners feel comfortable relying on relational exchange to further reduce opportunism.

Another possible explanation is that ex-ante vertical control such as formal contracts that build exit barriers are implemented before the supplier is willing to invest in transaction specific assets. However, such exit barriers may require continued concessions on behalf of the dealer such as exclusive dealing or substantial purchases from the supplier that may lead to reactive opportunism neutralizing the safeguarding role of vertical integration. In order to alleviate this potential drawback, suppliers may use

behavior-based incentives to reward the dealer for its compliance, generate goodwill and build the basis for relational exchange in the dyad.

The finding that relational exchange decreases exchange effectiveness in highly interdependent exchange is not consistent with prior research (e.g., Jap 1999). Curiously, exchange partners are nevertheless found to increase relational exchange when interdependence magnitude increases. A likely explanation for this seemingly paradox behavior is that relational exchange may have a decreasing rate of return in interdependent exchanges. Initially, relational exchange may be used to help develop and foster high levels of interdependence in the dyad. As interdependence increases, relational exchange may not be necessary to achieve desired exchange outcomes because exchange parties may already be aware of the exchange's potential and pursue complementary actions to realize desired outcomes. Here, the realization of exchange outcomes itself may be a sufficient incentive to cooperate and coordinate exchange activities rendering relational exchange a nuisance (e.g., Grayson and Ambler 1999).

Supporting this rationale is the finding that relational exchange seems to be of little value towards increasing exchange efficiency in interdependent exchanges. An explanation for this finding may be found in the study context. Automotive tire replacement dealers and suppliers have very little margins on tire sales and competitive pressure is high in the industry. Thus as a matter of survival, tire sales and market share are of prime importance to channel members and cooperation among exchange partners may be more focused on realizing exchange outcomes (i.e., maintaining high sales volume with important dealers) than on efficiently managing channel activities when interdependence is high.

Assuming a relative lack of focus on exchange efficiency, it is not surprising to find that relational exchange emerges more in asymmetrical interdependent relationships than in balanced exchanges. Here exchange partners may be more interested in defending product margins against the more powerful counterpart than in optimizing exchange activities. Although it is more costly to develop and maintain relational exchange under these conditions as described above, the immediate concern of increasing or maintaining revenues in the tire business may be of greater importance to the dealer.

The findings of this research suggest several paths for further research. First, the role of relational exchange in decreasing opportunism in vertically integrated exchanges needs to be investigated taking into account the specific mechanisms employed to achieve quasi-integration among channel members. Second, the role of relational exchange for managing highly interdependent exchanges needs to be investigated further to establish conditions for which relational exchange loses its performance enhancing effect. Third, interdependence asymmetry may have multiple, conflicting effects on relational exchange in the dyad. The underlying causes of these effects need to be explored. Finally, relational exchange is found to have strong main effects on exchange performance. Additional boundary conditions not investigated in this study may exist that limit this performance enhancing effect.

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APPENDIX A  
SURVEY INSTRUMENT: COVER PAGE

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National Survey  
of  
Tire Retailers

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Conducted by:

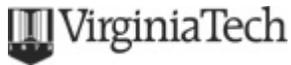


VIRGINIA POLYTECHNIC INSTITUTE  
AND STATE UNIVERSITY  
&



**APPENDIX A**  
**SURVEY INSTRUMENT: PAGE ONE**

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**National Survey of Tire Retailers**

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Dear Owner/ General Manager:

The Pamplin College of Business at Virginia Tech in cooperation with Modern Tire Dealer is studying the relationship between tire retailers and their suppliers. Though business owners and managers often participate in studies about business practices, sales techniques, and other issues, very little is known about how business relationships between manufacturers, distributors, and retailers affect their business success.

Would you please assist us in this research by completing this questionnaire within the next five days? It should take about 30 minutes to complete and return postage is provided on the back of the survey. Your participation in this study provides information that will help improve the business success of tire dealers. Also, in return for your participation in this study we will provide you with a summary of the results.

For the questionnaire results to be meaningful, it is of great importance that each retailer participates and answers all questions in this booklet. Some of the questions may seem repetitive, and others a little strange, but they all have a purpose. Please answer the questions as honestly as you can. There are no right or wrong answers. We guarantee that your responses are confidential. If you have any questions, please call us at (540) 231-9582.

Thank you very much for your participation!

Steve Grzeskowiak  
Project Director

James R. Brown  
Professor of Marketing  
and NAPM Carolinas-Virginia  
Professor of Purchasing

C. Jay Lambe  
Assistant Professor of  
Marketing

**Most of this survey's questions refer to your MAJOR SUPPLIER, which is:**

- the distributor or wholesale supplier firm who supplies you with most of your tires,**
- and not a particular tire brand that this distributor or wholesale supplier sells.**

Also, if a manufacturer or wholesale supplier owns your dealership, your major supplier might be this manufacturer or wholesale supplier.

**APPENDIX A**  
**SURVEY INSTRUMENT: PAGE TWO**

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**What is your title or position within your firm?**

(e.g., Owner, General Manager, etc.) \_\_\_\_\_

(001)

**How knowledgeable are you about:**

**Not at all**  
Knowledgeable

**Very**  
Knowledgeable

... your firm's current relationship and dealings with your  
major supplier?..... 1 2 3 4 5 6 7<sup>(002)</sup>

... your firm's relationship and dealings with your major  
supplier five years ago? ..... 1 2 3 4 5 6 7<sup>(003)</sup>

Please express agreement or disagreement with each of the following statements. It is very important that you try carefully, but quickly, to answer each question. Please circle the number that best represents your opinion.

**Part 1. The following statements relate to your major supplier**

---

**Please indicate whether you think these statements reflect your major supplier.**

**Strongly**  
**Disagree**

**Strongly**  
**Agree**

The supplier's tire brands draw a lot of customers to our  
business. .... 1 2 3 4 5 6 7<sup>(101)</sup>

It would be costly for the supplier to find an adequate  
replacement for my firm. .... 1 2 3 4 5 6 7<sup>(102)</sup>

The supplier's business plan is well matched with my firm's  
business activities. .... 1 2 3 4 5 6 7<sup>(103)</sup>

The supplier provides my firm with tire lines that our  
customers prefer. .... 1 2 3 4 5 6 7<sup>(104)</sup>

The supplier pursues objectives that are beneficial to my  
firm. .... 1 2 3 4 5 6 7<sup>(105)</sup>

If our supplier decided to stop doing business with my firm,  
it would be wasting a lot of knowledge about our business  
and our particular tire needs. .... 1 2 3 4 5 6 7<sup>(106)</sup>

Finding another dealer in this market that has similar tire  
service capabilities to my firm would be very difficult for the  
supplier. .... 1 2 3 4 5 6 7<sup>(107)</sup>

This supplier does a lot to help my firm become a more  
effective dealership, such as providing tailored  
management training and counseling. .... 1 2 3 4 5 6 7<sup>(108)</sup>

Our supplier has made heavy investments in storage,  
delivery, and ordering capabilities in order to handle  
deliveries to my firm. .... 1 2 3 4 5 6 7<sup>(109)</sup>

It would be difficult for this supplier to recoup its investment  
in my firm if it switched to another dealer as an outlet for its  
products. .... 1 2 3 4 5 6 7<sup>(110)</sup>

If we were to no longer represent this supplier the supplier  
could not compensate for losing our business by  
increasing tire sales with our other dealers in our area..... 1 2 3 4 5 6 7<sup>(111)</sup>

