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**THE EFFECT OF BRAND EQUITY IN SUPPLY CHAIN
RELATIONSHIPS**

**A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville**

**Donna F. Davis
August 2003**

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ABSTRACT

A systematic review of the marketing literature on brands reveals very few studies devoted to understanding brands in interorganizational exchange; however, the failure to successfully manage relationships with supply chain partners is now seen as a potentially fatal obstacle to the success of a brand (Shocker, Srivastava and Ruekert 1994). Focusing exclusively on managing the brand in consumer markets ignores the needs of important downstream customers such as distributors and retailers and fails to capitalize on the potential for leveraging brand equity to create added value with upstream suppliers.

A multiple method approach was used to explore the phenomenon of brand equity in the supply chain. First, a qualitative study using grounded theory methodology was employed to explore the meaning of brand equity in the supply chain and to provide the ground for a theory of the effect of brand equity in supply chain relationships. Sixteen executives across six firms were interviewed for the study. A quantitative test of hypothesized theoretical relationships was then conducted employing survey methodology for data collection and structural equation modeling for data analysis. The survey was conducted in the home appliance industry with retailers as respondents.

Traditional ways of thinking about branding from a consumer perspective have produced "both an incomplete analysis of branding from an academic perspective and incomplete management of the brand from a company perspective" (Webster 2000, p. 22). This research addresses this gap in the literature and proposes directions for future research that have the potential to make a significant contribution to both marketing practice and academic research.

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CHAPTER I

DEFINING THE PROBLEM

INTRODUCTION

Firms around the world are entering a new era of business competition. The convergence of forces such as the globalization of markets, the escalating pace of technological change, and increasing economic turbulence provides a catalyst for the emergence of a network paradigm which recognizes that competition occurs increasingly between global networks of firms rather than on the traditional firm-to-firm basis (Achrol 1997; Achrol and Kotler 1999). In the global networked business environment, effective supply chain management is essential to the survival and success of the enterprise; however, acquiring and maintaining profitable supply chain relationships is becoming increasingly difficult. On one hand, many companies are responding to economic pressures by rationalizing their supplier bases in favor of building stronger supply chain relationships that promise shared cost savings (Dorsch, Swanson and Kelly 1998; Emshwiller 1991), significantly reducing the number of potential trade partners. In contrast, informants in the study undertaken in this dissertation reported the dissolution of long-standing relationships in favor of dramatically lower prices available through global sourcing arrangements facilitated by electronic markets such as reverse auctions.

Marketing scholars have suggested that under these conditions the failure to successfully manage the firm's brand with trade partners is a potentially fatal obstacle to success (Shocker, Srivistava and Ruekert 1994). Traditional ways of thinking about the brand from the consumer perspective have produced "both an incomplete analysis of branding from an academic perspective and incomplete management of the brand from a

company perspective" (Webster 2000, p. 22). Focusing exclusively on managing the brand in consumer markets ignores the needs of critical downstream customers such as distributors and retailers and fails to capitalize on the potential for using brand influence to create added value with upstream suppliers.

This new level of supply chain competition presents tremendous challenges to brand managers. They are forced not only to think about short-term tactics necessary to attract and maintain market share with end consumers while fending off competitors, but also to consider the strategic function and nature of brand management itself in delivering customer value under these new competitive conditions (Shocker, Srivastava and Ruekert 1994). While firms that have developed powerful consumer brands have the opportunity to leverage their brands to strengthen relationships with supply chain partners, companies that have not invested in brand management may be advised to do so in order to secure their positions as desirable trade partners in their supply chains.

Developing brand strategies for the supply chain poses significant challenges for brand managers and raises several intriguing questions for marketing scholars. To what extent does our considerable knowledge of brands in consumer markets translate to brands in the supply chain? What do firms stand to gain or lose by investing in brand management targeted toward trade partners? The purpose of this research is to address these issues by examining the concept of brand equity in the supply chain. The supply chain is defined as "a set of three or more companies directly linked by one or more of the upstream and downstream flows of products, services, finances, and information from a source to a customer" (Mentzer et al. 2001). The supply chain provides a context for exploring the potential for brand management as an effective tool for achieving and

sustaining a profitable position in the global networked business environment.

BRAND MANAGEMENT IN THE SUPPLY CHAIN

What exactly do we mean when we talk about “brands?” The practice of branding has been around for centuries as a method for distinguishing the goods of one producer from another, exemplified by the farmer’s symbol burned into the hides of livestock, the medieval silversmith’s trademark on the base of a candlestick, or the sixteenth-century distiller’s name burned on a whiskey barrel (Farquhar 1989). These are all examples of *branding* as defined by the American Marketing Association (cf. Keller 1998, p. 2) and widely published in marketing textbooks:

A brand is a name, term, sign, symbol, or design or a combination of them intended to identify the goods and services of one seller or group of sellers and to differentiate them from those of competition.

As stated in the definition, branding involves a set of marketing activities designed to identify the firm and distinguish the firm’s offerings from competitors’ products in the marketplace by linking the product with an abstract representation in the minds of customers. Aaker (1996) describes the brand as a “mental box” where consumers file away information related to the brand and store evaluations of the brand. Brands “package meaning” by providing a kind of shorthand that makes consumer choice easier (Biel 1993, p. 67). Branding is the visible, tactical stage of the more critical process of developing brand strategy.

At the heart of brand strategy is the notion of added value achieved through meaningful differentiation and linked to the brand in the minds of potential customers (Alderson 1957). Hence, two foundational assumptions of brand strategy are that

customers in a given product-market have the ability to perceive differences and that they will have differential responses to differentiated offerings. These assumptions immediately raise questions for the transferability of theory developed in the consumer setting to the supply chain context: How are brands perceived in the supply chain context where the customer is an organization rather than an individual? How is meaningful differentiation accomplished when products offered in the supply chain are often considered commodities?

In the supply chain context, the challenge to brand managers is three-fold: 1) understanding how to build brand equity when the customer is an organization rather than an individual, 2) knowing when to invest in the trade brand versus the consumer brand, and 3) identifying critical target markets both within the supply chain as well as in consumer markets. Examining existing theory in the brand equity literature provides a stepping-off point for exploring these issues.

Brand Equity

Ultimately, the goal of brand strategy is to build brand equity. Brand equity has been variously defined in financial and behavioral terms (Table 1). Following Farquhar (1989), several authors define brand equity as the added value to the seller endowed by the brand and recommend calculations of incremental cash flows to measure brand equity (de Chernatony and McDonald 1998; Simon and Sullivan 1993; Swait et al. 1993). Aaker (1991) conceptualizes brand equity as the set of assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers, and proposes a set of measures for

Table 1. Definitions of Brand Equity

Author	Source	Definition of Brand Equity
Aaker	(1991) <i>Managing Brand Equity</i>	A set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers
DeChernatony and McDonald	(1998) <i>Creating Powerful Brands in Consumer, Service, and Industrial Markets</i>	The differential attributes underpinning a brand which give increased value to the firm's balance sheet
Farquhar	(1989) <i>Managing Brand Equity</i>	The added value with which a given brand endows a product
Keller	(1993) <i>Conceptualizing, Measuring, and Managing Customer-Based Brand Equity</i>	The differential effect that brand knowledge has on consumer response to the marketing of that brand
Park and Srinivisan	(1994) <i>A Survey-Based Method for Measuring and Understanding Brand Equity and Its Extendibility</i>	The incremental preference endowed by the brand to the product as perceived by an individual consumer
Simon and Sullivan	(1993) <i>The Measurement and Determinants of Brand Equity: A Financial Approach</i>	The incremental cash flows that accrue to the firm due to its investment in brands
Srinivasan	(1979) <i>Network Models for Estimating Brand-Specific Effects in Multi-Attribute Marketing Models</i>	The component of overall preference not explained by objectively measured attributes
Swait, Erdem, Louviere and Dubelaar	(1993) <i>The Equalization Price: A Measure of Consumer-Perceived Brand Equity</i>	The monetary equivalent of the total utility a consumer attaches to a brand

for each of five dimensions of brand equity: 1) brand loyalty, 2) brand awareness, 3) perceived quality, 4) brand associations, and 5) other proprietary assets. Building on Aaker's work, Keller (1993) developed the concept of customer-based brand equity based on the associative network model of memory that he defined as "the differential effect of brand knowledge on consumer response to the marketing of the brand" (p. 8). Park and Srinivasan (1994) also take a consumer-based behavioral approach in defining brand equity as the incremental preference endowed by the brand to the product as perceived by an individual consumer; however, they also develop a financial measure for evaluating brand equity. Each of these approaches to understanding brand equity is more fully explored in Chapter II.

Brand Equity in the Supply Chain

The fundamental premise of this dissertation is that our understanding of brand equity in consumer markets provides only a partial explanation of the brand equity of the firm. That proposition is made clear in this research by distinguishing consumer-based brand equity from trade-based brand equity as dimensions of a focal firm's brand equity (Figure 1). Trade-based brand equity is a concept that emerged during the qualitative, theory-building step described in Chapter II. Following Keller (1993), trade-based brand equity is defined here as the differential effect of the brand on the response of trade partners to marketing activities of the firm. The brand equity of the firm is proposed to be a function of two dimensions of brand equity: consumer-based brand equity as defined by Keller (1993) and trade-based brand equity. Therefore, the brand equity of the

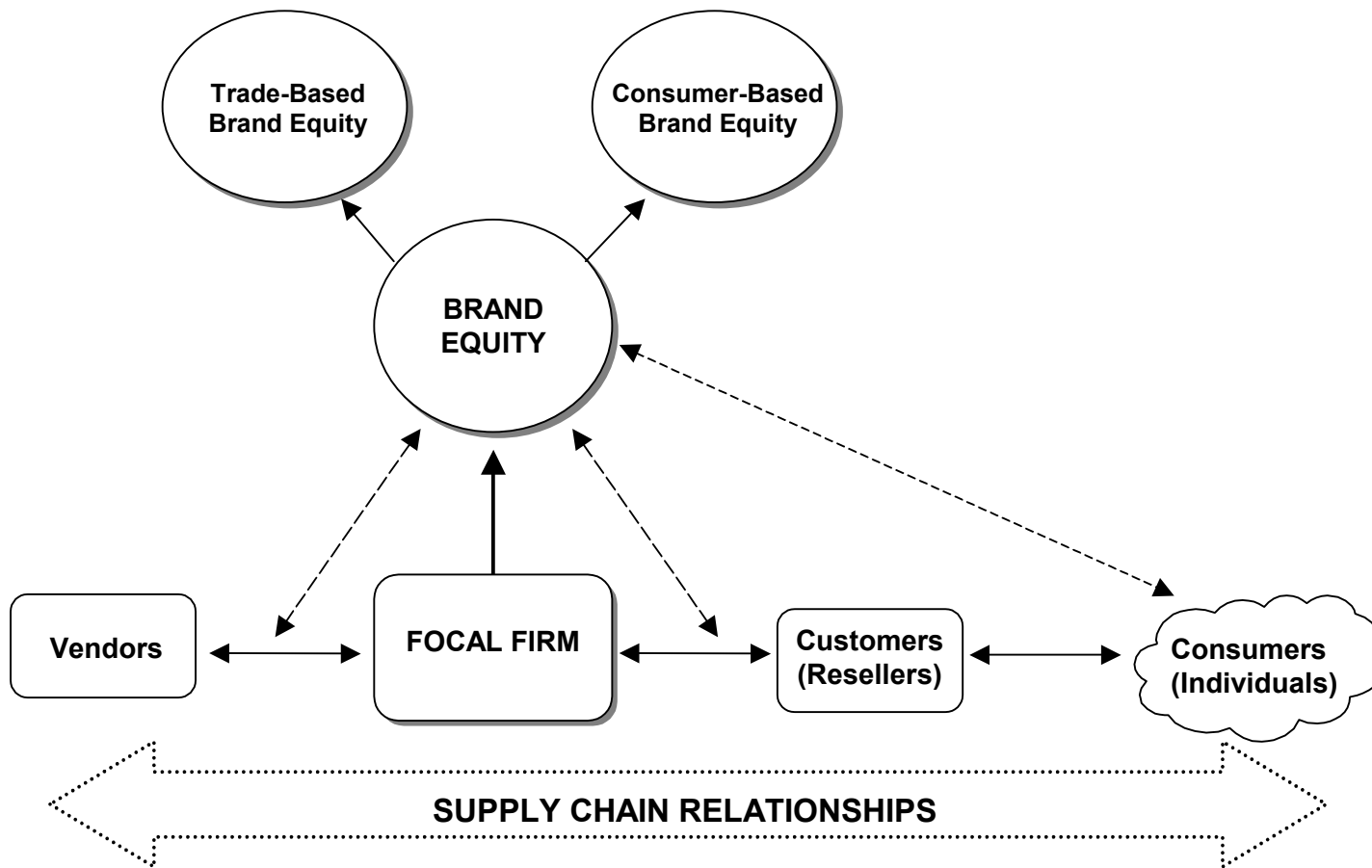


Figure 1. Dimensions of Brand Equity

focal firm is proposed to arise not only from perceptions held in the minds of individual consumers, but also from perceptions held by trade partners - both vendors as well as organizational customers (see Figure 2).

In this conceptualization, the focal firm and its trade partners are resellers in the supply chain; that is, products are acquired from upstream vendors, value is added by the focal firm, and then the enhanced product is sold to a downstream organizational customer. Depending on the position in the supply chain, there may be multiple resellers between the focal firm and the individual consumer. A notable exclusion from this study is the exchange of industrial goods consumed by organizations in production processes, such as machinery and tools. While trade-based brand equity is likely to play an important role in these exchanges, this type of exchange relationship is outside the scope of this project. By examining relationships in supply chains that serve individual -- rather

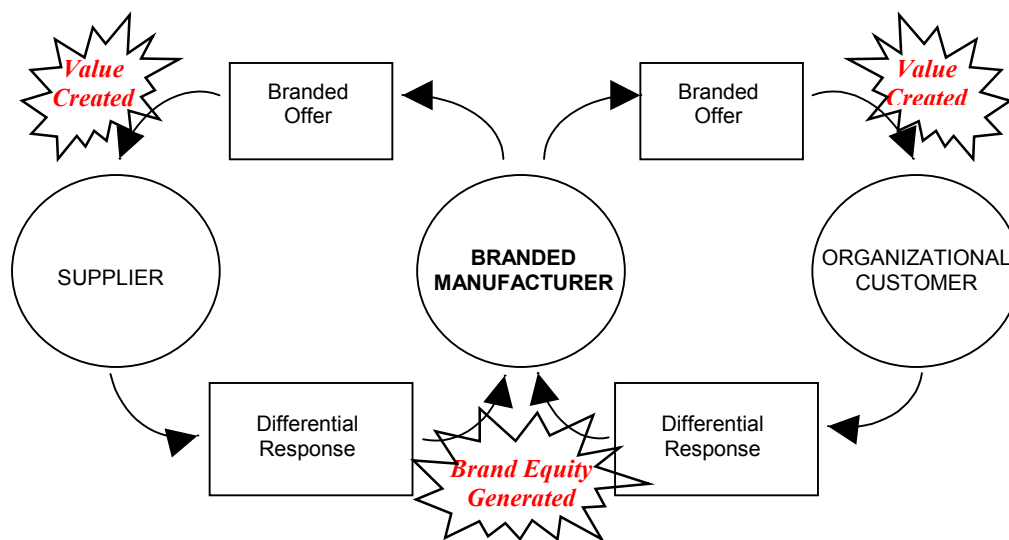


Figure 2. Brand Equity in the Supply Chain

than organizational -- end consumers, it will be possible to tease out the differences between our traditional understanding of brand equity in consumer markets and brand equity in the supply chain.

The theory-building step of the project described in Chapter II began with a rudimentary conceptual map laying out three key areas as the basis for an exploratory study using grounded theory methodology (Figure 3). The central phenomenon, brand equity in the supply chain, is embedded in interorganizational exchange. As such, relationship management is a key aspect of the context of brand equity in the supply chain. The theoretical structure that emerged from the qualitative study (Figure 4) proposes brand equity as a moderating variable to perceived risk; that is, brand equity in the supply chain affects supply chain relationships by changing the level of perceived risk in interorganizational exchange. In the following sections, theoretical concepts are introduced, and relationships are discussed.