**APPENDIX A**  
**SURVEY INSTRUMENT: PAGE THREE**

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Please indicate whether you think these statements reflect <b>your major supplier</b> .	Strongly Disagree	Strongly Agree
The supplier does not have access to our sales records.....	1 2 3 4 5 6 7	(112)
The supplier's delivery schedule makes it a valued distributor for my firm. ....	1 2 3 4 5 6 7	(113)
The supplier pursues goals that advance my firm's objectives. ....	1 2 3 4 5 6 7	(114)
This supplier voluntarily avoids adding dealers that would compete with my firm. ....	1 2 3 4 5 6 7	(115)
Our supplier carries special tire lines in order to meet my firm's requirements.....	1 2 3 4 5 6 7	(116)
The supplier could not switch to another dealership in this market without incurring many new expenses. ....	1 2 3 4 5 6 7	(117)
It is just not possible for the supplier to supervise my firm closely. ....	1 2 3 4 5 6 7	(118)
It is difficult for the supplier to evaluate how much effort our firm really puts behind their tire brand.....	1 2 3 4 5 6 7	(119)
The supplier does not have accurate information about our firm's sales activities. ....	1 2 3 4 5 6 7	(120)
The supplier has given my firm an exclusive territory for their proprietary tire brands. ....	1 2 3 4 5 6 7	(121)
The supplier's evaluation of my firm is based on incomplete information. ....	1 2 3 4 5 6 7	(122)
My firm's relationship with this supplier is controlled primarily by written contracts.....	1 2 3 4 5 6 7	(123)
The supplier provides my firm with access to outstanding support programs. ....	1 2 3 4 5 6 7	(124)
The way the supplier grows its business makes it an attractive partner for my firm. ....	1 2 3 4 5 6 7	(125)
The only way my firm seems to deal effectively with this supplier is when everything is spelled out in detail. ....	1 2 3 4 5 6 7	(126)
The supplier provides my firm with access to market and industry information that helps our business. ....	1 2 3 4 5 6 7	(127)
Over time my firm has developed ways of doing things with this supplier that never need to be expressed formally.....	1 2 3 4 5 6 7	(128)
The supplier targets business objectives that support my firm's business. ....	1 2 3 4 5 6 7	(129)
The supplier has tailored its advertising and promotions to meet the specific needs of my firm.....	1 2 3 4 5 6 7	(130)
It would be difficult for this supplier to recoup its outstanding credit if my firm switched to another supplier. ...	1 2 3 4 5 6 7	(131)
The supplier is able to fill all of my firm's tire orders. ....	1 2 3 4 5 6 7	(132)

**APPENDIX A**  
**SURVEY INSTRUMENT: PAGE FOUR**

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Part 2. The following statements relate to your firm.

Please indicate whether you think these statements reflect <u>your firm</u> .	Strongly Disagree	Strongly Agree
My firm's business objectives are beneficial to the supplier. ....	1 2 3 4 5 6	7 <sup>(201)</sup>
My firm pursues goals that support our supplier's business. ....	1 2 3 4 5 6	7 <sup>(202)</sup>
My firm has spent a lot of time and effort to develop customer loyalty for this supplier's tire brand. ....	1 2 3 4 5 6	7 <sup>(203)</sup>
My firm's business plan is well matched with our supplier's activities. ....	1 2 3 4 5 6	7 <sup>(204)</sup>
If my firm switched to another supplier it would take a lot of effort to learn the new supplier's ways of doing business. ....	1 2 3 4 5 6	7 <sup>(205)</sup>
My firm carries only this supplier's tire brands. ....	1 2 3 4 5 6	7 <sup>(206)</sup>
The size of my firm's tire business makes it an important business partner for this supplier. ....	1 2 3 4 5 6	7 <sup>(207)</sup>
My firm provides the supplier with access to customers it would not otherwise be able to reach.....	1 2 3 4 5 6	7 <sup>(208)</sup>
My firm could not switch to another supplier without losing some of our customers.....	1 2 3 4 5 6	7 <sup>(209)</sup>
My firm has made significant investments in ordering and reporting systems that fit the special needs of this supplier. ....	1 2 3 4 5 6	7 <sup>(210)</sup>
My firm's location gives the supplier access to the local market area it would not otherwise be able to service. ....	1 2 3 4 5 6	7 <sup>(211)</sup>
My firm has special tire-service capabilities that are needed to sell the supplier's tires (mounting tools, etc.). ....	1 2 3 4 5 6	7 <sup>(212)</sup>
Switching to another supplier would leave my firm with a lot of tires that we would not be able to sell. ....	1 2 3 4 5 6	7 <sup>(213)</sup>
My firm could not switch to another supplier without incurring many new expenses.....	1 2 3 4 5 6	7 <sup>(214)</sup>
Switching to another supplier would cause significant interruption of our business.....	1 2 3 4 5 6	7 <sup>(215)</sup>
My firm targets business objectives that support the supplier's business.....	1 2 3 4 5 6	7 <sup>(216)</sup>
My firm could not easily substitute this supplier's proprietary tire brand with a different supplier's tire brand. ....	1 2 3 4 5 6	7 <sup>(217)</sup>
My firm's payment history makes us an attractive business partner.....	1 2 3 4 5 6	7 <sup>(218)</sup>
My firm voluntarily refrains from adding suppliers that compete with this supplier.....	1 2 3 4 5 6	7 <sup>(219)</sup>
It would be costly for my firm to find an adequate replacement for this supplier.....	1 2 3 4 5 6	7 <sup>(220)</sup>

*Please continue on the next page.*

**APPENDIX A**  
**SURVEY INSTRUMENT: PAGE FIVE**

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Please indicate whether you think these statements accurately reflect <u>your firm</u> .	Strongly Disagree	Strongly Agree
My firm will switch major suppliers within the next year. ....	1 2 3 4 5 6 7	(221)
My firm provides special sales support for the supplier's tire brands. ....	1 2 3 4 5 6 7	(222)
The way my firm grows its business makes my firm an attractive partner for this supplier. ....	1 2 3 4 5 6 7	(223)
Even if we could, my firm would not drop the supplier because we like being associated with it. ....	1 2 3 4 5 6 7	(224)
We want to remain a member of the supplier's network because my firm genuinely enjoys our relationship with it. ...	1 2 3 4 5 6 7	(225)
My firm's positive feelings towards the supplier are a major reason we continue to work with the supplier. ....	1 2 3 4 5 6 7	(226)
My firm has made significant investments in signage, store outfit, and/or sales training dedicated to this supplier's proprietary tire brand. ....	1 2 3 4 5 6 7	(227)
If my firm decided to stop working with this supplier, we would be wasting a lot of knowledge about the way this supplier does business (delivery schedule, payment, etc.)...	1 2 3 4 5 6 7	(228)
If my firm decided to stop representing this supplier, we would be wasting a lot of product knowledge that's tailored to their proprietary brand. ....	1 2 3 4 5 6 7	(229)

**Please tell us now about your firm's choice of supplier:**

About how many years has your firm done business with your major supplier?.....	_____ Years	(230)
About how many suppliers compete for your location's business? .....	_____ (count)	(231)
For how many years has your firm been carrying this supplier's tire brands? .....	_____ Years	(232)
How many tire brands of any of this supplier's major competitors does your firm carry? .....	_____ (count)	(233)
About what percentage of your customers ask for a specific brand name tire? .....	_____ %	(234)
About what percentage of your customers ask for your major supplier's brand name tire? .....	_____ %	(235)
About how many tire suppliers:		
..would deliver to your location? .....	_____ (count)	(236)
..would your firm consider purchasing tires from? .....	_____ (count)	(237)
..is your firm currently purchasing the majority of tires from? ....	_____ (count)	(238)

**APPENDIX A**  
**SURVEY INSTRUMENT: PAGE SIX**

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Part 3. Next, we would like you to think about your relationship with your major supplier. Please indicate whether the following statements reflect this relationship.

<b>In this relationship, <u>the major supplier</u>:</b>	Strongly Disagree	Strongly Agree
...intends to treat problems that arise as joint, rather than individual responsibilities. ....	1 2 3 4 5 6 7	(301)
...intends to act flexibly in its dealings with our firm. ....	1 2 3 4 5 6 7	(302)
...expects to be working with our firm for a long time. ....	1 2 3 4 5 6 7	(303)
...intends to maintain an effective and fair exchange. ....	1 2 3 4 5 6 7	(304)
...intends to be perfectly honest and truthful. ....	1 2 3 4 5 6 7	(305)
...focuses on the long-term goals in this relationship. ....	1 2 3 4 5 6 7	(306)
...intends to put maximum effort behind the relationship. ....	1 2 3 4 5 6 7	(307)
...intends to work with our firm for a long time.....	1 2 3 4 5 6 7	(308)
...is perfectly honest and truthful. ....	1 2 3 4 5 6 7	(309)
...can be trusted completely. ....	1 2 3 4 5 6 7	(310)
...can be counted on to do what is right. ....	1 2 3 4 5 6 7	(311)
...is always faithful. ....	1 2 3 4 5 6 7	(312)
...is someone that our firm has great confidence in. ....	1 2 3 4 5 6 7	(313)
...has high integrity.....	1 2 3 4 5 6 7	(314)
...cares for us. ....	1 2 3 4 5 6 7	(315)
...is like a friend. ....	1 2 3 4 5 6 7	(316)
...is on our side.....	1 2 3 4 5 6 7	(317)
...is more concerned with long-term outcomes in this relationship than with immediate gains. ....	1 2 3 4 5 6 7	(318)
...intends to provide any information that might help to my firm.....	1 2 3 4 5 6 7	(319)
...is willing to make sacrifices to help my firm out from time to time. ....	1 2 3 4 5 6 7	(320)
...believes that over the long run its relationship with my firm will be profitable. ....	1 2 3 4 5 6 7	(321)
...believes that any concessions made to help my firm will even out in the long-run. ....	1 2 3 4 5 6 7	(322)
...intends to resolve conflict that arises in a mutually beneficial way that improves the business relationship. ....	1 2 3 4 5 6 7	(323)

*Please continue on the next page.*

**APPENDIX A**  
**SURVEY INSTRUMENT: PAGE SEVEN**

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<u><b>This relationship:</b></u>	Strongly Disagree	Strongly Agree
...is something our major supplier is very committed to. ....	1 2 3 4 5 6 7	(324)
...is very important to our major supplier. ....	1 2 3 4 5 6 7	(325)
...is of very high significance to our major supplier. ....	1 2 3 4 5 6 7	(326)
...is very much like being family to our major supplier.....	1 2 3 4 5 6 7	(327)
...is something our major supplier really cares about.....	1 2 3 4 5 6 7	(328)
...deserves our major supplier's maximum effort to maintain .....	1 2 3 4 5 6 7	(329)
<u><b>In this relationship, our firm and the major supplier:</b></u>	Strongly Disagree	Strongly Agree
...make it a point to keep each other well informed.....	1 2 3 4 5 6 7	(330)
...share information quickly between both firms. ....	1 2 3 4 5 6 7	(331)
...involve each other in goal setting and forecasting. ....	1 2 3 4 5 6 7	(332)
...share information between our firms in a timely manner. ..	1 2 3 4 5 6 7	(333)
...share information that is highly consistent. ....	1 2 3 4 5 6 7	(334)
...share information widely across the firms. ....	1 2 3 4 5 6 7	(335)
...share information that affects the other party openly. ....	1 2 3 4 5 6 7	(336)
...provide each other with frequent feedback on performance. ....	1 2 3 4 5 6 7	(337)
...seek each other's advice and counsel about marketing efforts. ....	1 2 3 4 5 6 7	(338)
...keep each other well informed about what is going on in this market and with customers.....	1 2 3 4 5 6 7	(339)
...are very conscientious, responsive, and resourceful in maintaining a cooperative relationship. ....	1 2 3 4 5 6 7	(340)
...are generally able to resolve disagreements to both firms' satisfaction. ....	1 2 3 4 5 6 7	(341)
...usually resolve any disagreements that arise in the relationship in good faith. ....	1 2 3 4 5 6 7	(342)
...make sure that each partner benefits from the relationship.....	1 2 3 4 5 6 7	(343)
...treat the exchange as an ongoing relationship rather than a series of one-shot deals. ....	1 2 3 4 5 6 7	(344)
...develop the business relationship in order to produce benefits for both firms. ....	1 2 3 4 5 6 7	(345)
...make improvements to the business relationship that benefit the relationship as a whole. ....	1 2 3 4 5 6 7	(346)
...work out a new agreement when some unexpected situation arises to keep the relationship performing. ....	1 2 3 4 5 6 7	(347)
...resolve disputes between the firms without third party intervention. ....	1 2 3 4 5 6 7	(348)
...usually settle disagreements to everyone's satisfaction....	1 2 3 4 5 6 7	(349)

**APPENDIX A**  
**SURVEY INSTRUMENT: PAGE EIGHT**

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In your dealings with the supplier on each of the following areas of your business, please indicate the extent to which your efforts are directly rewarded by your major supplier:

	Not at All Rewarded by Supplier	Strongly Rewarded by Supplier
- total tire-sales volume .....	1 2 3 4 5 6 7	(350)
- share of supplier-brand sales to total tire sales volume.....	1 2 3 4 5 6 7	(351)
- market share of supplier tire lines .....	1 2 3 4 5 6 7	(352)
- sales growth of supplier tire lines.....	1 2 3 4 5 6 7	(353)
- your firm's service capabilities .....	1 2 3 4 5 6 7	(354)
- the way your firm sells tires and treats customers.....	1 2 3 4 5 6 7	(355)
- your firm's promotion and advertising of supplier tire lines.	1 2 3 4 5 6 7	(356)
- maintenance procedures followed .....	1 2 3 4 5 6 7	(357)
- your firm's participation in the supplier's education and support activities .....	1 2 3 4 5 6 7	(358)

In our relationship with our major supplier, it is expected that:

	Strongly Disagree	Strongly Agree
...both firms do not mind owing each other favors. ....	1 2 3 4 5 6 7	(359)
...any information that might help the other firm will be provided to them. ....	1 2 3 4 5 6 7	(360)
...both firms keep each other informed about events or changes that may affect the other firm.....	1 2 3 4 5 6 7	(361)
...both firms will provide proprietary information if it can help the other firm. ....	1 2 3 4 5 6 7	(362)
...both firms are flexible in response to requests for changes. ....	1 2 3 4 5 6 7	(363)
...both firms undergo improvements that may benefit the relationship as a whole, and not only the individual firm. .	1 2 3 4 5 6 7	(364)
...adjustments can be made in the ongoing relationship to cope with changing circumstances. ....	1 2 3 4 5 6 7	(365)
...when some unforeseen situation arises both firms work out a new deal rather than holding each other to the original terms. ....	1 2 3 4 5 6 7	(366)
...problems that arise in the course of this relationship are treated by both firms as joint rather than individual responsibilities. ....	1 2 3 4 5 6 7	(367)
...information in this relationship is exchanged frequently and informally, and not only according to pre-specified agreement. ....	1 2 3 4 5 6 7	(368)

*Please continue on the next page.*

**APPENDIX A**  
**SURVEY INSTRUMENT: PAGE NINE**

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**Who in your relationship with your major supplier decides on the following issues?**