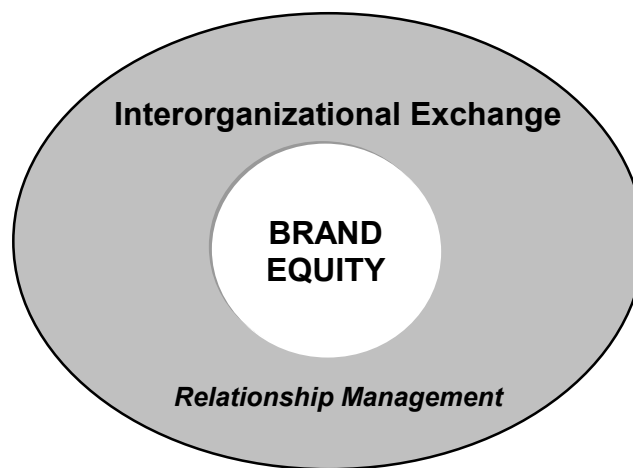


Figure 3. Initial Conceptual Map

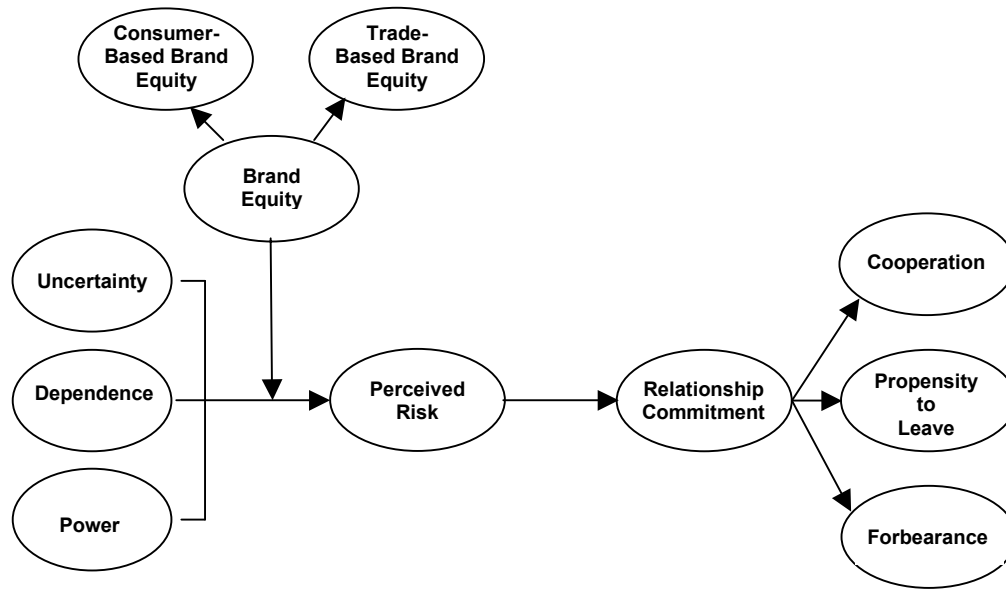


Figure 4. The Effect of Brand Equity in the Supply Chain

Interorganizational Exchange

The study of interorganizational exchange can be found in the literature under multiple rubrics such as industrial marketing, buyer-seller relationships, interorganizational relationships, relationship marketing, organizational buying behavior, channels, and supply chain management. The core phenomenon of this body of research is the study of market exchanges between two or more organizations. The literature suggests there are significant differences between consumer purchasing and interorganizational exchange that may affect transferability of theory from consumer behavior to the supply chain context.

Organizations initiate exchanges “when members of a firm perceive a need and have a motive to form an exchange relationship” (Frazier 1983). In their seminal work

on buyer behavior, Webster and Wind (1972) examined theoretical foundations of exchange relationships from the buying firm's perspective. They defined organizational buying behavior as:

...the decision-making process by which formal organizations establish the need for purchased products and services, and identify, evaluate, and choose among alternative brands and suppliers (p. 2).

This definition highlights two key dimensions on which interorganizational exchange differs from consumer purchasing: 1) the actors in the exchange and 2) the nature of the exchange.

Actors in the Exchange. As described above by Webster and Wind (1972), interorganizational exchange involves a market exchange between formal organizations. Perhaps the most obvious difference between the consumer context and the interorganizational exchange context is the interface between the buyer and seller. While there is a growing awareness of the company behind the brand (Goodyear 1993), consumers are thought to form relationships with the brand itself (Fournier 1998) rather than members of the selling firm who are typically unknown. In contrast, organizational buyers often have direct, multiple contacts with members of the selling firm. Depending on a variety of factors, the organizational customer may have a minimal or extensive set of relationship connections with the supplier (Cannon and Perrault 1999). Discovering critical points of contact and managing a consistent, coherent interface with organizational customers can be a formidable task for brand managers.

Another key difference in the two contexts is the number of people involved in the exchange and the roles they play. Members of the organization who interact during the buying decision process can be defined as the buying center (Johnston and Bonoma

1981; Webster and Wind 1972). The number of members of a buying center is generally larger than a household group, and their roles may shift depending on the buying task and the stage of the decision-making process (Bunn 1993). Several individuals may fulfill the same role, and one individual may play more than one role as the buying task unfolds. Identifying the members of the relevant buying center, understanding their needs and motivations, and discerning the decision-making process add considerable complexity to developing an understanding of the brand's target market in a supply chain context.

Nature of the Exchange. Following the resource dependence view of organizational behavior, organizations engage in market exchanges in order to secure resources to fulfill the needs of the firm (Pfeffer and Salancik 1978). The buying firm may face a serious disruption of operations and substantial financial loss if the selling firm fails to meet expectations of product quality or timely delivery. On the other hand, selling firms may rely on a handful of key customers for a significant portion of their revenues.

This situation produces high levels of interdependence among trade partners that distinguish interorganizational exchange from consumer purchase situations. Interdependence among trade partners defines the interorganizational exchange as not only the consideration and choice of products or brands, but also the selection of a trade partner with whom the firm will engage over a period of time. Pure, discrete transactions - building blocks of the microeconomic theory of market exchange - are rare in interorganizational exchange (Day 2000; Dwyer, Schurr and Oh 1987; Weitz and Jap 1995; Wilson 1995). Macniel (1980), a leading scholar in the development of the behavioral model of interorganizational exchange, asserts that discrete exchanges do not

exist in the real world. Thus, in interorganizational exchange, brand managers are faced with the dual task of delivering value in the relationship as well as the product.

Interorganizational Exchange and Perceived Risk

In field interviews reported in depth in Chapter II, informants validated the resource dependence theory of interorganizational exchange when they described interactions with trade partners in terms of securing adequate resources to assure profitability. These resources included both physical goods and information flows from upstream vendors as well as reverse financial and information flows from downstream customers. Based on resource dependence theory, the perceived risk model of decision-making provides a framework for understanding interorganizational exchange consistent with the problem-solving perspective of organizational decision-making and permits meaningful analysis of strategies that organizations use to reduce risk to tolerable levels (Webster and Wind 1972). Empirical research confirms perceived risk as a significant characteristic of interorganizational exchange (Henthorne, LaTour and Williams 1993; Puto, Patton and King 1985).

Originally posed by Bauer (1960), perceived risk in the consumer context is conceptualized as a function of the uncertainty about the outcome of a given course of action and the consequences associated with alternative outcomes (Bauer 1960; Cox 1967). Thus, perceived risk in the consumer context is a second-order construct comprised of two dimensions: uncertainty and consequences. The decision to purchase known brands is thought to minimize perceived risk by reducing uncertainty (Bauer 1960; Cox 1967).

Informants in this study described risk as a phenomenon arising from conditions of uncertainty, dependence, and power; that is, uncertainty is antecedent to risk rather than a dimension of risk. They characterized risk as the potential effect of lost resources on the firm's profitability, such as reductions in the availability of supply or the loss of revenue from key customers. Uncertainty, defined as the level of predictability of resource flows, was described as a significant contributor to risk in interorganizational exchange. Informants reported being unsure of future orders from customers (because customers were unsure of consumer demand) as well as delivery dates and supply availability from vendors. They also expressed the need to manage dependence on trade partners in order to reduce risk to firm profitability. Dependence was expressed as the extent to which alternative vendors were available for critical supply as well as the level of reliance on specific customers for revenues. Informants were also concerned about issues of control over resource flows, which can be conceptualized as the level of power in the exchange. Power was described as the extent to which the trade partner had the upper hand in determining terms of the exchange, such as product pricing, quantities, and assortment. These conditions -- uncertainty, dependence, and power -- varied across situations and are conceptualized in the theoretical model as antecedents to perceived risk in interorganizational exchange.

The Moderating Effect of Brand Equity

The strength of the trade partner's brand equity was found to be a condition that changed the levels of importance of the three antecedents -- uncertainty, dependence, and power -- to perceived risk. Similar to the effect of brand equity in the consumer context,

uncertainty was described as less important to perceived risk when the trade partner had high brand equity. On the other hand, doing business with a trade partner with high brand equity was reported to increase the importance of power and dependence to perceived risk. Even informants in firms that held high brand equity themselves reported increases in perceived risk when dealing with trade partners who also enjoyed high brand equity. As reported in detail in Chapter II, informants described trade partners with high brand equity as having a nearly monopolistic advantage. The effect of the trade partner's brand equity, therefore, was to raise the level of perceived risk in interorganizational exchange by increasing the importance of dependence and power.

In summary, brand equity was found to change the level of perceived risk by moderating the relationships between perceived risk and its antecedents. Informants in the qualitative study described relationship management as a significant strategy for handling perceived risk in interorganizational exchange.

Relationship Management

The relational elements used to coordinate supply chain activities and to manage relationships among supply chain members are a key aspect of interorganizational exchange (Frazier 1983; Reve and Stern 1979; Stern and Reve 1980). With the growing awareness of the importance of relationships in interorganizational exchanges, the development of appropriate governance structures and the management of relational exchange have emerged as top priorities for many firms (Anderson and Narus 1991; Dwyer, Schurr and Oh 1987) and the focus of a significant stream of research.

A variety of concepts have been shown to be relevant to understanding

interorganizational relationship management. Scholarly research has examined factors that influence relationship formation such as trust and commitment (Anderson and Weitz 1992; Gundlach, Achrol and Mentzer 1995; Morgan and Hunt 1994), uncertainty and dependence (Heide and John 1988; Mohr, Fisher and Nevin 1996), risk and value (Wilson 1995), and power and dependence (Gaski 1984; Gundlach and Cadotte 1994). In addition to analyzing dimensions of relationships, researchers have also examined situational factors that moderate hypothesized linkages such as the organization of the buyer-supplier interface (Noordewier, John and Nevin 1990) and the effect of anticipated interaction patterns (Heide and Miner 1992).

Underlying many of these studies is the assumption that lower-order factors are highly correlated and can be combined to form a unidimensional continuum of relationship distance with close, collaborative exchanges as the prototype at the low-distance end of the spectrum and arms-length, discrete transactions as an ideal type at the high-distance extreme (Day 2000). Other research suggests that multi-dimensional conceptualizations are more appropriate and propose various taxonomies of relationships (Cannon and Perreault 1999; Wilson 1995). Elements of both frameworks can be explored by examining the concept of relationship commitment, defined by Anderson and Weitz (1992) as the strength of the intention to develop and maintain a stable, long-term relationship. Firms with low relationship commitment are likely to fall toward the high-distance, transactional end of the relationship distance spectrum and to have minimal relationship connections in the typology framework. Firms with high relationship commitment would be positioned at the low-distance end of the relationship distance spectrum with a relationship type characterized by multiple relationship connections.

Research has shown that firms structure their exchange relationships to minimize risk by means of establishing formal or semiformal links with other firms (Pennings and Woiceshyn 1987; Ulrich and Barney 1984). In the qualitative field study, perceived risk was found to increase relationship commitment. Brand equity was also found to increase relationship commitment by raising the level of perceived risk through its effect on the relationships between the antecedents of perceived risk -- uncertainty, dependence and power -- and perceived risk.

At the end of the day, the goal of understanding and increasing relationship commitment is to enhance profitability of supply chain members. Research suggests that committed customers are more profitable than price-sensitive, deal-prone switchers who see little difference among alternatives (Page, Pitt and Berthon 1995; Reichfield 1996). In addition, committed relationships are linked to sustainable competitive advantage in that they are difficult for competitors to understand, copy or replace (Day 1997).

Morgan and Hunt (1994) explored the outcomes of relationship commitment by testing the association of commitment to cooperation, acquiescence, and propensity to leave the relationship. They found that increases in relationship commitment led to increased cooperation and acquiescence, and reduced propensity to leave. Cooperation can be defined as the degree to which the buying firm works with the supplier to achieve mutual goals (Anderson and Narus 1990). Their conceptualization of acquiescence is based on the concept of compliance found in the work of Kumar, Stern and Achrol (1992) and can be defined as the degree to which the buying firm accepts or adheres to the supplier's specific requests or policies. Morgan and Hunt (1994) define propensity to

leave as the likelihood that the buying firm will leave the relationship in the near future.

An exploration of behavioral consequences of relationship commitment in the qualitative phase of this study affirmed the relationships between commitment and cooperative behavior as well as commitment and propensity to leave found by Morgan and Hunt. In the field study, the behavior described by Morgan and Hunt as acquiescence appeared to be more closely related to power, an antecedent to perceived risk, rather than relationship commitment. That is, informants reported their compliance with requests and policies as a function of the trade partner's power rather than their commitment to the relationship. However, another consequence was revealed related to commitment arising from the effects of brand equity. The concept of *forbearance*, or the degree of tolerance of the terms of the exchange, was reported by informants as an important consequence of committed relationships.

RESEARCH PURPOSE

Research Objective

The purpose of this research was to understand and explain brand equity in the supply chain by generating and testing a theoretical model. First, a grounded theory approach was used to integrate field research with relevant literature in the theory-building step. The theory was subsequently subjected to a quantitative test in the context of a focal customer-supplier relationship using a survey methodology.

Research Questions

This research addressed the propositions related to the importance of brand management with supply chain partners raised by Shocker, Srivistava and Ruekert (1994) and Webster (2000). The fundamental question was, “What is the effect of brand equity in the supply chain?” To answer this question, we must first understand the meaning of brand equity in the supply chain. Related questions include:

1. What is the relationship between brand equity in the supply chain and perceived risk?
2. Does relationship commitment differ with various levels of brand equity?
3. What is the relative importance of trade-based brand equity versus consumer-based brand equity to the level of brand equity perceived by the organizational customer?
4. What do companies stand to gain by building brand equity with trade partners?

CONTRIBUTION TO KNOWLEDGE OF THIS RESEARCH

First, this research extends our knowledge of brand equity by examining the concept in an important new context, the supply chain. Exploring the phenomenon in this environment addressed the concern that limiting study to the consumer point of view has led to an incomplete understanding of brands. Phase One of this study explored brand equity in the supply chain by examining: 1) the meaning of brand equity in the supply chain, 2) the effect of brand equity on perceived risk in interorganizational exchange, and 3) the effect of brand equity on relationship commitment. Phase Two of the study tested the theoretical model generated in Phase One from the perspective of a focal customer-supplier relationship.

The research also contributes to our understanding of relationship commitment in supply chain relationships by investigating the effect of a new situational variable, the level of brand equity, from the customer's perspective. Does brand equity assure a place at the table when organizations consider alternative suppliers? Or, are firms with high brand equity avoided due to dependence or power issues? Are firms with high brand equity more likely to be considered again before final selection of a supplier? Do firms make stronger or weaker commitments to their relationships with suppliers with high brand equity? What are the consequences of such relationships?

Finally, this research adds to our understanding of the role of perceived risk in interorganizational exchange. What is the relationship among uncertainty, dependence, and power to perceived risk in interorganizational exchange? How does brand equity affect perceived risk? Does brand equity affect relationship commitment through its effect on perceived risk, or does it have a direct effect on commitment?

There are significant managerial implications for this research. For organizational buyers, this study provides insight into the role of the supplier's brand in organizational buying. Understanding how brand equity affects the buying decision provides insights into improving interactions with branded suppliers. The research also contributes to managers' understanding of perceived risk in interorganizational exchange, providing a framework for analyzing the risk facing the firm.

For executives, it is critical to know whether or not their firms should invest in building brand equity with trade partners. Understanding the nature and role of brand equity in the supply chain is fundamental to developing effective brand strategies. This study provides a framework for understanding brand equity in the supply chain and the

relative contributions to brand equity of trade-based brand equity and consumer-based brand equity, which can support managerial decision-making about investments in marketing activities directed at brand building. The research also offers understanding of the potential for leveraging brand equity by examining the effect of brand equity in interorganizational exchange. Finally, this dissertation proposed and measured the consequences of relationship commitment derived from building brand equity.

ORGANIZATON OF THIS DISSERTATION

This dissertation is organized in five parts. Following the introduction in Chapter I, Chapter II describes the steps in building the theory, presents the findings of qualitative field research along with the theory, and offers testable hypotheses. It begins with an overview of grounded theory, the method used to build the theory. Grounded theory methodology requires a thoughtful treatment of the literature. In this study, there is an initial literature review intended to provide theoretical sensitivity for the researcher and to inform subsequent collection of data from the field (Maxwell 1996; Strauss and Corbin 1998). The initial literature review explored existing brand equity theory along with the literatures in interorganizational exchange and relationship management. As the theory builds during data analysis, the literature is consulted again as an additional data source to provide further evidence for the emerging theory (Glaser and Strauss 1967; Strauss and Corbin 1998). In the discussion of findings, the theory is presented and discussed along with a set of testable theoretical hypotheses.

Chapter III offers justification for the quantitative research design and outlines the research methodology used to test the theoretical hypotheses. The chapter includes a

discussion of the research design and reports the analysis of pre-test data. Chapter IV reports the results of the main study outlined in Chapter III and offers an analysis of findings. The results of statistical tests of theoretical linkages are presented, along with analyses of validity and reliability of the measures.

Chapter V is a discussion of findings from the theory test, including conclusions drawn from the analysis of data and implications for marketing scholarship and practice. Answers to the questions posed in this introductory chapter are found in Chapter V. This chapter also includes a presentation of the limitations of the study and directions for future research. Key research documents such as the interview protocol employed in the qualitative study, items included on the survey, and detailed tables of the various statistical analyses in the quantitative study are found in the Appendices.

CHAPTER II BUILDING THE THEORY

The objectives of this dissertation research are two-fold: 1) to build a theory of brand equity in the supply chain and 2) to test the theory. This chapter deals with the first half of the research objective - building the theory. While both quantitative and qualitative methods have been successfully employed in theory building, the qualitative method of grounded theory was chosen for this project. Grounded theory is particularly appropriate for examining new phenomena or existing phenomena in new settings, as is the case for this study. The grounded theory approach provides a framework for methodically relying on the data to provide insights and understanding rather than imposing a preconceived theoretical framework (Glaser and Strauss 1967).