	Our firm decides	Major supplier decides
- tire brands that your firm carries .....	1 2 3 4 5 6 7	7 <sup>(369)</sup>
- your firm's inventory of the major supplier's tire brands.....	1 2 3 4 5 6 7	7 <sup>(370)</sup>
- sales and marketing strategies your firm uses for the major supplier's tire brands .....	1 2 3 4 5 6 7	7 <sup>(371)</sup>
- your firm's participation in sales promotion and training programs sponsored by the major supplier .....	1 2 3 4 5 6 7	7 <sup>(372)</sup>
- value-added services your firm provides to customers for the major supplier's tire brands .....	1 2 3 4 5 6 7	7 <sup>(373)</sup>

**Relationships typically evolve through a number of phases over time. Please indicate which one of the following best describes your firm's relationship with the major supplier:**

- (1) today..... \_\_\_\_\_ <sup>(374)</sup>
- (2) five years ago ..... \_\_\_\_\_ <sup>(375)</sup>
- A. Both firms are discovering and testing the goal compatibility, integrity, and performance of the other, as well as potential obligations, benefits, and burdens involved with working together on a long-term basis.
  - B. Both firms are receiving increasing benefits from the relationship, and a level of trust and satisfaction has been developed such that they are more willing to become committed to the relationship on a long-term basis.
  - C. Both firms have an ongoing, long-term relationship in which both are receiving acceptable levels of satisfaction and benefits from the relationship.
  - D. One or both members have begun to experience dissatisfaction and are contemplating relationship termination, considering alternative manufacturers or customers, and beginning to communicate an intent to end the relationship.
  - E. The firms have begun to negotiate terms for ending the relationship and/or are currently in the process of resolving the relationship.

**APPENDIX A**  
**SURVEY INSTRUMENT: PAGE TEN**

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<b>In our relationship with our major supplier, my firm:</b>	<b>Strongly Disagree</b>	<b>Strongly Agree</b>
...intends to treat problems that arise as joint, rather than individual responsibilities. ....	1 2 3 4 5 6 7 <sup>(376)</sup>	
...intends to act flexibly in our dealings with the supplier. ....	1 2 3 4 5 6 7 <sup>(377)</sup>	
...intends to maintain an effective and fair exchange. ....	1 2 3 4 5 6 7 <sup>(378)</sup>	
...intends to be perfectly honest and truthful. ....	1 2 3 4 5 6 7 <sup>(379)</sup>	
...expects to be working with this supplier for a long time. ...	1 2 3 4 5 6 7 <sup>(380)</sup>	
...intends to put maximum effort behind the relationship. ....	1 2 3 4 5 6 7 <sup>(381)</sup>	
...focuses on the long-term goals of this relationship. ....	1 2 3 4 5 6 7 <sup>(382)</sup>	
...intends to work with the supplier for a long time. ....	1 2 3 4 5 6 7 <sup>(383)</sup>	
...is perfectly honest and truthful. ....	1 2 3 4 5 6 7 <sup>(384)</sup>	
...can be trusted completely. ....	1 2 3 4 5 6 7 <sup>(385)</sup>	
...can be counted on to do what is right. ....	1 2 3 4 5 6 7 <sup>(386)</sup>	
...is always faithful. ....	1 2 3 4 5 6 7 <sup>(387)</sup>	
...has high integrity. ....	1 2 3 4 5 6 7 <sup>(388)</sup>	
...cares for the major supplier. ....	1 2 3 4 5 6 7 <sup>(389)</sup>	
...is like a friend. ....	1 2 3 4 5 6 7 <sup>(390)</sup>	
...is on the supplier's side. ....	1 2 3 4 5 6 7 <sup>(391)</sup>	
...is someone that the supplier has great confidence in. ....	1 2 3 4 5 6 7 <sup>(392)</sup>	
...intends to provide any information that might help to this supplier. ....	1 2 3 4 5 6 7 <sup>(393)</sup>	
...is more concerned with long-term outcomes in this relationship than with immediate gains. ....	1 2 3 4 5 6 7 <sup>(394)</sup>	
...has to lie to the supplier about certain things on occasion in order to protect our interests. ....	1 2 3 4 5 6 7 <sup>(395)</sup>	
...believes that any concessions made to help this supplier will even out in the long-run. ....	1 2 3 4 5 6 7 <sup>(396)</sup>	
...sometimes has to mask the true nature of our needs to get the needed support from the supplier. ....	1 2 3 4 5 6 7 <sup>(397)</sup>	
...is willing to make sacrifices to help the supplier out from time to time. ....	1 2 3 4 5 6 7 <sup>(398)</sup>	
...sometimes overstates the difficulties our dealership faces to get the needed support from the supplier. ....	1 2 3 4 5 6 7 <sup>(399)</sup>	
...sometimes has had to alter the facts slightly in order to get what we need from the supplier. ....	1 2 3 4 5 6 7 <sup>(400)</sup>	
...believes that over the long run our relationship with this supplier will be profitable. ....	1 2 3 4 5 6 7 <sup>(401)</sup>	
...sometimes finds it necessary to neglect some of our obligations to the supplier to maintain our product margins, tire sales, market share, etc. ....	1 2 3 4 5 6 7 <sup>(402)</sup>	
...intends to resolve conflict that arises in a mutually beneficial way that improves the exchange relationship. ....	1 2 3 4 5 6 7 <sup>(403)</sup>	

**APPENDIX A**  
**SURVEY INSTRUMENT: PAGE ELEVEN**

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My firm's relationship with the major supplier:	Strongly Disagree	Strongly Agree
...is something my firm is very committed to .....	1 2 3 4 5 6	7 <sup>(404)</sup>
...is very important to my firm. ....	1 2 3 4 5 6	7 <sup>(405)</sup>
...is of very high significance to my firm. ....	1 2 3 4 5 6	7 <sup>(406)</sup>
...is very much like being family to my firm.....	1 2 3 4 5 6	7 <sup>(407)</sup>
...is something my firm really cares about.....	1 2 3 4 5 6	7 <sup>(408)</sup>
...deserves my firm's maximum effort to maintain.....	1 2 3 4 5 6	7 <sup>(409)</sup>

In your firm's dealings with your major supplier:	Strongly Disagree	Strongly Agree
...ordering the right product takes much time and effort. ....	1 2 3 4 5 6	7 <sup>(410)</sup>
...price negotiations are often difficult. ....	1 2 3 4 5 6	7 <sup>(411)</sup>
...negotiating our credit line with the supplier is very difficult	1 2 3 4 5 6	7 <sup>(412)</sup>
...we spend too much time tracking returns and defects. ....	1 2 3 4 5 6	7 <sup>(413)</sup>
...we spend a lot of time and effort checking on deliveries. .	1 2 3 4 5 6	7 <sup>(414)</sup>
...working out new delivery agreements is often difficult. ....	1 2 3 4 5 6	7 <sup>(415)</sup>
...resolving misshipments to my firm's satisfaction often takes a lot of time and effort.....	1 2 3 4 5 6	7 <sup>(416)</sup>
...my firm spends a lot of time and effort on tracking our delivery tickets.....	1 2 3 4 5 6	7 <sup>(417)</sup>
...my firm needs to check this supplier's billing and adjustments to make sure they are accurate. ....	1 2 3 4 5 6	7 <sup>(418)</sup>
...important information from this supplier seldom comes at the right time.....	1 2 3 4 5 6	7 <sup>(419)</sup>
...my firm often has incomplete information about the supplier's actions.....	1 2 3 4 5 6	7 <sup>(420)</sup>
...the relationship with this supplier has resulted in lower costs.....	1 2 3 4 5 6	7 <sup>(421)</sup>
...flexibility to handle unforeseen fluctuations in demand has been improved because of this relationship. ....	1 2 3 4 5 6	7 <sup>(422)</sup>
...the relationship with this supplier has resulted in higher customer satisfaction.....	1 2 3 4 5 6	7 <sup>(423)</sup>
...synergies in joint sales and marketing efforts have been achieved because of the relationship.....	1 2 3 4 5 6	7 <sup>(424)</sup>
...the relationship has a positive effect on our ability to reach new customers. ....	1 2 3 4 5 6	7 <sup>(425)</sup>
...investments of resources in the relationship, such as time and money, have paid off well. ....	1 2 3 4 5 6	7 <sup>(426)</sup>
...the supplier helps my firm to detect and react to changes in customer preferences before our competitors do.....	1 2 3 4 5 6	7 <sup>(427)</sup>
...information from this supplier that my firm needs for its business to be successful is often vague and difficult to understand. ....	1 2 3 4 5 6	7 <sup>(428)</sup>

**APPENDIX A**  
**SURVEY INSTRUMENT: PAGE TWELVE**

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Part 4. Please concentrate on the local tire market in which your firm is operating.

For the following issues, how frequently do these aspects <u>change in your firm's trading area</u> ?	No Change	Frequently Change
...mix of tire brands carried.....	1 2 3 4 5 6 7 <sup>(501)</sup>	
...tire sales strategies .....	1 2 3 4 5 6 7 <sup>(502)</sup>	
...sales promotion/advertising strategies .....	1 2 3 4 5 6 7 <sup>(503)</sup>	
...customer preferences in tire types .....	1 2 3 4 5 6 7 <sup>(504)</sup>	
...customer preferences in tire brands.....	1 2 3 4 5 6 7 <sup>(505)</sup>	
...customer preferences in tire quality .....	1 2 3 4 5 6 7 <sup>(506)</sup>	
...customer preferences in price.....	1 2 3 4 5 6 7 <sup>(507)</sup>	
...competitors' mix of tire brands carried .....	1 2 3 4 5 6 7 <sup>(508)</sup>	
...competitors' tire sales strategies .....	1 2 3 4 5 6 7 <sup>(509)</sup>	
...competitors' sales promotions/advertising strategies.....	1 2 3 4 5 6 7 <sup>(510)</sup>	

How would you describe the demand for your firm's major supplier's tires?	Strongly Disagree	Strongly Agree
Lately, overall demand for the tire brands that this supplier sells has been increasing rapidly in my trading area. ....	1 2 3 4 5 6 7 <sup>(511)</sup>	
My firm expects local demand for tires to show considerable improvement in the near future.....	1 2 3 4 5 6 7 <sup>(512)</sup>	
Currently, the market for tires in my firm's trading area is very depressed. ....	1 2 3 4 5 6 7 <sup>(513)</sup>	
The number of potential customers for the tire business has grown rapidly in recent years. ....	1 2 3 4 5 6 7 <sup>(514)</sup>	

Are large tire dealers <u>in your area</u> significantly more efficient than small ones because of:	Strongly Disagree	Strongly Agree
...more intense use of personnel and facilities? .....	1 2 3 4 5 6 7 <sup>(515)</sup>	
...a better ability to attract and hold quality personnel?.....	1 2 3 4 5 6 7 <sup>(516)</sup>	
...an ability to obtain quantity discounts or favorable advertising rates?.....	1 2 3 4 5 6 7 <sup>(517)</sup>	
...an ability to gain entry and develop relationships with prospective customers? .....	1 2 3 4 5 6 7 <sup>(518)</sup>	

What is the approximate size of your firm's trading area?  
 \_\_\_\_\_ in miles (519)  
 \_\_\_\_\_ in number of potential customers (520)

*Please continue on the next page.*

**APPENDIX A**  
**SURVEY INSTRUMENT: PAGE THIRTEEN**

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Part 5. In this section we would like you to tell us about your firm's performance.

Relative to your expectations how is your firm performing on:	Worse than Expected	Better than Expected
- Total tire sales .....	1 2 3 4 5 6 7	(521)
- Sales of major tire brand.....	1 2 3 4 5 6 7	(522)
- Revenues in tire business.....	1 2 3 4 5 6 7	(523)
- Market share in local tire market.....	1 2 3 4 5 6 7	(524)
- Tire sales growth last year.....	1 2 3 4 5 6 7	(525)
- Revenue growth for tire business last year.....	1 2 3 4 5 6 7	(526)
- Market share growth for local tire market last year.....	1 2 3 4 5 6 7	(527)
- Customer satisfaction with tires .....	1 2 3 4 5 6 7	(528)
- Customer loyalty in tire business .....	1 2 3 4 5 6 7	(529)
- Tire quality and performance.....	1 2 3 4 5 6 7	(530)
- Tire service quality (mounting and balancing) .....	1 2 3 4 5 6 7	(531)

About what percentage of your firm's annual sales comes from tire-related sales? ..... % (532)

About what percentage of these sales is attributed to the products of your major supplier?..... % (533)

About what percentage of your tire sales is from consumer tires (automotive and light truck tires)? ..... % (534)

About what percentage of your firm's tire business is from repeat customers? ..... % (535)

About what percentage of your firm's tire sales is with business customers (other firms)? ..... % (536)

How many major competitors does your firm have in the local tire market? ..... (count) (537)

What was your approximate coop budget from this supplier last year? ..... \$ (538)

What is your approximate average margin on tires from this supplier (including performance bonus)? ..... % (539)

About what percentage of your firm's profits is from tire-related sales?..... % (540)

About how many conversations does your firm have with your major supplier per month (on average) about your business (not including ordering tires)? ..... (count) (541)

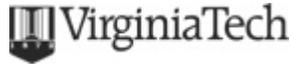
What issue primarily influences your firm's sales people to sell a particular tire brand? (please choose one) (542)

- |                                      |  |
|--------------------------------------|--|
| _____ product quality                | _____ good profit for dealership       |
| _____ good product pricing           | _____ customer asks for it             |
| _____ product performance            | _____ supplier spiffs for sales person |
| _____ other -> please specify: _____ | (543)                                  |



**APPENDIX B**  
**PRE-NOTIFICATION AND FOLLOW-UP POSTCARDS**

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Dear Owner/ General Manager:

May, 18 2004

**How does the working relationship between manufacturers, distributors, and retailers affect their business success?** The Pamplin College of Business at Virginia Tech in cooperation with Modern Tire Dealer is conducting a study to gain new insights into this issue that will help improve business success of tire dealers.

**Next week** you will receive a questionnaire booklet about your working relationship with your supplier. **Please participate in this survey**, because:

- (1) your dealership is one of the small number of dealerships that are being asked to give their opinion on these matters, and
- (2) your response is very important if this study is to be reflective of how YOU do business with YOUR supplier.

**In return for your participation in this study you will receive a summary of the results.** Thank you for your assistance in advance!

Sincerely,

Steve Grzeskowiak, Project Director



Dear Owner/ General Manager:

June 7, 2004

Last week you were mailed a questionnaire booklet about your working relationship with your supplier of consumer tires for the **National Survey of Tire Retailers**.

If you have already completed and returned it to us please accept our sincere thanks. If not, please do so today because:

- (1) **your dealership is part of a select sample**, and
- (2) every dealership in the sample is very important for we want the study to accurately reflect how YOU do business with YOUR supplier.

If by some chance you have not received the questionnaire, or it has gotten misplaced, **please call me right now** (540-231-9582), and I will get another one in the mail to you today.