GROUNDING THEORY

Distressed by the emphasis in sociology on quantitative theory testing at the expense of theory generation, Glaser and Strauss (1967) wrote a book designed to be a primer for beginning social science researchers, exhorting them to move beyond testing miniscule parts of the “great man” sociological theories of the day in favor of developing original thinking about the rich and varied human experience. They offered a set of techniques and guidelines for inductive theory generation -- moving from the parts to the whole -- grounded in field data that came to be known as the grounded theory approach.

Grounded theory is a research methodology by which theory is derived from data that are systematically gathered and analyzed throughout the research process (Glaser and

Strauss 1967; Strauss and Corbin 1998). The analysis is a comparative process whereby the researcher “jointly collects, codes, and analyzes data” (Glaser and Strauss 1967, p. 45), allowing theory to emerge from the data. Comparative analysis for theory generation involves an iterative process of generating conceptual categories based on the evidence, comparing those categories to additional data, and circling back to refine the conceptual categories based on comparisons. The objective of grounded theory methodology is “not to provide a perfect description of an area, but to develop a theory that accounts for much of the relevant behavior” (p. 30).

Glaser and Strauss (1967) advise the grounded theorist to enter the field with a perspective (e.g., a marketing perspective), along with a focus, general question, or a problem in mind (e.g., brand equity in the supply chain) and “without any preconceived theory that dictates, prior to the research, ‘relevancies’ in concepts and hypotheses” (p. 33). McCracken (1988) echoes this advice, stating “preconceptions can be the enemy of qualitative research” (p. 31). Some researchers have taken such admonitions to mean they are ill advised to conduct a literature review before engaging in grounded theory development. However, a closer reading of opinions on methodological rigor in qualitative research shows there are divergent views on the role of the literature review.

At one end of the spectrum, Glaser and Strauss (1967) advise researchers “literally to ignore the literature of theory and fact on the area under study, in order to assure that the emergence of categories will not be contaminated by concepts more suited to different areas” (p.37). This seems at odds with their caution to the researcher a few pages later to be “sufficiently theoretically sensitive” in his or her area of research by building familiarity with existing theory (p. 46). In a later book on grounded theory,

Strauss and Corbin (1998) modify advice on the use of literature and provide an outline of potential benefits of a literature review. They note that while it is not necessary to review *all* of the literature beforehand, familiarity with relevant literature before entering the field can serve several purposes such as enhancing sensitivity to subtle nuances in the data, assisting in formulating questions that act as “a stepping-off point” during initial interviews, and suggesting areas for productive theoretical sampling. During data analysis, literature can be used again as a secondary source of data for making comparisons with the emerging conceptual categories, to stimulate questions during analysis, and to confirm findings (p. 48-50).

At the other end of the spectrum, McCracken (1988) directs qualitative researchers to begin with “an exhaustive review of the literature” (p. 29). The purpose of the review is to help define problems, assess data, and sharpen the researcher’s “capacity for surprise” (Lazersfeld, 1972). McCracken counters the argument that a literature review leads to preconceptions by arguing that “a good literature review creates more distance than it collapses” by exposing the researcher to diverse viewpoints (p. 31).

Taking the middle ground, Maxwell (1996), warns that there are two ways in which qualitative researchers fail in the use of existing theory: “by not using it enough and by relying too heavily on it” (p. 36). The first fails to explicitly apply or develop any conceptual abstractions or theoretical framework, severely limiting the usefulness of the work. The second forces a fit between theory and data, imposing dominant theories or the researcher’s own bias rather than relying on the views and perspectives of those studied. He advises using prior research to develop the justification for the study, to inform research methods, and as a source of data during theory development. In his

advice to qualitative researchers on the use of literature, Maxwell quotes Mills (1959) who counsels: “Perhaps the point is to know when you ought to read, and when you ought not to” (p. 214).

The qualitative research design in this study takes the middle ground with a careful approach to the literature review. An initial literature review on key concepts - brand equity, interorganizational exchange, and relationship management - was conducted in order to enhance the researcher’s sensitivity to the phenomenon, to develop opening questions for field research, and to explore promising methodologies for the study. During data collection and analysis, the literature was consulted again as a secondary source of data for sharpening emerging concepts and stimulating further questions. Insights from the initial literature review are described in a subsequent section; literature used as a secondary data source is intertwined with the reports of field data in the discussion of findings.

Research Question

The purpose of the qualitative study was to answer the question, “What is the meaning of brand equity in the supply chain?” Drawing on the notion of brand equity as the differential response of customers (Keller 1993; Park and Srinivasan 1994), the qualitative study was designed to examine this question from the customer’s point of view; that is, what do brands mean in the customer-supplier relationship from the customer’s point of view?

Once an understanding of the meaning of brand equity in the supply chain was developed, then questions raised in Chapter I related to the effect of brand equity in

supply chain relationships could be answered through a theory test. Thus, the first task was to understand the phenomenon using a qualitative methodology. The next step was to find out the extent to which brand equity matters in supply chain relationships by employing a quantitative method to test the theory. The theory test stimulated further questions, calling for an iterative process of ongoing research in order to more fully explain the phenomenon.

Sample

Grounded theory employs a theoretical sampling technique that requires the researcher to use emerging theory to guide data collection. The initial sample decisions are based solely on the perspective and the problem. In this study, the only assumptions required were that executives engaged in supply chain management are likely to have some knowledge about brand equity in the supply chain.

The primary data source for the theory-building phase of the study was comprised of reports obtained from 16 executives in six firms across three supply chains (Table 2). The executives interviewed were at a senior level and had knowledge of trade partner relationships. The unit of analysis for this study was the report of the informant's perception of the nature of a specific trade partner's brand equity from the customer's point of view; therefore, one executive could provide multiple reports of brand equity in the supply chain. Twelve executives interviewed are employed at three firms in a home textiles supply chain (basic material manufacturer - finished goods manufacturer - retailer), two work for an office supply manufacturer, and two are employed at apparel manufacturing companies. As noted previously, relevant literatures were sampled as a

Table 2. Informant Profiles

Supply Chain Position	Industry	Title
Raw material manufacturer	Textile	Business Supply Chain Specialist Business Logistics Director Director of Sales Purchasing Manager
Finished goods manufacturer	Home textiles	Chief Executive Officer Chief Operating Officer Vice President/Purchasing Director/Logistics Manager/Logistics
Retailer	Home textiles	Marketing Manager Director/Replenishment Process Inventory Manager
Manufacturer	Apparel	Director/Supply Chain
Manufacturer	Apparel	Director/Supply Chain
Manufacturer	Office supplies	Director/Supply Chain Marketing Manager

secondary data source, guided by the emerging theory.

The aim of theoretical sampling is to “maximize opportunities to compare events, incidents, or happenings to determine how a category varies in terms of its properties and dimensions” (Strauss and Corbin 1998, p. 202). The researcher samples the properties and dimensions of the conceptual categories under varying conditions looking for similarities and differences in order to densify categories, to differentiate among categories, and to specify their range of variability (Strauss and Corbin 1998). Sample size is determined as the study progresses. The goal is to reach theoretical saturation - the point where reports of the phenomenon are redundant and analysis of additional data

would offer no new theoretical insights.

Data Collection

A semi-structured interview protocol was used to guide data collection (Appendix A). Initial interview questions were purposefully broad and were not always asked in the same sequence. As data collection progressed, questions with a higher degree of focus were added as theoretical sampling adapted to emergent findings (Strauss and Corbin 1998). Some consistency in the interview questions was required as data collection progressed in order to facilitate systematic comparisons of categories; however, it was also important to maintain flexibility in the interview format in order to allow the informant to offer relevant information unconstrained by interview questions.

Twelve interviews were conducted over the telephone and four were conducted at informants' workplaces. Site visits are the preferred method for this type of research because face-to-face interviews in a natural setting provide more information in the way of visual cues, observations of the workplace, and observations of interactions with coworkers. However, telephone interviews were used in most cases rather than site visits in order to accommodate informants' schedules. All interviews were audiotaped for subsequent verbatim transcription by a professional transcriptionist.

Data Analysis

In grounded theory, analysis is accomplished through methodical coding of the data in order to facilitate systematic comparisons. Coded concepts are grouped into categories and then linked in a theoretical framework. Grounded theory methodology calls for data analysis to begin immediately following the first sampling of data and to

continue throughout the collection process. As soon as the first interview transcript was available, the principal researcher coded the interview data using QSR NVivo 1.3 software (NVivo 2000). NVivo allows the researcher to manage the task of identifying, naming, and categorizing ideas and concepts as they emerge from the data and to retrieve the coded data in a manner that allows a full range of comparative analysis. The coding process followed the method recommended by Strauss and Corbin (1998): 1) open coding, 2) axial coding, and 3) selective coding.

Open coding. Open coding is a two-step process of conceptualizing and naming, followed by categorizing. Each transcript was first read as a whole in order to reacquaint the researcher with the informant's experience with the phenomenon. Then each major section of the transcript was read again, looking for the main concept offered in the response. A label was assigned to the concept using words relevant to the context of the response. Wherever possible, a word or phrase taken directly from the informant's response is used for the label, a technique called *in vivo* coding (Glaser and Strauss 1967). The response was then read again examining each thought in the response as a possible concept. NVivo allows the researcher to assign multiple labels to a single unit of text, to store definitions of labels as the coding progresses, and to annotate the transcript in order to clarify indirect references or capture researcher insights. The key question during this step in open coding is "What does this response describe?" In this study, 63 concepts were coded in the open coding step (see Appendix B).

As concepts begin to accumulate, the researcher begins to realize that certain concepts are describing different aspects of the same dimension or property of the phenomenon that can be categorized under a more abstract, higher order concept. These

categories are “important analytic ideas that emerge from the data. They answer the question ‘What is going on here?’” (Strauss and Corbin 1998, p. 114). Maxwell (1996) metaphorically describes these categories as hooks in the theoretical closet on which to hang the data. Ultimately, ten categories were abstracted from the 62 concepts that emerged in open coding.

Once categories begin to emerge, the researcher can develop them by considering their properties and dimensions to densify the category by adding precision to the category definitions. A property is a characteristic of a category while a dimension represents the location of the property along a continuum (Strauss and Corbin 1998). For example, we could see that the *frequency* of communications is a property that differentiates close relationships between firms from arms-length relationships. The *frequency* property could then be dimensionalized by saying that in close relationships the frequency of communication is at the high end of a continuum.

Axial coding. Axial coding involves coding around the axis of a category in order to add depth and structure (Strauss and Corbin 1998). This is achieved by relating categories to subcategories - the codes that identify the categories’ properties and dimensions - and connecting major categories with each other. Axial coding begins as soon as patterns or themes begin to appear during the open coding process and continues in parallel with open coding. The tasks associated with axial coding are:

1. Laying out the properties and dimensions of categories;
2. Identifying the conditions, actions/interactions, and consequences associated with categories;
3. Relating categories to subcategories; and
4. Relating major categories to each other.

The main task of axial coding is to discover relationships among categories by asking why, how, when, where, and with what results? By asking these questions, the researcher is simultaneously exploring structure and process - the conditions in which the phenomenon is situated (“Why?”) and the manner in which it occurs (“How?”).

During axial coding, the researcher samples reports of events and incidents that identify significant variations in order to verify similarities and differences. This sampling may be done by revisiting data already collected or by going back to the field to collect additional data.

Selective coding. Selective coding is the step that integrates the categories into a theoretical framework. As categories and properties emerge during axial coding, their accumulating interactions begin to form an integrated framework, or the core of the emerging theory. The core then becomes the guide for further collection and analysis of data. The emergence of the core has been described as that moment when the analyst realizes that “the data are beginning to ‘gel’” and commits to a theoretical scheme (Strauss and Corbin 1998, p. 144). Selective coding involves delimiting the theory by reducing the number of categories to those that are pertinent to the developing theory (Glaser and Strauss 1967; Strauss and Corbin 1998). The goal of selective coding is to reach theoretical saturation, the point where no new insights are gained by analysis of additional data.

Assessing the Rigor of Grounded Theory Research

With any research project, it is important to assure rigor in the research design in order to support the trustworthiness of the findings. The key question here is “Why

should we believe it?” (Maxwell 1996, p. 87). There were several checkpoints in this study aimed at minimizing researcher bias and supporting data quality and trustworthiness:

- The data collected from the field were audiotaped and transcribed verbatim by a professional transcriptionist in order to assure accuracy and completeness in data collection (Maxwell 1996; McCracken 1988).
- The data were collected from 16 individuals across multiple companies to minimize the possibility of chance associations (McCracken 1988).
- The method of analysis, grounded theory, was chosen in order to provide a framework for methodically relying on the data to provide insights and understanding rather than imposing a preconceived theoretical framework (Glaser and Strauss 1967; Strauss and Corbin 1998).
- The software tool, NVivo, provided a mechanism for systematic organization of the data and consistent application of codes throughout the coding process.
- Informants reviewed a summary of the researcher’s interpretations of their interviews to ensure the data analysis was both complete and credible (Hirschman 1986).
- Colleagues familiar with the constructs were consulted throughout the project and reviewed final results to ensure they were understandable and confirmable (Hirschman 1986).

QUALITATIVE STUDY FINDINGS AND ANALYSIS

This section presents reports from the field of the phenomenon of brand equity in the supply chain, together with existing theory drawn from relevant literatures. As described previously, these reports were collected from 16 executives who have knowledge of supply chain relationships for their companies. They represent six firms across three industries, and three of the six firms are linked in a home furnishings supply

chain (see Table 2).

To answer the question “What is the meaning of brand equity in the supply chain?” it was fundamental to explore the nature of interorganizational exchange. Findings related to interorganizational exchange are presented first, followed by reports related to brand equity. The final sections describe aspects of brand equity in the supply chain in terms of its effect on supply chain relationships. Each section includes testable theoretical hypotheses developed from field reports and relevant literature. The hypotheses are summarized in Table 3, and their locations in relationship to the theoretical framework are displayed in Figure 5.

Interorganizational Exchange

The universally high level of anxiety about exchange relationships expressed by managers in this study was stunning. Interviews were conducted over a five-month period in early 2002. Across industries, executives were reeling from the dramatic downturn in the global economy the previous spring, compounded by market reactions to the attack on the World Trade Center in New York City and the Pentagon in Washington, DC on September 11, 2001.

When September 11 happened, nobody wanted to buy anything and our orders just decreased dramatically, and no one knew when they were coming back. [Uncertainty] And so, you know, first, right when that happened the forecasts stayed where they had been and then people started saying, you know, maybe something's going to happen because of this, particularly because a couple of businesses in my supply chain provided things to restaurants and airlines and hotels. [Dependence]

Manufacturers in the study reported reduced orders from retail customers, which required downsizing manufacturing facilities and passing reduced orders for

Table 3. Summary of Hypotheses

Interorganizational Exchange: H1a: Increased uncertainty increases perceived risk. H1b: Increased dependence increases perceived risk. H1c: Increased power increases perceived risk.
Brand Equity: H2: Both trade-based brand equity and consumer-based brand equity are dimensions of brand equity. H3: Brand equity held by a trade partner moderates the relationships between perceived risk and its antecedents. H3a: High brand equity decreases the strength of the relationship between uncertainty and perceived risk. H3b: High brand equity increases the strength of the relationship between dependence and perceived risk. H3c: High brand equity increases the strength of the relationship between power and perceived risk. H3d: Low brand equity increases the strength of the relationship between uncertainty and perceived risk. H3e: Low brand equity decreases the strength of the relationship between dependence and perceived risk. H3f: Low brand equity decreases the strength of the relationship between power and perceived risk.
Relationship Commitment: H4: Increased perceived risk increases relationship commitment. H5: Increased relationship commitment increases cooperation. H6: Increased relationship commitment decreases propensity to leave. H7: Increased relationship commitment increases forbearance.

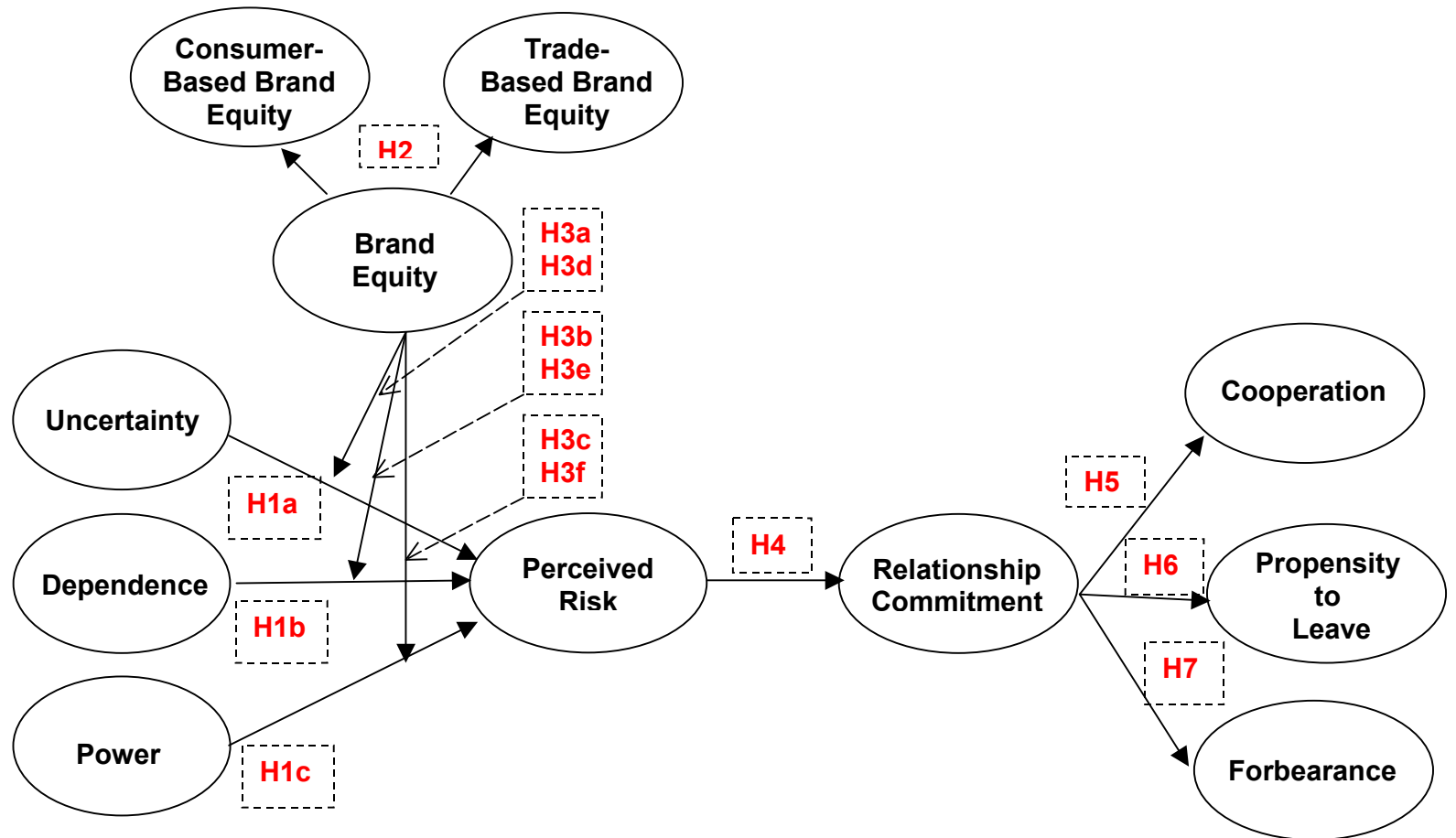


Figure 5. Locations of Hypotheses

materials to upstream suppliers. When expectations for earnings were reduced at the end of 2001, painful restructuring was necessary to align costs with expected revenues. As these reductions were being put in place in early 2002, manufacturers reported experiencing a sudden, unexpected upturn in orders from downstream resellers:

All of a sudden the business came back and it came back like this (snaps fingers) [Unpredictability] and the forecast didn't show it coming back that soon. We had inventory at very low levels. And now we are doing everything we can to get the customers their goods.

While meeting higher levels of demand with reduced capacity and lower levels of raw materials was a challenge, companies were experiencing good financial results for the first quarter of 2002.

Perceived Risk in Interorganizational Exchange

Asked to describe their relationships with trade partners, informants readily talked about the importance of managing risk in interorganizational exchange (see Figure 6).

An executive at a finished goods manufacturer commented on risk associated with purchasing decisions: *"In order to get a reasonably good manufacturing quantity you know you're **taking a lot of risks** on the product [Risk]. Or you're going to carry product, carry inventory, which is **space and time value on money**, [Financial risk] but you're also going to take some additional risks."* In another situation, a raw material manufacturer talked about trade-offs made by suppliers as they attempted to assure product availability by anticipating customer orders based on order history: *"**We accept no responsibility for anything** [Risk avoidance] even though we've forecasted it*

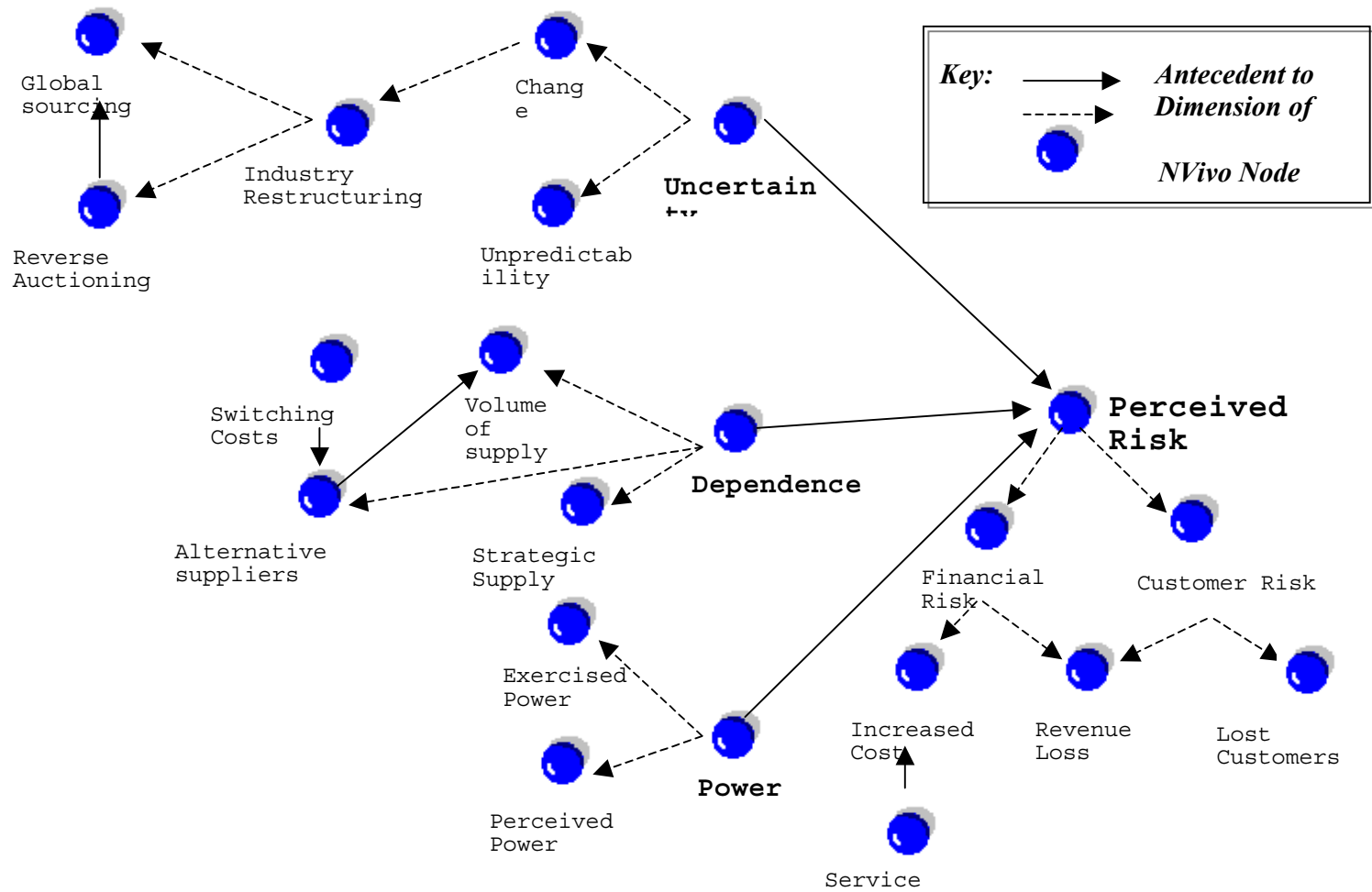


Figure 6. Coding Diagram for Perceived Risk

previously. We've told them it has changed. If they continue (production), then it's at their own risk really." [Risk] One informant talked about pressure from customers to accept higher risk by taking on the role of broker for supply from international sources: *"Because as long as they have to source it from India and Pakistan and China [Global Sourcing], they are stuck [Risk] with the crappy container, and the lost goods, and the no delivery."* Customers were looking for ways to minimize their own risk by transferring responsibility for procuring goods overseas to a reliable supplier.

Webster and Wind (1972) addressed perceived risk in interorganizational exchange from the customer's point of view in their description of nontask-oriented models of buyer behavior. These models introduce the human element into exchange and focus on variables such as motivation that are not directly related to the buying task. Among the nontask-oriented models is the perceived risk framework, which proposes buyer behavior is motivated by a desire to reduce the level of risk in the buying situation to some tolerable level. Borrowing from consumer behavior (Bauer 1960; Cox 1967), Webster and Wind define perceived risk as "a function of the buyer's uncertainty about the probability of an event (stated as a probability between zero and one that the event will occur) and the consequences associated with that event should it occur" (p. 17). They propose the perceived risk model as the most consistent with the view of organizational buying as problem-solving behavior and the behavioral theory of the firm. "Understanding the nature and components of perceived risk allows one to make a meaningful analysis of the strategies that organizational buyers adopt for reducing perceived risk to tolerable levels and, therefore, provides a framework within which to think about the requirements for effective marketing strategy" (p. 101).

Following Webster and Wind, several studies in buyer behavior include perceived risk in models of organizational buying. Wilson, Lilien and Wilson (1991) proposed and tested a contingency framework that examined the effects of the buying task and perceived risk on group choice processes in organizational buying. Adopting Sheth's (1973) definition of perceived risk as "the magnitude of adverse consequences felt by the decision maker if he makes a wrong choice and the uncertainty under which he must decide" (p. 53), they operationalized risk as the combination of technical uncertainty (the chance the product will not perform) and financial commitment. They found perceived risk situational factors to affect the types of choice used by the buying center, indicating support for including perceived risk in models of interorganizational exchange.

Choffray and Johnston (1979) examined perceived risk in the pre-purchase stage of decision-making. They found decision participants held different perceptions of perceived risk. More importantly, variations in perceived risk affected the formation of preferences. In their study of reference points in decision-framing in organizational buying, Qualls and Puto (1989) found perceived risk to play a role in modifying reference points.

Pfeffer and Salancik (1978) offer an alternative conceptualization of perceived risk from the perspective of their resource dependence framework. Resource dependence theory views risk as an outcome of antecedent conditions of uncertainty and dependence rather than comprised of the dimensions of uncertainty and consequences as suggested by Bauer (1967) and Sheth (1973). Building on early work in social exchange theory (Emerson 1962; Thibaut and Kelley 1959), resource dependence theory assumes that organizations are not internally self-sufficient with respect to all of their critical

resources; hence, two conditions are created. First, a lack of self-sufficiency creates dependencies on external resources (Emerson 1962). Second, uncertainty is introduced into the firm's decision-making to the extent resource flows are not subject to the firm's control and, therefore, may not be predicted accurately. Following the behavioral theory of the firm, organizations can be characterized as coalitions of individuals who engage in problem solving in order to achieve organizational goals (Cyert and March 1963) such as the acquisition of resources necessary for goal attainment. These resources, acquired through interorganizational exchange, include inflows of materials, supplies, and information from the firm's environment.

Similar to Pfeffer and Salancik's conceptualization, informants often described risk in terms of acquiring necessary resources: "*We work with **very rigid margin constraints**. In other words, we set up preseason what kind of **margin rates we have to deliver** [Financial Resources] by product category, and the job of the sourcing merchant and production teams is to be able to **create quality product** [Quality] within the constraints of those margin requirements... and so our merchants and sourcing people are incented to try and **drive costs down**, but **not letting quality slip** [Quality] in the process. That's a fine line for us.*" Financial risks were described not only as the direct costs of acquiring resources, but also as indirect costs. For example, service levels were described as an important factor: "*We can see by some of our measurements that [the supplier's] **service levels** have only been at 85% [Service Levels]. That's **costing us** [Increased Costs] quite a bit of money. And theirs might be a penny cheaper than vendor Y, but they're servicing at 98%. There are some **real dollars** [Financial Risk] related to that.*"

Financial risk was associated not only with higher costs but also with revenue loss due to the risk of losing customers: *“Today a very large business is now a **much smaller business**.”* [Revenue loss] Driven by the power of a single retailer, discussed subsequently, a sizeable domestic customer base for one manufacturer in the textile industry was reduced to insignificance: *“There are probably **only twenty** cut-and-sew operators in the United States doing table linen where ten years ago there were probably **eight- or nine-hundred**.”* [Industry Restructuring]

The risk to the firm was also described in terms of the risk of losing customers or customer loyalty due to failure to meet expectations of downstream customers: *“So, yeah, on occasion it (rejecting inferior goods from a supplier) **disappoints customers**, but I think it would be **disappointing a customer** even more if we served up poor quality products* [Customer Expectations].” Describing a situation where a supplier failed to deliver goods on time, a retail buyer reflected on consumer response: *“Their (a supplier’s) lead time for whatever reason just got longer, and **we didn’t have the [product]** that we should have on hand at each door for an event. And you know **it wasn’t pleasant**.”* [Customer Risk]” In another scenario, the supplier failed to deliver at all: *“But once it’s in print, I mean that’s it -- it’s over. How many (sale notices) go out? 50 million copies to the newspaper? I mean, it’s over. We’ll just take rain checks or special order them for customers, and **most understand, but some are disappointed**.”* [Customer Expectations]

Field data in this study supported Pfeffer and Salancik’s (1978) conceptualization of perceived risk, highlighting key differences between perceived risk in interorganizational exchange and consumer exchange. First, as illustrated in comments

cited previously, informants in this study associated perceived risk with resource acquisition, in contrast to the concept of perceived risk in the consumer setting which is linked with performance of a product or brand. Second, risk in interorganizational exchange was described in terms of the impact of resource flows from upstream vendors on subsequent performance with downstream customers, an issue that does not pertain to the consumer setting.

In this study, perceived risk in interorganizational exchange is defined as the potential impact of the failure to acquire necessary resources on the profitability of the firm. The domain of the construct is comprised of two dimensions: financial risk and customer risk. Financial risk involves potential loss of revenue and increased costs related to resource acquisition. Customer risk is the potential loss of future orders due to the failure to meet customer expectations. Informants described perceived risk as a phenomenon apart from the conditions that precipitate it. Further analysis of descriptions of conditions that give rise to perceived risk resulted in classification of responses into three categories hypothesized to be antecedents to perceived risk: uncertainty, dependence, and power.

Uncertainty

Uncertainty about product performance was reported to be significantly reduced in interorganizational exchange by stringent quality inspection programs adopted during the move to continuous quality improvement in previous decades. Managers reported that reliable quality levels are the price of admission to consideration as a potential supplier: *“If it’s (product quality) not reliable, from a manufacturing side, you’re out.”*

Extensive quality control processes minimize the probability of selecting weak trade partners: *“Before they become a supplier **they’re looked over with a fine tooth comb.** Financially and all the way through, A to Z [Supplier Qualification].”* Quality control continues from the initial consideration of a supplier through continuous monitoring of product as it arrives at the customer’s location: *“I mean even some of our private label [product] hit the docks, and it was 150,000 units that had **poor quality, and we said we’re not accepting them.**[Quality Control]”*

Informants strongly associated uncertainty with change in interorganizational exchange precipitated by globalization of trade networks and the adoption and expansion of Internet-based technology. The ability to build a global supply network was explained as a threat to business with long-standing customers:

*The market has **changed drastically.** It’s the same everywhere; there’s **Asian suppliers and Mexican suppliers** [Global Sourcing] where there weren’t before. It’s **changed radically** in two years as to what it used to be. It was probably very stable for forty years. And probably in the last two or three years, it’s **changed dramatically** as to who gets what and when and where. [Change]*

Across industries represented in this study, globalization has shifted the balance between supply and demand, resulting in excess capacity and eroding profit margins. *“There’s an **overcapacity** globally”* in the textile industry, and in the office supply industry, *“It is **not a growth market.**”* Excess capacity was seen as precipitating major change in industry structure:

*In fact, there is an **excess of capacity** [Excess Capacity], both at the retail side and at the manufacturing side. **The industry is about to collapse** in on itself and **go through a major consolidation** [Industry Restructuring]. Then also from a manufacturing standpoint, **things are slow and there’s excess capacity.** So, we’re trying to make profitable decisions. That’s what everybody is trying to do.*

Globalization was portrayed as generating change by shortening product life cycles: “*But it’s also **drastically shortened life cycles** [Change]. Because if I design something gorgeous and Bloomingdale is willing to pay me for it - trust me, there’s a shopper in there who’s going to be **sending it to China** [Global Sourcing] the next day. And they’ll be getting it in Target in four weeks for half of what Bloomingdale charges for it. That’s the **fear factor** on our side. [Risk]*”

Industry restructuring, a common theme as companies respond to economic pressures on profitability in the face of excess capacity, was reported to be a major characteristic of uncertainty in resource acquisition. One manager described the impact of a potential buy-out of his firm on customer orders: “***Our company was recently up for sale** [Industry Restructuring], and that **made a lot of our customers very nervous** [Uncertainty]. Good partners hung in there with us. Others said, ‘Yeah, sure. We understand what you are doing.’ And then turned around and took business away from us.” In a different industry, a supply chain manager provided the customer’s viewpoint on potential restructuring at a supplier: “*There’s an **IPO working** now that they want to **get rid of the division** [Industry Restructuring].*” This relationship had been in place for decades, yet the manager was actively searching for alternative suppliers because of the potential spin-off of the division. The same manufacturer was experiencing dramatic shifts in the supplier network:*

*You’re already **seeing plants close**. A lot of the raw material I use is actually left over from another process. Let’s say you’re a gasoline manufacturer. Well, one of the byproducts left over from your operation goes into mine. So if it’s not profitable to make mine anymore, you just **get rid of your byproduct somewhere else**. [Industry restructuring]*

Industry restructuring was described in terms of its effect on both the number and type of potential trade partners: “*There’s **nobody left in the middle.** All these **lower level department stores, they’re all gone.**” Consolidation at the retail level was described as contributing to uncertainty by driving change in the customer order process: “*There used to be a fairly solid commitment process with [a national retailer], but **that’s not the case anymore.**” Often, this change in the commitment process increased costs for suppliers who were left holding inventory built for specific customers: “*If I tell them they got to take it, then they’ll say, ‘Well, **I’ll go take my business elsewhere.**’ And right now in the economy, nobody wants to lose anything.*”**

Another external factor portrayed as a significant dimension of change associated with uncertainty was the introduction of new business models afforded by the global connectivity of Internet technology. Manufacturers were dealing with the threat of reverse auctioning on the Internet by retailers: “*In a year **it’s (reverse auctioning)** going to kill everybody. **It’s going to change the world.** Now that’s **drastic change** in a year. And see, you have no marketing there either. There’s nothing.*” With no opportunity to differentiate their offers, firms are reduced to price competition: “*Our business units that do cotton - cotton twills, plain weaves; **they’re on the phone with their customer who is on the auction.** And with the customer, they have to negotiate the whole time while the auction is going on to see **how low you can go.**”*

Uncertainty was also associated with surprises described as customers who unexpectedly ratchet up requirements to their vendors, requiring increased expenditures due to expedited orders and introducing unpredictability into the exchange relationship:

*In the past there have been situations where they (retailers) have **ramped***

things up whether we thought they needed to be ramped up or not. If they see a couple of good sales weeks a lot of times they react to that immediately and ramp up the numbers in their system, which in turn

generates orders to us. So that sometimes comes as a surprise
[Unpredictability].