Sincerely,

Steve Grzeskowiak, Project Director

**APPENDIX C**  
**SCALE CODES AND INCLUSION IN ANALYSIS**

Scale Item	Codes	Mean	S.D.*	I	II
<b>DEALER DEPENDENCE</b>					
<b>Supplier Complementary Goals</b> ( <i>strongly disagree-strongly agree</i> )					
The way the supplier grows its business makes it an attractive partner for my firm. ....	SCG125	4.13	1.82	√	√
The supplier targets business objectives that support my firm's business	SCG129	4.19	1.70	√	√
The supplier pursues goals that advance my firm's objectives. ....	SCG114	4.63	1.63	√	√
The supplier pursues objectives that are beneficial to my firm. ....	SCG105	4.71	1.62		
The supplier's business plan is well matched with my firm's business activities .....	SCG103	4.76	1.52		
<b>Supplier Complementary Resources</b> ( <i>strongly disagree-strongly agree</i> )					
This supplier voluntarily avoids adding dealers that would compete with my firm. ....	SCR115	4.07	2.12	F	F
The supplier provides my firm with access to market and industry information that helps our business. ....	SCR127	4.05	1.90	F	F
The supplier's tire brands draw a lot of customers to our business. ....	SCR101	4.70	1.53	F	F
The supplier provides my firm with tire lines that our customers prefer. ....	SCR104	5.43	1.20	F	F
The supplier provides my firm with access to outstanding support programs. ....	SCR124	3.81	1.92	F	F
The supplier is able to fill all of my firm's tire orders. ....	SCR132	4.24	1.86	F	F
The supplier's delivery schedule makes it a valued distributor for my firm. ....	SCR113	5.86	1.41	F	
The supplier has given my firm an exclusive territory for their proprietary tire brands. ....	SCR121	2.93	2.22	F	F
<b>Dealer Switching Costs</b> ( <i>strongly disagree-strongly agree</i> )					
Switching to another supplier would cause significant interruption of our business. ....	DSC215	2.79	1.81	√	√
It would be costly for my firm to find an adequate replacement for this supplier .....	DSC220	3.40	1.93	√	√
My firm could not switch to another supplier without incurring many new expenses .....	DSC214	2.93	1.96	√	√
My firm could not easily substitute this supplier's proprietary tire brand with a different supplier's tire brand .....	DSC217	3.50	1.93	√	√
My firm could not switch to another supplier without losing some of our customers. ....	DSC209	3.19	2.05	√	√

**APPENDIX C (cont.)**

<b>Scale Item</b>	<b>Codes</b>	<b>Mean</b>	<b>S.D.*</b>	<b>I</b>	<b>II</b>
<b>DEALER DEPENDENCE (cont.)</b>					
If my firm switched to another supplier it would take a lot of effort to learn the new supplier's ways of doing business .....	DSC205	3.83	1.86		
Switching to another supplier would leave my firm with a lot of tires that we would not be able to sell .....	DSC213	2.27	1.58		
<b>Scale Items Retained</b>	<b>20</b>			<b>16</b>	<b>15</b>

**SUPPLIER DEPENDENCE**

**Dealer Complementary Goals** (*strongly disagree-strongly agree*)

My firm pursues goals that support our supplier's business .....	DCG202	5.30	1.45	√	√
My firm's business objectives are beneficial to the supplier .....	DCG201	5.63	1.38	√	√
My firm's business plan is well matched with our supplier's activities....	DCG204	4.82	1.50	√	√
My firm targets business objectives that support the supplier's business.	DCG216	4.71	1.53		
The way my firm grows its business makes my firm an attractive partner for this supplier .....	DCG223	5.23	1.49		

**Dealer Complementary Resources** (*strongly disagree-strongly agree*)

My firm's location gives the supplier access to the local market area it would not otherwise be able to service.....	DCR211	4.29	1.96	F	F
My firm provides the supplier with access to customers it would not otherwise be able to reach .....	DCR208	4.57	2.01	F	F
My firm provides special sales support for the supplier's tire brands.....	DCR222	4.30	1.82	F	F
The size of my firm's tire business makes it an important business partner for this supplier .....	DCR207	4.63	1.77	F	F
My firm carries only this supplier's tire brands .....	DCR206	2.57	2.16	F	F
My firm's payment history makes us an attractive business partner .....	DCR218	5.26	1.25	F	
My firm has special tire-service capabilities that are needed to sell the supplier's tires (mounting tools, etc.).....	DCR212	4.89	2.11	F	F
My firm voluntarily refrains from adding suppliers that compete with this supplier .....	DCR219	4.50	1.98	F	F

**Supplier Switching Costs** (*strongly disagree-strongly agree*)

If we were to no longer represent this supplier, the supplier could not compensate for losing our business by increasing tire sales with other dealers in our area.....	SSC111	3.87	1.95	√	√
It would be costly for the supplier to find an adequate replacement for my firm.....	SSC102	4.09	1.83	√	√

### APPENDIX C (cont.)

Scale Item	Codes	Mean	S.D.*	I	II
<b>SUPPLIER DEPENDENCE (cont.)</b>					
The supplier could not switch to another dealership in this market without incurring many new expenses .....	SSC117	3.60	1.86	√	√
Finding another dealer in this market that has similar tire service capabilities to my firm would be very difficult for the supplier .....	SSC107	4.53	1.99		
<b>Scale Items Retained</b>	<b>17</b>				<b>13 14</b>

#### SAFEGUARDING NEED

##### **Supplier Transaction Specific Investments** (*strongly disagree-strongly agree*)

The supplier has tailored its advertising and promotions to meet the specific needs of my firm .....	SSI130	3.01	1.67	F	F
Our supplier has made heavy investments in storage, delivery, and ordering capabilities in order to handle deliveries to my firm.....	SSI109	4.68	1.92	F	F
This supplier does a lot to help my firm become a more effective dealership, such as providing tailored management training and counseling.....	SSI108	3.32	1.88	F	F
If our supplier decided to stop doing business with my firm, it would be wasting a lot of knowledge about our business and our particular tire needs.....	SSI106	4.69	1.76	F	F
Our supplier carries special tire lines in order to meet my firm's requirements .....	SSI116	4.16	1.94	F	F
It would be difficult for this supplier to recoup its investment in my firm if it switched to another dealer as an outlet for its products.....	SSI110	3.69	1.89	F	F

##### **Supplier Behavior Uncertainty** (*strongly disagree-strongly agree*)

The supplier does not have accurate information about our firm's sales activities .....	SUB120	4.70	1.96	√	√
The supplier does not have access to our sales records .....	SUB112	5.47	2.10	√	√
It is difficult for the supplier to evaluate how much effort our firm really puts behind their tire brand.....	SUB119	4.74	1.83	√	√
It is just not possible for the supplier to supervise my firm closely.....	SUB118	5.42	1.71		
The supplier's evaluation of my firm is based on incomplete information .....	SUB122	3.70	1.90		

##### **Supplier Environmental Uncertainty** (*no change-frequently change*)

For the following issues, how frequently do these aspects change in your firm's trading area?