This was confirmed by a retailer who explained the challenge of working with suppliers to respond to unexpected consumer demand: “*You may have items that take off and are bigger and better than you ever thought they were ever going to be, and it may put some constraints on the supply base. The sourcing group would then potentially have to go out and chase sources of supply that they had not anticipated* [Unpredictability].” As they “chase supply,” retailers develop new sources that introduce additional competition to current suppliers, contributing to price competition that threatens profitability.

In the 1960s and 1970s, a number of marketing scholars examined the concept of uncertainty as dimension of perceived risk in consumer behavior (Cox 1967; Bauer 1960; Cunningham 1967). Exploration of uncertainty appeared again in several studies in the late 1980s and 1990s (Dowling and Staelin 1994; Moorthy, Ratchford and Talukdar 1997; Urbany, Dickson, and Wilkie 1989). Urbany, Dickson, and Wilkie (1989) identified two dimensions of uncertainty, which they labeled “knowledge uncertainty” and “choice uncertainty.” Knowledge uncertainty is the extent to which consumers are unsure about knowledge potentially required to make a decision, while choice uncertainty reflects uncertainty about choice intentions. Thus, in the consumer context, uncertainty is conceptualized as a psychological construct located in the mind of the consumer; that is, the consumer is thought to experience uncertainty in the choice process. In

interorganizational exchange, uncertainty appears to be simultaneously located in the individual buyer's sense of uncertainty as well as in the exchange relationship; that is, the relationship in which resource acquisition is situated is perceived to be uncertain.

In their classic work on the resource dependency of firms, Pfeffer and Salancik (1978) observed that reliance on external resources introduces uncertainty into firms' decision-making processes to the extent that they cannot accurately predict or control the future flow of resources. Following Pfeffer and Salancik (1978), **uncertainty** is defined as **the degree to which future resource flows cannot be accurately predicted**. The domain of the construct appears to include the perceptions of both the accelerating pace of change in levels of unpredictability and the absolute level of unpredictability. The issue of control was conceptualized as a separate construct - power - that is discussed subsequently.

These managers are describing the relationship between uncertainty in their exchange relationships and the risk to their firms' profitability in support of the definition of uncertainty proposed earlier, adapted from the work of Pfeffer and Salancik (1978). The evidence provided by these examples led to the first hypothesis related to interorganizational exchange:

H1a: Increased uncertainty increases perceived risk.

Dependence

Resource acquisition that involved high volumes of exchange, accomplishment of strategic objectives, a limited number of alternative trade partners, and high switching costs were categorized as dimensions of dependence. Exchange relationships that

involved a high volume of interactions or a large dollar amount were reported to contribute significantly to perceived risk: *“But one big factor is just the sheer **amount of volume** you do with a vendor or a customer.”* Likewise, relationships with suppliers whose products represented a large percentage of cost-of-goods sold or customers who generated a high percentage of sales were most likely to earn more management attention: *“Let's say you had three hundred suppliers and out of that 20 or 25 of them **represented 80 percent** of total shipments. So those are the guys I'm going to call straight on.”* Managers were aware of the need to reduce risk by managing dependency generated by doing a large volume or high percentage of business with one partner: *“Basically **when somebody gets that big** [Volume of Supply], **they pretty much own you** [Dependence]. And then you could have some **issues** [Risk].”*

Managers also described dependence associated with the ability to achieve strategic goals: *“We have product categories that we call **best-at/win-at**. And the best-at is **the product category that we want the brand to be known for**. Because the answer is **we have to win** in [this product category] or we won't win. So we would have a less **strategic supply base** [in other product categories]”* [Strategic Supply]. In addition to supporting quality in key product categories, strategic partners also supported anticipated growth in the business: *“We want to really build a base of supply that **supports some huge growth numbers**, because I mean for example you're talking about taking [our company] from maybe a two billion dollar business today to a five billion dollar business in the next five years. If we don't begin to put **strategic sourcing arrangements** in place, there's no way we're going to hit those numbers.”*

The availability of alternative trade partners was reported by managers in this

study as another characteristic of dependency:

*A lot of it ties to what people have to offer, whether it's some commodity or supply versus some special niche. There are some cases where **you don't have a choice**. You may have two people that do it (offer the product). There are some that **only have one that supplies it**.
[Alternative Suppliers]*

In another example, a manager related how his customers were leveraging the availability of global trade partners to change product lines in order to manage dependence on suppliers:

*The other issue that's changing on our supply side is the third-world developing or semi-developed countries. "We'll use all natural fibers because it's what they have." And **that has driven the retail chain to natural fibers** because it's cheap and easy to get. So if you were to go buy a new jacket in a very expensive, sueded microfiber - which is very technical, very hard to make, and expensive - **your supplier list would be very short** [Alternative Suppliers].*

Investments in the relationship generate significant switching costs, which can also result in dependence (Cadotte and Stern 1979) by reducing the number of alternative suppliers. In some cases, dependence was associated with capital investments: "*When you buy [this product], **you have to buy equipment** to utilize [it] in manufacturing. And that equipment is also provided through the vendor. So **we can't buy [supplies from another vendor]** because that means we've got to shift to the kind of equipment they have*" [Switching Costs]. Cook and Emerson (1978) proposed that dependence varies inversely with the availability of alternative partners; that is, the lower the number of potential partners, the higher the level of dependence.

Dependence in interorganizational exchange is defined as **the extent to which attainment of goals is mediated by another firm and is available only through the relationship with that firm** (cf. Emerson 1962). The higher the level of valued rewards

anticipated in the relationship relative to those available in alternative relationships, the higher a firm's dependence (Aldrich 1975, Emerson 1962). The nature of interorganizational exchange creates dependence, as reflected in these examples. Firms attempt to manage dependence in order to minimize perceived risk to their profitability. Alternatives for managing dependence reported by informants in this study included managing the volume of business with individual trade partners, building partnerships to assure availability of strategic resources, and seeking alternative sources of supply in order to expand the number of available suppliers. Thus, the second hypothesis related to interorganizational exchange was:

H1b: Increased dependence increases perceived risk.

Power

The growing power of retailers in the supply chain was confirmed by managers in this study: “***You always hear that the buyer has a pencil*** [Perceived Power] *(the resources to place large orders), and you run across a lot of **buyers that utilize that power*** [Exercised Power], *and suppliers that are afraid a lot of times to say speak up and be honest.*” A retail buyer at a major corporation reflected on how the perception of power affected relationships with suppliers: “*You know, we’re a pretty big company. We have to be careful with our suppliers, and **most suppliers are probably scared of us, too.** They love the business with big companies, but **they are definitely afraid of it, too***” [Perceived Power].

There is a great deal of research on use of power in interorganizational relationships, including power and influence (Etgar 1976; Hunt and Nevin 1974; Pfeffer

and Salancik 1978), use of power (Kelley 1972, Regan 1978), sources of power (El Ansary and Stern 1972; French and Raven 1959; Gaski 1984), and coercive and noncoercive power (Lusch and Brown 1972). El-Ansary and Stern (1972) examined power in channels of distribution and defined channel power as one firm's ability to control the marketing decision variables of another firm in a different location in the channel. Gaski (1984) notes: "Power has been defined as a relationship defined by the perception of the party over whom power is held ... Indeed, it may be more correct to regard the perception itself as the source of power" (p. 10). Following Gaski's (1984) notion that power is a perception and adapting El Ansary and Stern's (1972) conceptualization of channel power, **power** is defined as **the perception that a trade partner has the ability to control the firm's marketing decision variables**. Power in interorganizational exchange appears to be comprised of two dimensions, perceived power and exercised power. Perceived power is inferred due to characteristics of the trade partner such as size or position in the supply chain. Exercised power includes reports of actual experiences in which the trade partner controlled marketing decision variables of the focal firm.

A retail buyer commented on power exercised over suppliers: "*We may strategize together (with suppliers) to come up with a different marketing twist, a different handle. But 90% of it, we tell them* [Exercised Power] *what we're doing.*" Describing the power of retailers to dictate pricing, one manufacturer stated:

*The rules change every day. I think that's more of an issue than it ever was before. Next week you better **lower your price by 8%**. And not that we understand it costs you more, or **this is the way it's going to be** - it's 8% or don't come back. And **there is no middle ground*** [Exercised power].

Retailers were reported to exercise power by dictating not only pricing, but also sources of supply to their vendors:

*I'm going changing the name - let's say it's Sears. Sears will go to the largest textile tradeshow in the world, and they'll see something, and it's made by a guy in Korea. Because Sears doesn't want to buy from him or set up the manufacturing or have no way to charge anybody back, they'll say okay, my best curtain supplier is Springs Industry. They'll call up Springs and say here's his name and card. **You buy it from him.***
[Exercised power]

In another example, a retailer's actions affected the customer base of a manufacturer of basic goods two steps removed from the retailer in the supply chain:

*Wal-Mart was the largest table linen customer ten years ago, and my customers were cut-and-sew [operators] in the United States with my fabric. Eight years ago Wal-Mart said **cut the price a little bit**, so my customers started buying a lot of imported fabric in cutting and sewing in the United States, and **I lost more business**. Six years ago Wal-Mart said **cut the price** and so my customers started importing made-up goods and **I lost more business**. So now all of my former customers are 100% importers of finished goods getting paid until last year when Wal-Mart said, "We know where you're getting it, we'll do it ourselves from now on." And **now they have no customers at all**. That's where we're going.*
[Power - Risk]

As poignantly illustrated in this example, when a firm perceives a trade partner to have high power, the perception of risk also increases. This led to the third hypothesis related to interorganizational exchange:

H1c: Increased power held by the trade partner increases perceived risk.

In summary, the conditions of uncertainty, dependence, and power give rise to perceived risk in interorganizational exchange. These are the conditions in which the phenomenon of interest, brand equity in the supply chain, is situated. The next section

describes findings related to brand equity as perceived by organizations linked in a supply chain.

Brand Equity

When managers used the term “brand equity” (see Figure 7), it was typically in reference to equity built with consumer markets as they relate to branded products of the firm: “*Brand equity is the promise, I think, that **the brand delivers to the consumer*** [Consumer-Based Brand Equity]” reported a retail buyer. This is echoed at the manufacturing level: “*I think the connotation of brands is it **relates to consumers.***” For one manufacturer, firms that did not have consumer recognition were considered not to have a brand: “*Brand is not an issue because we’re buying raw materials that **the majority of people do not know anything about the brand name.***”

However, the same informant who said “*brand is not an issue*” in doing business with trade partners was able to name firms that were unknown to consumers but who were known as “quality firms” in the trade: “*There are certain companies that **we just know them as quality companies, and therefore that gives them a leg up***” [Trade-Based Brand Equity]. This “leg up,” or differential effect of associating the brand with the offer, is the essence of trade-based brand equity, that is, brand equity perceived by trade partners as opposed to brand equity built in consumer markets. Logically, it makes sense that there must be a different source of brand equity (i.e., trade partners in the supply

chain) for firms that have no visibility in consumer markets. For such firms, trade-based brand equity represents the totality of their firms’ brand equity. However, it is not an either/or proposition; obviously firms can have both consumer-based and

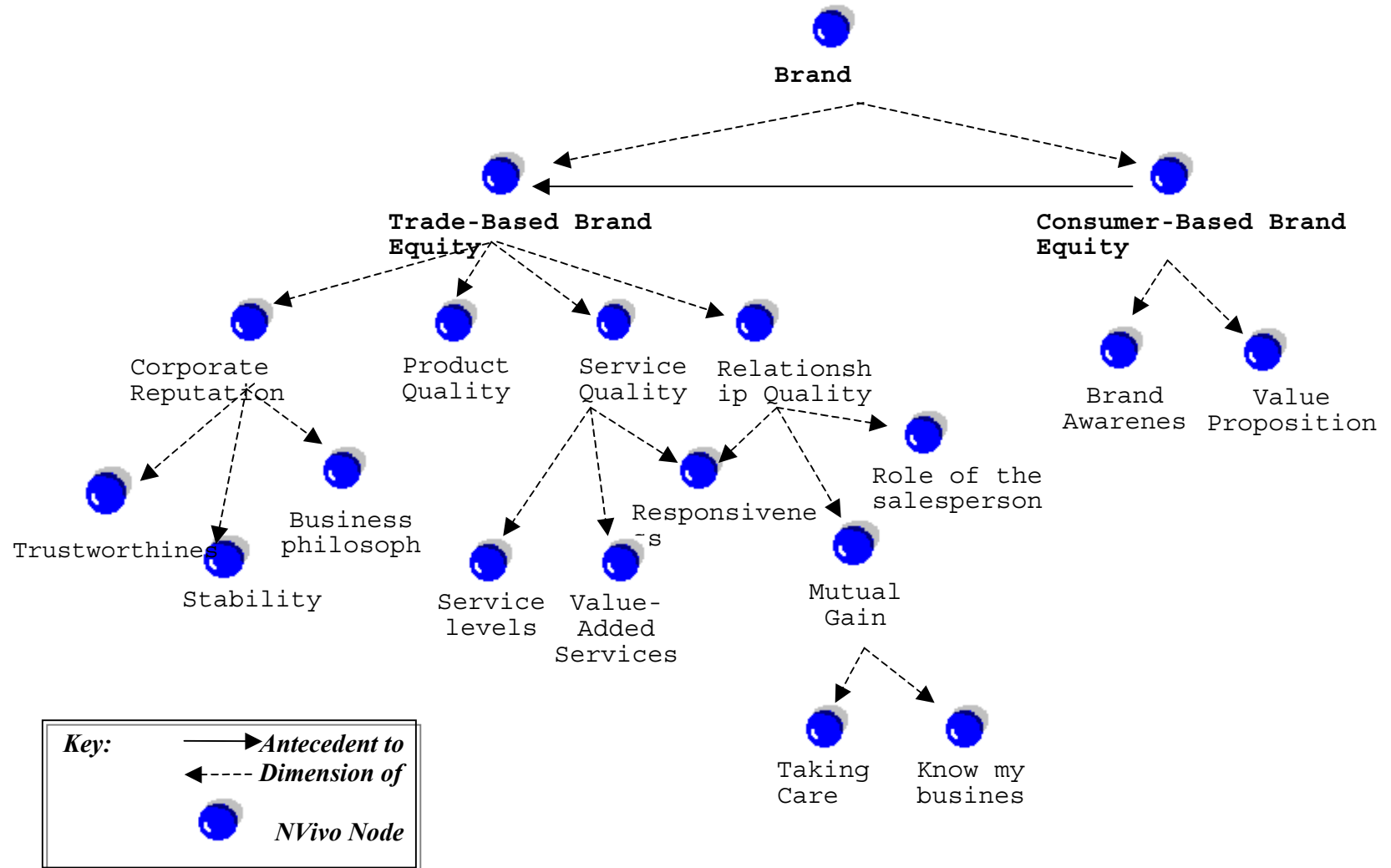


Figure 7. Coding Diagram for Brand Equity

trade-based sources of brand equity. A manufacturer that holds a mixed portfolio of products organized by strategic business units, some with market-leading consumer brands and others known only to retail customers, reflected:

*Probably our **greatest brand recognition is to the trade** [Trade-Based Brand Equity]. It doesn't go beyond that, for the most part, to the consumer level [Consumer-Based Brand Equity]... We've always had a struggle between do we promote [our company] as a brand versus the individual business unit brands, and how do you do that? All of a sudden you're talking about a lot of brands. So that's something that we haven't quite figured out yet. We're going down the path of developing both.*

The following sections provide details on these two constructs - consumer-based brand equity and trade-based brand equity - the dimensions of brand equity.

Consumer-Based Brand Equity

Informants were clearly aware of the consumer-based definition of brand equity and could identify which of their own products as well as which of their trade partners' products held consumer-based brand equity: *"One of the issues that we have is how many commodity categories we're in, and for the most part **consumers do not connect with the brand that's on**" [our products].* The consumer connection is the basis for **consumer-based brand equity** (CBBE), called customer-based brand equity by Keller (1993) and defined as **the differential effect of brand knowledge on consumer response to the marketing activities of the brand**. Keller emphasizes the importance of achieving differential advantage and associating it with the brand, focusing on consumer behavior as evidence of differential effect attributable to the brand. For Keller, the measure of consumer-based brand equity is "reflected in perceptions, preferences, and behavior related to all aspects of the marketing of a brand" (p. 45).

Brand knowledge, the central concept of CBBE, is based on the associative network model of memory (Collins and Loftus 1975; Raaijmakers and Schiffrin 1981) that represents memory as a network of nodes and links. Nodes represent stored information and associated links represent the strength of associations between the nodes. Brand awareness and brand image are the two elements of brand knowledge. The measure of brand equity using the CBBE framework is the assessment of what consumers know about the brand discovered through tracking studies documenting the level of brand awareness and the nature of brand image in terms of specific perceptions and evaluations.

Informants reported it is often CBBE that provides entrée for companies in their relationships with downstream retail customers: “*And if you have a brand... then at least they (prospective customers) have a reason or a need to talk to you.*” The consumer brand also plays an important role for many firms maintaining relationships with trade partners: “*...because you have to have [our product brand]. It’s like in laundry detergent, you have to carry Tide.*” Recognizing the power of CBBE, many retailers develop store brands in competition with their suppliers:

*[A national retailer] believes that **they have a better opportunity to promote their brand** [Store Brand] versus promoting the hundreds of brands that they merchandise in their stores. They think they’ll get more bang for their buck there. They’re looking to **improve their margins and also their brand recognition.** [Brand Equity]*

The battle for CBBE between manufacturers and retailers makes for some tense supply chain relationships:

Do retailers care, or do they look at the financial well being [of their trade partners]? They don’t. They just buy from people who do the most for them and at the lowest price. And they always assume if they go out of business, you know, I’ll just go somewhere else. That’s the assumption unless you have a brand.

Several firms in the study actually had two divisions - one that managed the firms' brands with consumers and the other that produced private-label store brands for national retailers. Other manufacturers in the study assiduously avoided producing private label brands, which they described as "*the road to commoditization.*" In one case, the firm provided value-added services associated with their consumer brands in order to maintain a presence in retail outlets heavily dominated by store brands: "***We are always positioning our brand against a customer who's going down the path of private label or direct force, positioning the brand and how we support that brand within their environment***" [Value Added Services].

Manufacturers described the importance of developing consumer-based brand equity to pull product through the supply chain by going directly to end-consumers to build awareness of the brand: "*We also do **pull marketing** sometimes where we'll go directly to an end user to create a pull that channels back through several distributors.*" Pull marketing works because downstream trade partners, such as distributors and retailers, respond to brand equity built in consumer markets by their upstream suppliers by choosing products because of their high levels of consumer-based brand equity.

An interesting twist on pull marketing was described by an upstream supplier who leap-frogged customers to go to downstream organizational customers in the supply chain: "*We're calling **pull marketing** going to the retailer with [product brand] marketing that you see in trade magazines.*" This manufacturer also had selling teams that routinely called on retailers, bypassing finished goods manufacturers that were their direct customers in order to create a pull for their products within the supply chain.

While they found this to be an effective strategy, they realized the potential for conflict with their customers:

It's tough on our direct customers. They don't like it. They don't like being told that they have to buy [our products] to supply their customers' needs. But over the years they've gotten used to it and have finally realized that we're the ones spending the millions of dollars promoting [the product], not them. And that their sales are guaranteed - they just have to buy it from us. And it's worked well.

Manufacturers recognized the need to have a strong value proposition associated with the brand in order to use a pull marketing strategy:

*It tends to be performance [products] that pull through because you can **go to the end-use customer** [Consumer-Based Brand Equity] and say, "**it lasts four times longer, it will do this, it won't do that**, here are our comparisons to the competition, we guarantee all these things performance-based." And **normally our [products] are far superior in performance and can demand pull through. And because I'm the only one in the world that [produces this high-performance product], I do have a brand.** [Value Proposition]*

The concept of a value proposition can be found in the literature on customer value. Woodruff (1997) defines customer value as "a customer's perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer's goals and purposes in use situations." Brand equity is created when customers perceive the connection between the brand and the value proposition thereby generating a differential effect in responses to the marketing activities of the brand. Thus, the level of brand equity arises from both the strength of the value proposition as well as the strength of the connection of the value proposition with the brand. For example, customers who value reliable overnight package delivery are likely to name FedEx as a brand strongly connected with that value proposition. Other brands, such as Airborne Express and UPS, offer the same value

proposition of reliable overnight package delivery. However, they do not have levels of brand equity equal to FedEx because their brands are not as strongly identified with the value proposition. The next section provides more information about value propositions associated with trade-based brand equity.

Trade-Based Brand Equity

While some firms have CBBE, all firms that have organizational trade partners have some level of **trade-based brand equity** (TBBE), defined in this study as **the differential effect of the brand on the response of trade partners to marketing activities of the firm**. Logically, it makes sense that there must be a different source of brand equity (i.e., trade partners in the supply chain) for firms that have no visibility in consumer markets. For such firms, trade-based brand equity represents the totality of their firms' brand equity. Building TBBE appears to require offering a value proposition responsive to the needs of organizational customers and associating that offer with the name of the firm. While most studies of brand equity focus on equity built with downstream customers or end consumers, an interesting finding in the qualitative study was that informants described the effect of their firm's brand equity on relationships not only with downstream customers and end consumers, but also with upstream suppliers (see Figure 2). In other words, trade-based brand equity is built with both upstream and downstream trade partners. Brand equity in supplier relationships is briefly discussed following reports from customers on trade-based brand equity.

As described in the previous section, having CBBE is often an important part of the value proposition to trade partners, especially when the downstream customer is a

retailer: “*For us (supplier to national retailers), a **brand name is very important***”

[Consumer-Based Brand Equity]. In other cases, CBBE was not considered at all, as illustrated earlier by the manager who said that most of their suppliers were unknown to consumers. One manager realized that his firm’s CBBE was an important selling point for trade partners: “*Your branded products become a part of your value proposition*” [Trade-Based Brand Equity].

Descriptions of trade-based brand equity can be grouped into four categories: corporate reputation, product quality, service quality, and relationship quality. The first category of responses describes corporate reputation and relates to the differential effect of associating a firm’s name with their products:

*The name [of our company] today **means everything** in [our] industry [Corporate Reputation].... [We are] **not known as the low price person** out there. If they want to buy on price alone, they’re coming to the wrong place. We get a good price for our [products], but we also **supply the best quality [along with] value-added [services]** [Value Proposition]. So that **plays a big part in making a sale** [Differential Effect] with the customer.*

In this example, the informant was describing the positive effect of associating the firm’s name with the value proposition of high quality products and value-added services. The name of the company “plays a big part in making a sale.”

Informants described three aspects of corporate reputation: trustworthiness, stability, and business philosophy. Relationships with firms that were known to be trustworthy were highly valued: “*We deal with people that are **trustworthy**.*”

Trustworthiness was described as those companies who were known to follow through on commitments: “*You said you were going to do this and this is what you did. Your actions show that you’re **trustworthy**.*” In a less elegant report, an informant further

described trustworthiness as knowing that a trade partner is “*not going to screw us.*”

Related to trustworthiness, informants also reported the importance of working with suppliers with reputations as “***solid citizen vendors that have been around a long time***” [Stability]. This implies some minimum longevity in the trade in order to become “known.” It also assumes some level of financial stability to support follow-through even when a business proposition turns out to be not as profitable as planned. A supply chain manager with 40 years’ experience in the industry summed it up: “*The only way to have a good relationship with [a vendor] is to **be honest**. I’m serious - I’ve been in it long enough to know that.*”

Finally, informants reported business philosophy to be an important element of corporate reputation: “*So, there are certainly customers that are **philosophically more aligned** with our organization than others. So, therefore, you tend to have a **better relationship** with some than others*” [Business Philosophy]. Some companies hold stronger views about the value of relationships to the firm: “*Not all customers are willing to collaborate in that kind of degree.*”

However, associating the firm’s name with the offer is not always positive. Depending on the quality of interactions with trade partners, firms may enjoy positive or negative trade-based brand equity. One manager acknowledged that while his firm has built a strong consumer brand (i.e., positive CBBE), they have a reputation in the trade as being difficult to deal with, resulting in negative TBBE: “*I think people know historically that this a pretty **leading edge retailer**. And, sometimes we’re also **known to be very difficult to work with***” [Corporate Reputation]. The manager acknowledged that this has been a problem for his firm’s profitability, which he described as cost

inefficiencies in the supply chain: *“We historically have been very cost inefficient in how we have run our supply chain... The whole concept of branding has really led us to think very differently about supply base and supply chain.”* This manager went on to explain that they are now investing in building stronger relationships with suppliers in order to assure consistent quality and reliability from their supply base.

All managers in the study acknowledged that product quality is fundamental to building brand equity with trade partners: *“The first thing I look for is the **quality of the product** that we’re getting from the supplier.”* As firms experiment with expanding their supply networks overseas, product quality is an important issue: *“**Quality** is a major issue with [our suppliers]. You can get some really terrible things out of Mexico, but they are very cheap, but you can’t [use] them.”* This was echoed by a manufacturer in another industry: *“There are certain grades of product ... that have a standard that is subject to **very high rigorous standards**.”* Product quality is never taken for granted. New suppliers are examined *“with a fine tooth comb”* and existing suppliers must continue to meet rigorous quality standards. Reporting on declining product quality coming from a long-time, major supplier, a supply chain manager reported: *“I mean you didn’t have to worry about product lines. They were all just super; the missed specs, we just didn’t worry about bad quality. Today it’s just the reverse of that.”*

Informants also portrayed service quality as an important element of trade-based brand equity. Service quality was described as having three dimensions: service levels, value-added services, and responsiveness. Service levels involved the traditional measures of service quality - on-time, complete delivery of orders. A manager with several decades of experience in his industry commented: *“But today it’s much different.*

I've seen a completely different attitude, I think, in the relationship between the supplier and us, by a prominent supplier. They really do want your business, and they want to meet every request, and meet it on time, if that makes any sense to you." High service quality was attributed to suppliers who work *"to make everything come in on time or get on time deliveries. They really work with you like you wouldn't believe."* Service quality also includes the way in which the product arrives at the customer's site. Services that make the product ready to use - such as unloading, bar-coding, and palletizing parts - are important to customers. Reporting on shipping requirements for a major customer, a supply chain manager commented: *"Frankly, they have huge shipping requirements on how we palletize. All that stuff is probably hard for a small supplier to do."*

The second dimension of service quality is providing value-added services, such as cooperative advertising and technical support. In one case, the benefit of value-added services received from a supplier was passed along to downstream customers: *"And we paid our customer half of his advertising in marketing expenses. And [our supplier] paid us half of what we paid them."* Vendors also often provided technical expertise to downstream customers such as design and engineering consultation with manufacturers or on-site representatives to assist with promotions for retail customers: *"We tended to be with one major supplier just because they provided some marketing support, some technical support and those kind of things."* However, customers recognize that value-added services often mean higher pricing: *"Over time it became not as worth the money that it used to be, and there was some much lower priced items out there."*

The third dimension of service quality, described as a critical characteristic, was responsiveness to changing customer needs. Supplier responsiveness was described as

“jumping through hoops” and “scrambling to make things happen.” Responsiveness involved timely reactions to customer requests: *“They [a manufacturer] could do a lot of things; make a lot of quick decisions that these other companies probably wouldn’t do. And people like to do business with them.”* Describing a supplier, one informant talked about the impact of a supplier’s responsiveness on their own value proposition to downstream customers: *“They are [producing my raw material] ahead of time in order to get me a two week turnaround (in my production process).”* A retail buyer rated responsiveness as the most important characteristic of good service quality:

*The biggest thing would be **people that we could call if we had to scale up incredibly fast** above some forecast that we had given them, or was able to **push up a delivery**. Also could **accommodate us** if we needed to cut orders in half and, you know, and to do that pretty easily and sometimes do that minimum effect on cost and those kind of things [Responsiveness].*

Another key dimension of trade-based brand equity is relationship quality. The most common description of relationship quality can be described as working together for mutual gain: *“We brainstorm ideas to build the business that are beneficial for both of us, not just them, but how can it benefit [my company].”* Nearly every manager in the study recognized the importance of having trade partners who help improve the bottom lines of their operations: *“They make more money; hopefully, we make more money.”* Another informant described this as engaging in “win/win” propositions with suppliers. Informants described working for mutual gain as having suppliers who not only know their business, but also care about their success.

Developing win/win propositions requires suppliers to have an understanding of what drives profitability for trade partners. Asked to describe the characteristics of a good trade partner, one retailer said: *“So on their end, **they (suppliers) should know our***

business just as much, just as good, or better than us.” Knowing the customer’s business provides insight into ways to help trade partners reduce costs, thereby adding to profitability and building TBBE: *“You don’t survive in this marketplace for the most part any more if you’re a single line entity. So if we were out there [in just one product category], it’s difficult to get the time and the mind share that the guys who can walk in with four or five different categories. So [our company] is one of those mega manufacturers with something like 50 different product lines.”* Carrying multiple product lines reduces costs for customers by minimizing the number of suppliers they deal with: *“You can have a one order, one invoice. **It’s cheaper** to place the order to [one supplier] than to have two suppliers.”* Understanding the drivers of customer profitability were reported by an informant to be a key part of working toward mutual gain:

*We use a term called category management, and we think that **that’s a value we bring to the customer**, that is, either in a catalog or in a retail setting. It’s a combination of **the product assortment, how the product is arranged - either on the shelf or on a catalog page - how it’s priced, how it’s packaged, how it’s signed and identified** [Value Proposition]. And we **drive customer profitability** [Know my Business] *with those activities. They make more money; hopefully, we make more money* [Mutual Gain].*

Informants also talked about the importance of doing business with companies that care about their success: “If you’re known as an industry leader and known to **really care about trying to help your customers** [Taking Care], I think **that’s the key to growing our business and helping customers grow their businesses**” [Mutual Gain]. The final dimension of relationship quality was related by informants to the role of the salesperson: “**Their** (the supplier’s) **rep**, you know, stays in contact, and **has a very good relationship with you**, and is honest, and jumps through hoops when they can

[Role of the Salesperson].” The salesperson is the primary interface with the customer and, as such, is a key communicator of the firm’s brand. A manufacturer confirmed this: “[Salespeople] are the ones that are going to be communicating that (what the company stands for).” Recognizing the importance of staying in contact, many firms co-locate salespeople near the offices of key customers: “A lot of our sales people work out of their homes and are located right at the, you know, in the same town as our customers.” In many cases, suppliers co-located staff near or at the customer’s site in order to assure effective, ongoing communication:

*I think my best relationship is with one company, and I think it just goes to **who manages the account**, and how involved they are in the account. I probably talk to this one person two to three times a day.*

An interesting finding in this study is the link that informants described between brand equity and upstream trade partners. Brand equity in the supply chain is not only important in relationships with downstream customers, it also plays an important role in securing scarce resources from upstream vendors: “*The Gaps of the world, the department stores of the world, they're all basically trying to source in the same location whether it's China, Sri Lanka, Hong Kong, wherever.*” Manufacturers reported that suppliers want to be a part of the supply network of companies with strong brand equity: “*Everybody wants to do business with us.*”

In summary, consumer-based brand equity and trade-based brand equity are two distinct constructs that together comprise the brand equity of the firm. Firms may or may not have consumer-based brand equity; all firms with trade partners have some level of trade-based brand equity. The brand equity of the firm is a function of the levels of consumer-based brand equity and trade-based brand equity.

H2: Both trade-based brand equity and consumer-based brand equity are dimensions of brand equity.

The Moderating Effect of Brand Equity

Informants reported differences in perceived risk attributed to the level of brand equity held by their trade partners. The differences they reported appeared to be related to changes in the relationships between the antecedents of perceived risk – uncertainty, dependence and power – and perceived risk. That is, the trade partner’s level of brand equity moderated the relationships between the antecedents of perceived risk and perceived risk. Hypotheses are offered at the end of each section following a description demonstrating the moderating effect of brand equity on each of these relationships.

H3: Brand equity held by a trade partner moderates the relationships between perceived risk and its antecedents.

Uncertainty and Perceived Risk. Doing business with a company with a national brand (i.e., high brand equity) made uncertainty less of an issue. As one retailer described it: “*National brand [vendors], you kind of assume that they are going to manage their own business.*” These vendors need less monitoring because it is assumed their deliveries will be on time and high quality. The high brand equity of the firm was equated with a solid base of resources that made doing business with them less risky: “[*A national brand*] is a huge company in America. They have the **resources** - the IT capabilities and human resources - **to manage a vendor program** versus a smaller company. Let me think of somebody – maybe [*a less well-known brand*]. They are still a pretty big company, but nothing like [*the national brand*].”

On the other hand, doing business with vendors with low trade-based brand equity increased the importance of uncertainty:

*To give you an example, I had a supplier in here for a meeting, and the goods were supposed to have shipped. I received a message from our Far East office in e-mail. Some of the goods didn't ship. They were late. So I took the e-mail and put it in my folder and went into the meeting with the manufacturer, and I said, "You're late." "No, no, we're not late." I said, "You are late." I mean he argued with me for five minutes. So the integrity - **you just have to always be careful of the integrity issues** [Trustworthiness].*

In this example, the low brand equity of the supplier made uncertainty a more important element in the perceived risk to the firm. These examples illustrate the moderating effect of the level of brand equity on the relationship between uncertainty and perceived risk.

H3a: Increased brand equity weakens the relationship between uncertainty and perceived risk.