###### *Marketing Practices*

...tire sales strategies .....	DUE502	3.34	1.52	√	√
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**APPENDIX C (cont.)**

<b>Scale Item</b>	<b>Codes</b>	<b>Mean</b>	<b>S.D.*</b>	<b>I</b>	<b>II</b>
<b>SAFEGUARDING NEED (cont.)</b>					
...sales promotion/advertising strategies.....	DUE503	3.52	1.59	√	√
...mix of tire brands carried.....	DUE501	3.20	1.61	√	√
<i>Competitor</i>					
...competitors' tire sales strategies.....	DUE509	3.68	1.65	√	√
...competitors' sales promotions/advertising strategies .....	DUE510	3.74	1.69	√	√
...competitors' mix of tire brands carried. ....	DUE508	3.60	1.64	√	√
<i>Customer</i>					
...customer preferences in tire brands .....	DUE505	3.41	1.44	√	√
...customer preferences in tire types .....	DUE504	3.50	1.47	√	√
...customer preferences in tire quality.....	DUE506	3.51	1.58	√	√
<b>Scale Items Retained</b>	<b>20</b>			<b>18</b>	<b>18</b>

**COLLABORATIVE COMMUNICATION**

**Communication Frequency** (*strongly disagree-strongly agree*)

In this relationship, our firm and the major supplier:

...share information that is highly consistent. ....	CFR334	4.60	1.64	√	√
...share information between our firms in a timely manner. ....	CFR333	4.47	1.64	√	√
...share information quickly between both firms .....	CFR331	4.77	1.62	√	√
...share information widely across the firms.....	CFR335	4.21	1.64	√	√
...share information that affects the other party openly. ....	CFR336	4.55	1.58	√	√

**Communication Bi-directionality** (*strongly disagree-strongly agree*)

In this relationship, our firm and the major supplier:

...keep each other well informed about what is going on in this market and with customers .....	CBD339	4.06	1.77	√	√
...seek each other's advice and counsel about marketing efforts. ....	CBD338	3.83	1.76	√	√
...provide each other with frequent feedback on performance.....	CBD337	4.41	1.64	√	√
...involve each other in goal setting and forecasting.....	CBD332	3.91	1.80		
...make it a point to keep each other well informed.....	CBD330	4.90	1.57		

<b>Scale Items Retained</b>	<b>10</b>			<b>8</b>	<b>8</b>
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**APPENDIX C (cont.)**

<b>Scale Item</b>	<b>Codes</b>	<b>Mean</b>	<b>S.D.*</b>	<b>I</b>	<b>II</b>
<b>RELATIONAL NORMS</b>					
<b>Information Exchange</b> ( <i>strongly disagree-strongly agree</i> )					
In our relationship with our major supplier, it is expected that					
...both firms will provide proprietary information if it can help the other firm. ....	NIX362	4.69	1.70	√	√
...both firms keep each other informed about events or changes that may affect the other firm.....	NIX361	4.78	1.62	√	√
...information in this relationship is exchanged frequently and informally, and not only according to pre-specified agreement.....	NIX368	4.66	1.71		
...any information that might help the other firm will be provided to them. ....	NIX360	5.02	1.64	√	
<b>Solidarity</b> ( <i>strongly disagree-strongly agree</i> )					
In our relationship with our major supplier, it is expected that					
...problems that arise in the course of this relationship are treated by both firms as joint rather than individual responsibilities .....	NSL367	4.82	1.62	√	
...both firms undergo improvements that may benefit the relationship as a whole, and not only the individual firm.....	NSL364	4.64	1.55	√	
...both firms do not mind owing each other favors. ....	NSL359	4.59	1.87	√	
<b>Flexibility</b> ( <i>strongly disagree-strongly agree</i> )					
In our relationship with our major supplier, it is expected that					
...both firms are flexible in response to requests for changes .....	NFX363	4.66	1.57	√	√
...when some unforeseen situation arises both firms work out a new deal rather than holding each other to the original terms.....	NFX366	4.84	1.62	√	√
...adjustments can be made in the ongoing relationship to cope with changing circumstances .....	NFX365	4.89	1.46	√	√
<b>Scale Items Retained</b>	<b>10</b>			<b>9</b>	<b>5</b>

**EXCHANGE PERFORMANCE**

**Exchange Effectiveness** (*strongly disagree-strongly agree*)

In your firm's dealings with your major supplier:

...the relationship has a positive effect on our ability to reach new customers. ....	EES425	4.44	1.65	√	√
...synergies in joint sales and marketing efforts have been achieved because of the relationship.....	EES424	4.27	1.61	√	√

## APPENDIX C (cont.)

Scale Item	Codes	Mean	S.D.*	I	II
<b>EXCHANGE PERFORMANCE (cont.)</b>					
...investments of resources in the relationship, such as time and money, have paid off well. ....	EES426	4.65	1.58	√	√
...the supplier helps my firm to detect and react to changes in customer preferences before our competitors do.....	EES427	3.83	1.74	√	√
...the relationship with this supplier has resulted in lower costs.....	EES421	4.31	1.81		
...flexibility to handle unforeseen fluctuations in demand has been improved because of this relationship.....	EES422	4.38	1.57		
...the relationship with this supplier has resulted in higher customer satisfaction. ....	EES423	4.82	1.89		
<b>Dealer Effectiveness (worse than expected-better than expected)</b>					
Relative to your expectations, how is your firm performing on:					
<i>Financial</i>					
...tire sales growth last year. ....	DES525	4.22	1.55	√	√
...revenue growth for tire business last year. ....	DES526	4.09	1.50	√	√
...market share growth for local tire market last year. ....	DES527	4.15	1.41	√	√
...market share in local tire market. ....	DES524	4.31	1.33		
...total tire sales.....	DES521	4.35	1.35	√	√
...sales of major tire brand. ....	DES522	4.24	1.35		
...revenues in tire business.....	DES523	4.11	1.34		
<i>Customer Relationship</i>					
...tire quality and performance.....	DES530	5.51	1.04	√	√
...customer satisfaction with tires. ....	DES528	5.57	1.01	√	√
...tire service quality (mounting and balancing). ....	DES531	5.80	1.04	√	√
...customer loyalty in tire business. ....	DES529	5.01	1.51		
<b>Exchange Efficiency (strongly disagree-strongly agree)</b>					
In your firm's dealings with your major supplier:					
<i>Bargaining Costs</i>					
...resolving misshipments to my firm's satisfaction often takes a lot of time and effort.....	EEY416	2.60	1.78	√	√
...working out new delivery agreements is often difficult. ....	EEY415	2.42	1.76	√	√
...price negotiations are often difficult.....	EEY411	3.29	1.81	√	√
...ordering the right product takes much time and effort .....	EEY410	2.75	1.64		
...negotiating our credit line with the supplier is very difficult.....	EEY412	2.33	1.74		

## APPENDIX C (cont.)

Scale Item	Codes	Mean	S.D.*	I II
<b>EXCHANGE PERFORMANCE (cont.)</b>				
<i>Monitoring Costs</i>				
...we spend too much time tracking returns and defects .....	EEY413	2.55	1.77	√ √
...we spend a lot of time and effort checking on deliveries .....	EEY414	2.52	1.57	√ √
...my firm spends a lot of time and effort on tracking our delivery tickets.....	EEY417	2.17	1.50	√ √
...my firm needs to check this supplier's billing and adjustments to make sure they are accurate .....	EEY418	3.40	2.02	
<i>Maladaptation Costs</i>				
...my firm often has incomplete information about the supplier's actions .....	EEY420	3.14	1.85	√ √
...important information from this supplier seldom comes at the right time .....	EEY419	2.97	1.79	√ √
...information from this supplier that my firm needs for its business to be successful is often vague and difficult to understand .....	EEY428	3.20	1.71	√ √
<b>Scale Items Retained</b>	<b>30</b>			<b>20 20</b>

### VERTICAL INTEGRATION

#### **Outcome-Based Incentives** (*not at all rewarded by supplier-strongly rewarded by supplier*)

Please indicate the extent to which your efforts are directly rewarded by your major supplier in reference to

...share of supplier-brand sales to total tire sales volume .....	VIO351	3.95	1.90	√ √
...sales growth of supplier tire lines .....	VIO353	4.18	1.88	√ √
...total tire-sales volume.....	VIO350	4.36	1.87	√ √
...market share of supplier tire lines.....	VIO352	3.86	1.90	

#### **Behavior-Based Incentives** (*not at all rewarded by supplier-strongly rewarded by supplier*)

Please indicate the extent to which your efforts are directly rewarded by your major supplier in reference to