Dependence and Perceived Risk. High brand equity was described as strengthening the relationship between dependence and perceived risk by limiting the perceived availability of alternatives. In some cases, high brand equity led to market dominance that created dependencies by assuring high volumes of trade:

*We have **two-thirds of the market share**. So, that allows us the power and the retail footprint to be able to [have a definite presence] in every customer because **you have to have [our products]**. So, in that category we have that kind of dominance. In other categories, we don't, but because of our complete portfolio, sometimes the brand will allow us to enter into other categories that are not number one or two.*

In other cases, high brand equity supported by CBBE limited substitutability of alternative products: *"Something like Levi, that's it. Levi's is Levi's – **you can't substitute anything else.**"*

On the other hand, low brand equity derived from TBBE was related with decreasing importance of dependence to perceived risk. A supply chain manager reported a deteriorating relationship with a long-standing vendor whose quality had reduced significantly recently: *“Unfortunately [this supplier] makes some products that **you can’t find anyplace else**. It makes it doubly tough. If [this supplier] didn’t exist, then you’d have to leave that product line all together and just try to come back with some newer type product line.”* These examples portray a direct relationship between changes in the levels of dependence and perceived risk depending on the level of brand equity.

H3b: Increased brand equity strengthens the relationship between dependence and perceived risk.

Power and Perceived Risk. The level of brand equity was reported to affect the importance of power to perceived risk. As one retailer described it: *“I guess **you don’t have leverage** - the negotiation skills aren’t as important when you buy a national brand versus a private label product.”* Dealing with vendors with high brand equity was reported to be quite different from those with low brand equity:

*Yes, **there are different conversations when you discuss [a national brand]** because they dictate to you what the price is, they dictate to you when the product goes on sale, and what the sale prices are. I don’t have leverage with them...**you have to go by their rules**.*

The examples given previously to illustrate power as antecedent to perceived risk also provide evidence of the moderating effect of brand equity on the relationship between power and perceived risk. Two managers reported the effect of international store brands (i.e., Sears and Wal-Mart) that increased the importance of power to perceived risk.

While some level of power can be attributed to the retailer's position in the supply chain, these examples are evidence of the tremendous power exerted by retailers with international brands.

H3c: Increased brand equity strengthens the relationship between power and perceived risk.

In summary, changes in the trade partner's level of brand equity change the level of perceived risk by moderating the relationships between the antecedents of perceived risk and perceived risk. Although the importance of uncertainty is reduced as brand equity increases, the importance of dependence and power are increased, thereby raising the level of perceived risk. The most direct way to manage perceived risk is to manage the sources of perceived risk - uncertainty, dependence, and power - by establishing interfirm linkages in order to coordinate behaviors among trade partners. The next section explores the link between perceived risk and relationship management.

Relationship Management

Managers described varying levels of commitment (see Figure 8) to relationships with trade partners: *"I work with 357 suppliers, and out of that [there are] probably about 60 suppliers that I'm real close with"* [Relationship Distance]. The range of relationship distance associated with levels of commitment was reported to be quite wide. At the high distance end of the spectrum, some engagements were described as minimal, *"for a single season,"* while relationships involving high levels of commitment were typically low distance relationships involving investments made over decades: *"For many, many, many years we've probably bought 80 percent of all of our raw material*

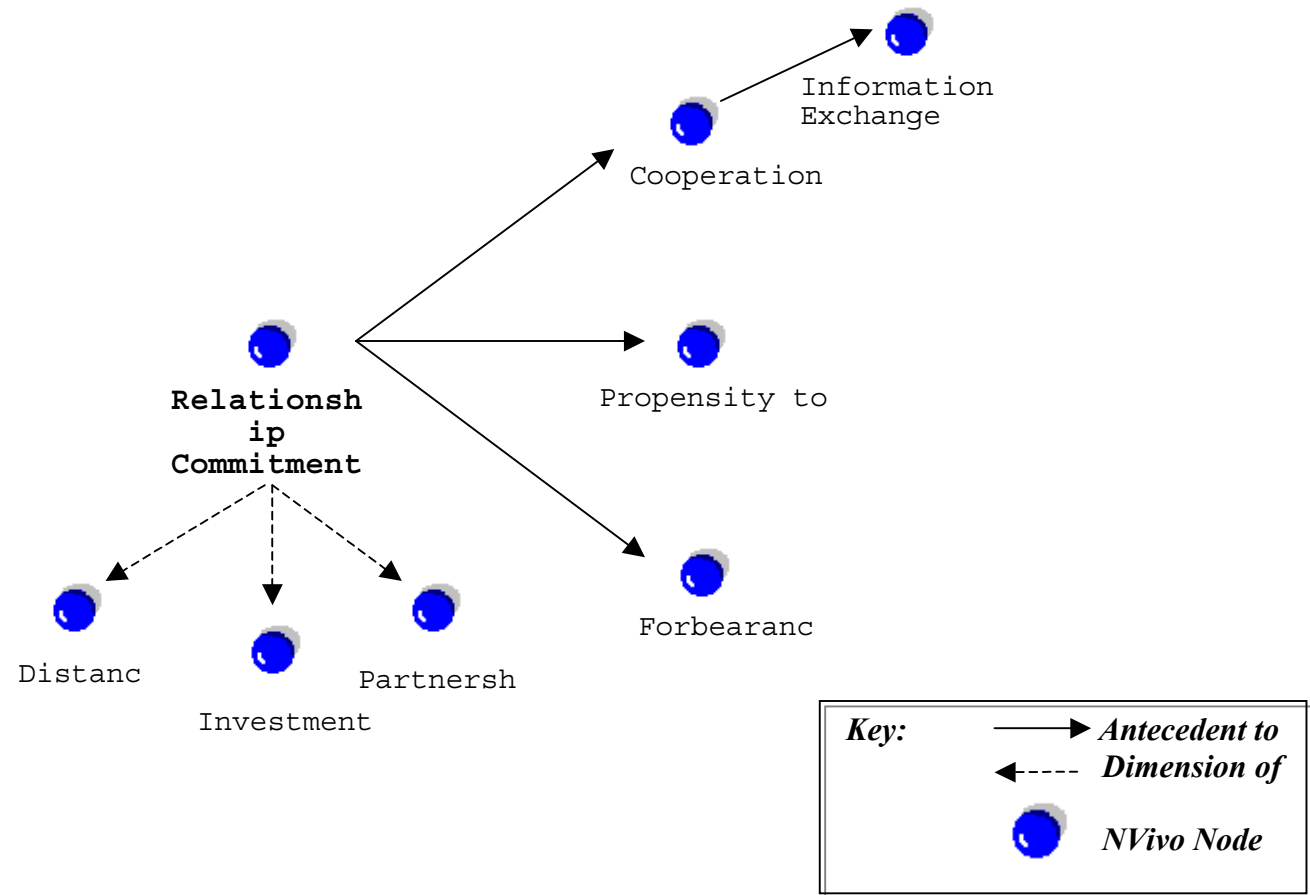


Figure 8. Coding Diagram for Relationship Commitment

*from one company. And **there's forty years of history there***” [Relationship Commitment]. Informants often cited the 80/20 rule; that is, 20 percent of trade partners account for 80 percent of supply on the supply side and revenue on the customer side.

Informants frequently described committed relationships as partnerships: “*They are **here with us all the time**. I mean it is **definitely a partnership**.*” Asked to say more about what the word “partnership” means, an informant replied: “*A true partnership is a **win/win**. True partnership is where you **work together** [Cooperation] and you develop a product, and **they make money and you make money**” [Mutual Gain]. The idea of equal levels of risk and reward was a consistent theme: “*I think of there are equally **shared risks and rewards**.*” Another manager described it as working “*as if we are not two companies. We approach it as **if we are one**.*”*

Committed relationships were reported to require significant investments. These relationships were consistently portrayed as those with high investment of time devoted to interaction, described as “*continuous interaction*” rather than “*a one-way download to somebody*” found in less committed relationships. The willingness to pay a higher price was associated with relationship commitment: “*We have said we're going to **pay a little bit more** because we want to be with a strong player, we want to be with a good partner.*” Firms were also willing to restrict the number of alternative trade partners in favor of stronger commitments: “*We moved primarily to **sole-sourced product** where it makes sense.*”

Relationship commitment can be defined as **the strength of the intention to develop and maintain a stable, long-term relationship** (Anderson and Weitz 1992).

Why do firms make commitments to interorganizational relationships? The literature suggests, “It begins when members of a firm perceive a need and have a motive to form an exchange relationship” (Frazier 1983). This could involve replacing a current exchange partner, adding a new exchange partner in anticipation of increased volumes or profit margins, or starting a new business or going into a new geographical region where no exchange relationships currently exist. When the firm’s need is “intense enough,” it initiates a search for exchange partners, gathering general information on benefits of association with potential partners. This information is used to form the evoked set - the alternatives the firm sees as potentially acceptable and about whom additional information will be collected (Howard and Sheth 1969). From this information, the firm forms beliefs of the expected intrinsic and extrinsic rewards that will be received over time (Bagozzi 1975; Etgar 1976; Sheth 1973). Extrinsic rewards include increases in market share, sales volume, and profits. Intrinsic rewards include the psychological pleasure received from entering and managing an exchange relationship as well as gaining approval and status within the industry.

The firm will choose the alternative that offers the highest level of valued rewards at acceptable investment and risk levels (Anderson 1982; Van Horne 1980). Once a choice is made, the firm engages in bargaining on the specific conditions of the exchange relationship. If the target also decides the focal firm is a desirable partner, an interfirm exchange agreement is formed (Bagozzi 1975). Each firm assumes a role, which carries specific role expectations (Stern and El-Ansary 1992) that are highly related to expected rewards (Frazier 1983).

Morgan and Hunt (1994) examined two key constructs - commitment and trust - associated with effective cooperation required for relationship management. They conceptualized commitment and trust as key mediating variables between a set of antecedent conditions and outcomes necessary for effective relationship marketing. Among the antecedent conditions they tested were shared values, communication, relationship benefits, and relationship termination costs. They examined cooperation, acquiescence, and reduced propensity to leave as outcomes related to commitment, and cooperation, functional conflict, and reduced uncertainty as outcomes related to trust. They found both trust and commitment mediate cooperative behavior; however, they found trust has the stronger effect on cooperation.

Relationship Commitment and Perceived Risk

Informants discussed managing relationships with trade partners in response to handling perceived risk to firm profitability. Specifically, they talked about managing the antecedents - uncertainty, dependence, and power - in order to affect the outcome, perceived risk.

Reducing Uncertainty. Managers talked about the importance of reducing uncertainty by engaging in relationships with suppliers who are trustworthy, described as those who “*meet their commitments*” and are “*always on time.*” Although this may seem like a fundamental premise of doing business, managers were plagued with suppliers who failed to deliver as promised, contributing to uncertainty in resource acquisition:

*And there are others (suppliers) that **tell you one thing and do another.** They'll say, we're going to keep this much in reserve stock, and they put it on paper. And then ten months later we find out, oh, their replenishment days went up by a week. And what's going on? Well, we took you off a loom. Well, **you didn't tell us that, why didn't you tell us** you took us off a loom?*

While managers valued relationships with suppliers who were trustworthy, they especially prized those that were also flexible and responsive to their changing needs, that is, the supplier who “*jumps through hoops when they can.*” Supplier responsiveness allowed them to cope with uncertainty in their markets by selecting trade partners who could “*scale up incredibly fast*” to meet unforecast demand.

Managing Dependence. Managers frequently talked about the need to manage dependence with trade partners. On one hand, they described strategies to become “important” to their trade partners by placing larger volumes of business with them. As mentioned previously, the volume of exchange was consistently cited as a factor for determining the need to establish a closer relationship: “*The volume of business is going to drive my time. I'm not going to worry about the little supplier that shipped ten shipments or twenty shipments to the company, because it's not worth my time.*” To achieve higher volumes with key suppliers and, therefore, become more important to them, firms concentrated resource acquisition in fewer suppliers: “*You may drop suppliers if your supplier base is too broad. You need to **consolidate your supplier base.***” At the same time, they realized there is a threshold beyond which a supplier can become too dominant and will “*pretty much own you.*”

Dependence was determined not only by volume, but also by contribution to strategic goals: “*We have to **stay focused on a smaller group of strategic suppliers** than*

having a large group of non-strategic suppliers.” Customers were more dependent on suppliers who provide products or services that support customers’ strategic objectives:

*We tend to operate in the fashion spectrum, and by definition it means you’re **working in partnership with certain key suppliers**. The partnership is driven from the fact that, not being vertical, **we really have to rely on them** (suppliers) for creativity, for uniqueness, and to make sure that they come to [us] when they have something special and something unique.*

Recognizing this, suppliers attempt to build dependence by offering “*a lot of value added services to the customer that will help them to grow. [We] create partnerships with them. I think that’s the key to growing our business - helping customers grow their business.*”

Firms were motivated to make higher levels of commitment in order to achieve strategic goals: “*And **real brands have strategic supplier type relationships that produce the kind of quality product you want when you want it.***” This comment about “real brands” was interesting. The company restructured around brand management after achieving high levels of success with a particular product. Management subsequently chose to develop closer relationships with suppliers as a strategic initiative aimed at building and maintaining brand leadership:

*We can't be a fly-by-night, go find a factory every time we want to produce something like we did in the old days when we shopped Europe, got a sample, brought it home, sent it over, knocked it off, produced it, and threw it in the stores. So, I think **our suppliers definitely see us more as brands today and, as a result we act more like brands, which is, you have to have total end-to-end strategic relationships.***

Balancing Power. Managers were aware of the need to monitor the balance between dependence, created by forging close relationships, with power: “*You don't want to put all your eggs in one basket. Basically when somebody gets that big, they*

pretty much own you.” Once a supplier reaches a certain threshold, it becomes difficult to switch to alternative sources of supply. Asked what would happen if a key customer were to switch suppliers, one manager said, “They’ve tried over and over and over, but they haven’t succeeded. That one style they buy from us is [thousands of] SKU’s for them, which is unbelievable.”

While customers are trying to avoid situations in which suppliers have power over them, suppliers are actively seeking to build dependence in order to gain more power: *“I mean giving zillions of people just a little bit doesn’t **make you important**. We have a goal to try to be important [to our customers]. And so we do restrict somewhat the people with whom we work.”* In this situation, the supplier prefers to be more important to a few customers than to have a large customer base.

In summary, firms in this study reported forming closer relationships with trade partners in order to handle perceived risk by managing the antecedents to perceived risk - reducing uncertainty, managing dependence, and balancing power.

H4: Increased perceived risk increases relationship commitment.

Outcomes of Relationship Commitment

Understanding the outcomes of relationship commitment is important to gaining insight into the potential gains for managers who invest in managing the brand in the supply chain. Informants in this study reported three important outcomes of higher levels of relationship commitment: increased cooperation, decreased propensity to leave the relationship, and forbearance.

Cooperation. Managers talked about their joint responsibility for assuring the

well-being of trade partners: *“If they do something inappropriate or something doesn’t go right, they could be out of business. And so we have to make sure because we’re trade partners with them **that we also help them along.**”* Assuring equitable dealings was a key element of cooperative behavior: *“We want to be **fair and just** to our suppliers as they want to be with us.”* Recognizing the importance of sharing information with suppliers, customers often talked about their information-sharing practices: *“We have also given our manufacturer (with a corporate brand) the fifty-two weeks [sales forecast] and what we think we are going to sell on this (product).”* By having information about future demand, suppliers can optimize their operations by balancing production lines to avoid down-time or overtime and by securing volume discounts from suppliers by ordering larger quantities. Given the complexity of many supply networks, information sharing is often a critical component of assuring the accomplishment of goals:

*Let’s say [our vendor] gets their [raw materials] from thirteen different sources around the world. And let’s say they’re running a forty two percent gain for the year. You can imagine the **collaborative efforts** that have to go on behind the scenes between us and them and their third party suppliers, in order to make all this happen. And a lot of these suppliers don’t want to reserve stock above what’s in production. They want to run real lean and mean.*

A manufacturer discussed his awareness of the effect of his firms’ actions on customer profitability: *“One organization cannot succeed without the input and **cooperation** of the other. So, for example, how we market [our market-leading product brand] will affect the sales at our customers’ retail points.”* A buyer described cooperation with a supplier:

*I think that if you were in a situation where you needed something you could call and say, you know, this is the situation I’m in. You can be honest. And **there could be some flexibility** without penalty like if I could move this, trade this, push this out, pull this in, without someone saying, I know I can’t do it, or I will but, you know, it’s going on your record, you*

know. I mean, you know, wanting to do it for you as much as you need it done.

The correlation between relationship commitment and cooperation is the centerpiece of the seminal study by Morgan and Hunt (1994). Their work provided evidence that relationship commitment is a key mediating variable to cooperative behavior in relationship management. Borrowing from Anderson and Narus (1991), they defined **cooperation as the degree to which the buying firm works with the supplier to achieve mutual goals**. This definition was adopted for this study.

H5: Increased relationship commitment increases cooperation.

Propensity to Leave. Informants affirmed their intentions to stay in relationships by limiting search behaviors when faced with situations that might require dealing with new suppliers. For example, if a new supplier were to offer a lower price than the current supplier, one manager said they would first give the current supplier the opportunity to match the offer from the new supplier in order to remain important to that supplier. This requires being very open with suppliers: “***Tell him everything really that’s going on and why you’re changing and see if he can meet the price.***”

This can become important when the customer suddenly needs a responsive trade partner: “[*If demand suddenly increased*], ***we would stick with our strategic sourcing group, those that we are building those relationships with, and we would work with them to try and up-size our product as fast as we possibly can.***” Suppliers recognized the advantage gained by taking care of committed partners:

*If it's handled properly and all the deliveries are met on time, then **the customer's happy about repeat business with us**. If they have a good situation and a good relationship and everything is flowing smoothly, **that's a big incentive to want to keep doing business with a company that can supply your needs**.*

Propensity to leave is one of the outcomes shown to be strongly correlated with relationship commitment (Morgan and Hunt 1994). They define propensity to leave as the likelihood the buying firm will leave the relationship in the near future. However, their definition appears to be tautological with the definition of relationship commitment adopted in this study (i.e., the intention to form a stable, long-term relationship). In this study, propensity to leave was operationalized as the behavioral outcome of the relationship commitment intention; hence, **propensity to leave is the degree to which the firm is actively searching for alternative trade partners**.