...the way your firm sells tires and treats customers .....	VIB355	3.97	2.00	√ √
...your firm's service capabilities.....	VIB354	3.83	1.88	√ √
...maintenance procedures followed .....	VIB357	3.65	1.89	√ √
...your firm's promotion and advertising of supplier tire lines .....	VIB356	3.81	1.95	
...your firm's participation in the supplier's education and support activities .....	VIB358	3.61	1.92	

## APPENDIX C (cont.)

Scale Item	Codes	Mean	S.D.*	I	II
<b>VERTICAL INTEGRATION (cont.)</b>					
<b>Bargaining vs. Direction</b> ( <i>our firm decides-major supplier decides</i> )					
Who in your relationship with your major supplier decides on the following issues?					
...tire brands that your firm carries .....	VID369	1.97	1.80	√	√
...your firm's inventory of the major supplier's tire brands .....	VID370	1.64	1.35	√	√
...value-added services your firm provides to customers for the major supplier's .....	VID373	1.93	1.47	√	√
...sales and marketing strategies your firm uses for the major supplier's tire brands .....	VID371	2.09	1.54		
...your firm's participation in sales promotion and training programs sponsored by the major supplier .....	VID372	2.26	1.70		
<b>Scale Items Retained</b>	<b>14</b>			<b>9</b>	<b>9</b>

### DEALER RELATIONAL BELIEFS

#### Dealer Commitment (*strongly disagree-strongly agree*)

My firm's relationship with the major supplier

...is something my firm really cares about .....	DCM408	5.51	1.44	√	
...deserves my firm's maximum effort to maintain. ....	DCM409	5.38	1.47	√	√
...is something my firm is very committed to .....	DCM404	5.62	1.39	√	√
...is of very high significance to my firm.....	DCM406	5.64	1.32	√	√
...is very much like being family to my firm. ....	DCM407	4.92	1.77		
...is very important to my firm.....	DCM405	5.74	1.31		
Even if we could, my firm would not drop the supplier because we like being associated with it .....	DCM224	5.30	1.70		
We want to remain a member of the supplier's network because my firm genuinely enjoys our relationship with it.....	DCM225	5.56	1.44		
My firm's positive feelings towards the supplier are a major reason we continue to work with the supplier .....	DCM226	5.50	1.48		

#### Dealer Trust (*strongly disagree-strongly agree*)

In this relationship, the major supplier

...is always faithful .....	DTR312	5.05	1.68		
...can be trusted completely .....	DTR310	5.13	1.64	√	√
...is on our side.....	DTR317	5.11	1.69	√	
...is perfectly honest and truthful .....	DTR309	5.20	1.60	√	√

**APPENDIX C (cont.)**

<b>Scale Item</b>	<b>Codes</b>	<b>Mean</b>	<b>S.D.*</b>	<b>I</b>	<b>II</b>
<b>DEALER RELATIONAL BELIEFS (cont.)</b>					
...can be counted on to do what is right .....	DTR311	5.30	1.57	√	
...has high integrity .....	DTR314	5.42	1.48	√	√
... is someone that our firm has great confidence in .....	DTR313	5.35	1.49	√	
...is like a friend.....	DTR316	5.028	1.80		
...cares for us.....	DTR315	5.12	1.66		
<b>Dealer Long-Term Orientation (strongly disagree-strongly agree)</b>					
In our relationship with our major supplier, my firm					
... expects to be working with this supplier for a long time.....	DLT380	5.93	1.38	√	
... believes that over the long run our relationship with this supplier will be profitable.....	DLT401	5.80	1.28	√	√
... focuses on the long-term goals of this relationship .....	DLT382	5.79	1.35	√	√
... believes that any concessions made to help this supplier will even out in the long-run.....	DLT396	4.83	1.63	√	√
... is more concerned with long-term outcomes in this relationship than with immediate gains.....	DLT394	5.50	1.38	√	√
... is willing to make sacrifices to help the supplier out from time to time .....	DLT398	4.72	1.76		
<b>Scale Items Retained</b>	<b>24</b>			<b>15</b>	<b>10</b>

**RELATIONAL BEHAVIOR**

**Conflict Harmonization (strongly disagree-strongly agree)**

In this relationship, our firm and the major supplier

... are generally able to resolve disagreements to both firms' satisfaction .....	DCH 341	5.29	1.47	√	√
... usually resolve any disagreements that arise in the relationship in good faith .....	DCH 342	5.41	1.39	√	√
... usually settle disagreements to everyone's satisfaction .....	DCH 349	5.47	1.40	√	√
... resolve disputes between the firms without third party intervention ....	DCH 348	5.80	1.39	√	
... are very conscientious, responsive, and resourceful in maintaining a cooperative relationship.....	DCH 340	4.80	1.66		

**Reciprocity Maintenance (strongly disagree-strongly agree)**

In this relationship, our firm and the major supplier

... make improvements to the business relationship that benefit the relationship as a whole.....	DRM 346	4.99	1.54	√	√
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**APPENDIX C (cont.)**

<b>Scale Item</b>	<b>Codes</b>	<b>Mean</b>	<b>S.D.*</b>	<b>I</b>	<b>II</b>
<b>RELATIONAL BEHAVIOR (cont.)</b>					
...treat the exchange as an ongoing relationship rather than a series of one-shot deals .....	DRM 344	5.45	1.52	√	√
...work out a new agreement when some unexpected situation arises to keep the relationship performing .....	DRM 347	4.98	1.57	√	√
...make sure that each partner benefits from the relationship. ....	DRM 343	5.12	1.58		
...develop the business relationship in order to produce benefits for both firms.....	DRM 345	5.25	1.55		
<b>Dealer Opportunism (strongly disagree-strongly agree)</b>					
In our relationship with our major supplier, my firm					
...sometimes has to mask the true nature of our needs to get the needed support from the supplier .....	DOP 397	2.53	1.78	√	
...sometimes overstates the difficulties our dealership faces to get the needed support from the supplier.....	DOP 399	2.57	1.66	√	
...sometimes has had to alter the facts slightly in order to get what we need from the supplier .....	DOP 400	2.33	1.69	√	
... has to lie to the supplier about certain things on occasion in order to protect our interests.....	DOP 395	2.11	1.71		
...sometimes finds it necessary to neglect some of our obligations to the supplier to maintain our product margins, tire sales, market share, etc.....	DOP 402	2.68	1.77	√	
<b>Scale Items Retained</b>	<b>15</b>			<b>11</b>	<b>6</b>
<b>RELATIONAL INTENTIONS</b>					
<b>Dealer Relational Intentions (strongly disagree-strongly agree)</b>					
In our relationship with our major supplier, my firm intends					
...to maintain an effective and fair exchange .....	DRI378	5.74	1.27	√	√
...to act flexibly in our dealings with the supplier.....	DRI377	5.51	1.34	√	√
...to put maximum effort behind the relationship .....	DRI381	5.95	1.27	√	
...to resolve conflict that arises in a mutually beneficial way that improves the exchange relationship.....	DRI403	5.71	1.28	√	
...to provide any information that might help to this supplier.....	DRI393	5.74	1.28	√	
...to be perfectly honest and truthful .....	DRI379	6.26	1.17	√	√
...to work with the supplier for a long time .....	DRI383	5.98	1.32		
...to treat problems that arise as joint, rather than individual responsibilities .....	DRI376	5.00	1.73		
<b>Scale Items Retained</b>	<b>8</b>			<b>6</b>	<b>3</b>

## APPENDIX C (cont.)

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NOTE: \* S.D. = standard deviation

I = first-order confirmatory factor analysis

II = second-order confirmatory factor analysis