H6: Increased relationship commitment decreases propensity to leave.

Forbearance. Several informants described situations in which they either extended or were the recipients of forbearance from their trade partners. **Forbearance** is defined as **the degree of leniency extended to a trade partner in meeting the terms of the relationship**. A supplier was aware that relationship commitment built on the basis of his firm's consumer brands yielded leniency in meeting customer requirements: *"If you have a strong brand and **you can get a little more leniency** as you can't throw out [our brands] out of the catalog right away. You will over time if you can't fulfill the product, but **you get a few more breaks**."* Another informant described it this way: *"**You can stumble for a little while and then get back up, and they (customers) are more lenient**. If you're the number five in the category and you're tripping over yourself,*

you're likely to get replaced in the next plan or catalog review."

Describing an incident in which a major supplier failed to meet a significant delivery date, a retail buyer said: *"Stuff happens. That vendor happens to generate 60% of my volume... But you're certainly not going to drop your number one supplier because of this [failure to deliver an order]."* A manufacturer was aware of leniency with suppliers with whom they had committed relationships: *"I know that some of them - because of their longevity of performance and just everything they've done [for us] - they bypass some compliance issues."*

H7: Increased relationship commitment increases forbearance.

LITERATURE REVIEW

The literature offers additional insights into the central phenomenon of this study, brand equity in the supply chain. This review is not intended to be exhaustive; rather, it was used to enhance the researcher's sensitivity to the properties and dimensions of the phenomenon and to answer questions raised by the research findings. Specifically, the literature review examines findings in three literatures: brand equity, interorganizational exchange, and relationship management. The literature review was driven by two questions relevant to the qualitative study: What is the meaning of brand equity in supply chain relationships? What is the effect of brand equity on interorganizational exchange?

Brand Equity

While branding has played a role in commercial trade for centuries, it was during the twentieth century that brand management rose to prominence in building competitive

advantage (Aaker 1991). As noted by Low and Fullerton (1994) in their examination of the evolution of the brand manager system, the introduction and adoption of the marketing concept in the 1950s can be viewed as the beginning of the second “Golden Age” of brands. Fueled by the economic boom following World War II, “an explosion of new products, soaring demand for national brands, and the impact of television advertising increased the importance of brands” (p. 181). Anthropologist John Sherry (1987) described the prevalence of brands in 20th century America as living in a rich “brandscape.” The proliferation of brands in this new era means, “increased competition for the customer’s mind as well as for access to the distribution channel” (Aaker 1991, p. 8).

The successful brand not only distinguishes the company’s products, but also influences preferences that favor the brand’s bases of differentiation (Aaker 1991), resulting in competitive advantage attributable to the brand. It is this incremental value endowed by the brand that is the central phenomenon in the study of brand equity. During the 1980s and 1990s, the concept of brand equity received considerable attention in academic research and has been explored from both the firm’s and the consumer’s viewpoints.

Brand equity is typically defined in financial terms as the revenue earned by the seller beyond the physical assets associated with the production of the branded product (see Table 1). An alternative valuation measures the price premium a customer is willing to pay compared to an identical unbranded product. Keller (1993) examined the concept of brand equity at a deeper level when he defined it as the “differential effect” attributable to the brand, opening the door for consideration of behavioral differences that

drive financial gains. This broader, behavior-based conceptualization of brand equity fits well with the reports of informants in this study. The following review of conceptualizations of brand equity illustrates the challenges faced by brand managers when they attempt to devise strategies to build brand equity.

Farquhar (1989) offers a broad definition of brand equity that is often cited in subsequent scholarly work. He defines brand equity from the seller's point of view as "the added value with which a given brand endows a product" (p. 7). While this definition could be construed to apply to either the value added to the seller or the value perceived by the customer, Farquhar clearly states that the measure of brand equity should be the incremental cash flow that accrues to the seller from associating the brand with the product. He briefly mentions the consumer's perspective on brands, reflected as the increase in attitude strength for a product; however, he notes that his measure of brand equity as incremental cash flows to the firm is preferred "because attitude strength is a major determinant of product purchase behavior" (p. 8).

Aaker (1991) defines brand equity as "a set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers" (p. 15). While he includes the customer's perception of value in his definition of brand equity, the five categories of assets he defines as comprising brand equity are a mix of measures from the customer's and the seller's viewpoints: 1) brand loyalty, 2) brand awareness, 3) perceived quality, 4) brand associations, and 5) other proprietary assets. Based on these categories, Aaker proposes a set of management guidelines for measuring and managing brand equity by benchmarking and monitoring each type of brand asset.

According to Keller, the advantage of his CBBE concept over Aaker's conceptualization of brand equity is that the CBBE framework "is based on a more detailed and fully articulated conceptual foundation" that provides brand managers with a better understanding of how to build and manage brand equity (Keller 1998; p. 625). Like Aaker, Keller's concept of brand knowledge includes brand awareness as an important component in building brand equity. However, Keller incorporates Aaker's other assets - brand associations, perceived quality, and brand loyalty (which Keller calls brand attitude) - into the higher-order concept of brand image. Thus, brand awareness and brand image are the two elements of brand knowledge, the central construct in the CBBE theory. The measure of brand equity using the CBBE framework is the assessment of what consumers know about the brand discovered through tracking studies documenting the level of brand awareness and the nature of brand image in terms of specific perceptions and evaluations.

Taking a financial perspective, deChernatony and McDonald (1998) regard brand equity as the incremental cash flow resulting from the brand name. They define brand equity as "the differential attributes underpinning a brand which give increased value to the firm's balance sheet" (p. 397), proposing that the key to evaluating brand equity is to understand the brand's level of differentiation from competitors' offers by assessing relative attributes of the brand as a measure of the brand's strength. Drawing on Keller's (1993) and Aaker's (1996) work, they propose six core components of brand attribute evaluation: 1) brand awareness, 2) brand image, 3) perceived quality, 4) perceived value, 5) personality, and 6) organizational associations. The relative evaluations of the brand's attributes affect the strength of the brand, which, in turn, is reflected in the financial value

- the brand equity - of the brand.

Several authors have tackled the problem of estimating the financial value of branded products. Srinivasan (1979) examined “brand-specific effects,” defined as the component of overall preference not explained by objectively measured attributes. He measured these effects by comparing actual choice behavior with choices implied by utilities derived from conjoint analysis of product attributes without associated brand names. Simon and Sullivan (1993) estimated brand equity as the incremental cash flows resulting from the seller’s investment in brands. Swait and colleagues (1993) proposed brand equity as the monetary equivalent of the total utility a consumer attaches to a brand, departing from the notion of estimating added value to arrive at brand equity. Park and Srinivasan (1994) define brand equity as “the incremental preference endowed by the brand to the product as perceived by an individual consumer” (p. 273). They used a survey methodology for measuring the monetary value of brand equity at the individual consumer level while simultaneously capturing the sources of brand equity. An interesting finding in the product categories examined in their study (toothpaste and mouthwash) was that brand associations unrelated to product attributes (i.e., attributable to the brand name) were more important than favorably biased product attribute associations in determining a brand’s equity.

The focus of the body of literature on brand equity has overwhelmingly been in the consumer context. However, several authors cited above refer to the importance of channel or trade relationships to brand equity in their work, and there are a handful of authors who have contributed conceptual insights and empirical research to understanding the meaning of brand equity in interorganizational exchange.

Brand Equity in Interorganizational Exchange

Levitt (1980) is perhaps the earliest author to consider the role of brands in interorganizational exchange in his exploration of the potential for pursuing marketing strategies based on differentiation of industrial goods. Levitt noted that when a product is marginally differentiable, sales power shifts from what he calls the “generic” product to the intangibles of the offered product. Levitt (p. 83) cites the following example to illustrate his point:

On the commodities exchanges, for example, dealers in metals, grains, and pork bellies trade in totally undifferentiated generic products. But what they ‘sell’ is the claimed distinction of their execution -- the efficiency of their transactions in their clients’ behalf, their responsiveness to inquiries, the clarity and speed of their confirmations, and the like. In short, the offered product is differentiated, though the generic product is identical.

He observed that the usual assumption about so-called undifferentiated commodities is that they are extremely price sensitive; therefore, harder personal selling, intensified advertising, and more or better services are often the responses to potentially devastating price wars. Levitt advises firms to consider taking advantage of the opportunity to introduce brand management into the marketing process for industrial goods, “especially those that offer generically undifferentiated products and services, to escape the commodity trap” (p. 91).

One of the more extensive discussions of brands in interorganizational exchange is offered by deChernatony and McDonald (1998), who devote an entire chapter of their book on building brands to brands in the business-to-business setting. They note that although trade advertising often focuses on product functionality and quality, organizational buyers are also susceptible to emotional motivations for choosing branded

products. They conclude that while there are differences between consumer and organizational markets, brand managers can fine-tune techniques used in consumer marketing and adapt them to the organizational buying situation. Specifically, they advise paying attention to the composition of the organization's buying center and the decision-making process used for choosing a product.

Although Aaker (1991) includes channel relationships in his concept of proprietary brand assets, one of his five dimensions of brand equity, he does not discuss the role of brand equity in interorganizational exchange. He notes that strong channel relationships may contribute to consumer brand equity by assuring adequate distribution by wholesalers and providing advantages in terms of display space at retail. Aaker suggests that brand equity built in consumer markets can provide leverage in distribution channels by reducing uncertainty on the part of trade partners; however, he does not expand on this idea.

While Keller (1998) observes that "retailers have to be treated as if they were 'customers' too" (p. 193), he allocates only six pages to the discussion of interorganizational exchange in his 650-page textbook on managing brand equity. Like Aaker, Keller acknowledges that consumer-based brand equity can affect channel relationships. He, too, notes that the opposite relationship holds: channel relationships may have an effect on consumer brand equity: "By the actions they take, retailers can enhance or detract from brand equity" (p. 192).

In his brief discussion of industrial product brands, Keller notes that companies selling industrial goods "are more likely to emphasize corporate or family brands" (Keller 1998; p. 603) due to the complexity of the product mix and the manner in which they are

sold. He acknowledges that marketing programs aimed at building brand equity for industrial goods “can be different from consumer goods in that, given the nature of the organizational buying process, product-related associations may play a relatively more important role as compared to non-product related associations” (Keller 1998; p. 605). This seems to conflict with his guidelines for building brand equity for industrial products which advises focusing on non-product attributes such as company credibility, company image, and prestige associated with being a customer of the firm.

A handful of papers represent the empirical research in the area of brands in interorganizational exchange. Sinclair and Seward (1988) explored the effectiveness of branding structured wood panels. In a two-phase study, they gathered data both from manufacturers and their organizational customers, building material retailers. They concluded that manufacturers tended to overestimate the effectiveness of their branding strategies directed at retailers. Although most products offered in this category are branded, retailers identified price and availability as the two most important considerations in their purchase decisions. However, the authors note that a few producers were able to achieve strong brand recognition and brand preference with their retail trade partners, “even to the point that customers (i.e., retailers) were willing to pay a premium price” in order to stock the product in their stores (p. 35). Although they offered this observation in their summary, the authors did not explore the differences in brand strategies between these successful companies and the companies that were not successful.

Shipley and Howard (1993) examined branding practices for a range of industrial products in the United Kingdom in a mail survey to marketing managers at

manufacturing firms. The results showed that UK companies use brands extensively to promote their industrial products with their organizational customers. However, they did not include any effectiveness measures in their study. Michell, King and Reast (2001) replicated the study by Shipley and Howard and extended their work by adding measures of effectiveness. In addition to gathering information about the prevalence of brands in industrial markets, their study also tested propositions related to managers' perceptions of competitive differentiation, brand loyalty, and brand equity afforded by their brands targeted toward industrial buyers. They concluded that brands continue to be extensively used by manufacturers of industrial products in the UK and that manufacturers believed branding generated competitive advantage for their firms. A distinct shortcoming of this research is the focus on the manufacturers' perceptions of the importance and nature of their brands as opposed to the trade partners' viewpoints. As shown in other research, marketing managers tend to overestimate the relative importance of their brand strategies to their customers (Sinclair and Seward 1988).

Gordon, Calantone and di Benedetto (1993) surveyed electrical contractors in the United States and concluded that brand equity is "alive and well" in the circuit-breaker product market. However, their results indicated the contractors' loyalty to distributors was as important as their loyalty to the brand. An interesting finding in their research is that brand loyalty was synonymous with firm loyalty in this product category.

Mudambi, Doyle and Wong (1997) conducted 15 in-depth interviews with manufacturers, distributors, and purchasers of industrial products to probe the sources of industrial brand value to organizational customers. They proposed four performance components for industrial brands, each with a tangible and intangible dimension: 1)

product performance, 2) distribution performance, 3) support service performance, and 4) company performance. In a limited study with eight senior buyers of industrial goods, Thompson, Knox and Mitchell (1997) examined the nature of brand attributes that are important at various stages of the buying process. They concluded that industrial buyers were influenced by brands and described 13 key attributes which they grouped into three broad categories of parity criteria (comprised of technical capability, innovativeness, and product/service quality), differentiators (comprised of financial standing, company size, price, image, and reputation for delivering on promises), and partnership criteria (comprised of cultural fit, personal compatibility/trust, professionalism/leadership, management skills, and pre-/post-sales responsiveness). In addition to these cross-sectional studies, the literature provides case studies of industrial branding such as Norris' (1993) study of Intel and Strong's (1987) report of Kodak.

In summary, while the consumer brand equity literature offers a rich theoretical base and a variety of useful concepts supported by extensive empirical research, the application of these frameworks to the interorganizational exchange context has not yet been tested. Overall, the development of theory and field research in the role of brands in interorganizational exchange has been relatively neglected. The following sections explore the literature relevant to the context - interorganizational exchange and relationship management - in order to address the second question: What is the effect of brand equity on supply chain relationships?

Interorganizational Exchange

Following the behavioral theory of the firm, organizations can be characterized as coalitions of individuals who engage in problem solving in order to achieve organizational goals (Cyert and March 1963). A critical problem facing the firm is the acquisition of resources necessary for goal attainment. These resources, acquired through interorganizational exchange, include inflows of materials, supplies, and information from the firm's vendors as well as financial and information flows from organizational customers. The literature in organizational buying provides a useful starting point for gaining insight into interorganizational exchange from the buyer's perspective.

In an early review of the study of organizational buying, Webster and Wind (1972) noted there are two disciplinary orientations to explaining organizational buying behavior – the microeconomic approach and the behavioral approach. The underlying assumptions of the microeconomic model are that the unit of analysis is the transaction, and the goal of organizational buying is to maximize efficiency by minimizing the costs of transactions. Built on transaction cost theory (e.g., Williamson 1975), a significant body of research examines decisions about resource acquisition achieved by comparing the cost of available alternatives with expected benefits. However, microeconomic theories have been criticized for failing to account for the behavioral dimensions of organizational buying.

Macneil (1980) embraced the behavioral approach, introducing the notion of relational exchange and developing a formal typology of discrete versus relational exchange. He defines “discreteness” as:

“...the separating of a transaction from all else between the participants at the same time and before and after. Its [pure form], never achieved in life, occurs when there is nothing else between the parties, never has been, and never will be” (p. 60).

In contrast, his concept of relational exchange accounts explicitly for the historical and social context in which transactions take place with enforcement of obligations as arising from the mutual interests that exist between parties to the relationship. Thus, the outcome of interorganizational exchange is viewed not as the completion of a discrete transaction; rather, it is the negotiation of a relationship embodied in the selection of a trade partner.

These two approaches to understanding interorganizational exchange have been suggested as a continuum that can be described as relationship distance (Day 2000), a significant dimension of relationship management in interorganizational exchange.

Relationship Management

Arndt (1979) conceptualized interorganizational exchange to be characterized by long-term associations, contractual relations, and joint ownership. Dubbing these phenomena “domesticated markets,” he argued that within such ongoing relationships “transactions are planned and administered instead of being conducted on an ad hoc basis” (Arndt 1979, p. 70). Observing a similar pattern in interfirm relationships over 20 years earlier, Forrester (1958) introduced a theory of management to explain the effect of interdependence on firm and distribution system performance. He argued the dynamics of flows of information, materials, money, manpower, and capital equipment in a distribution system influence both the functions within the firm as well as the distribution system as a whole.

Forrester's work laid the foundation for the supply chain management perspective of interorganizational relationships. A supply chain is defined as "a set of three or more companies directly linked by one or more of the upstream and downstream flows of products, services, finances, and information from a source to a customer" (Mentzer et al. 2001). As noted in Chapter I, there is a growing awareness of the importance of managing relationships in interorganizational exchange (Anderson and Narus 1991; Dwyer, Schurr and Oh 1987). Scholarly literature in channels and relationship management provide additional insights into the nature and function of supply chain relationships.

Mirroring the literature in organizational buying, channel relationship literature also consists of two main research streams -- the microeconomic and the behavioral paradigms (Stern and Reve 1980). Again, the general decision criterion underlying the microeconomic model is efficiency. The choice here is between internal and external organization of relationships, paralleling the make-or-buy decision in transaction cost analysis (e.g., Williamson 1975). When a firm determines that it is more cost effective to engage in external relationships, a level of control can be achieved by means of reciprocal "hostage exchanges" (Williamson 1983, p. 532). Although the hostages in question may never be really exchanged, the effect of such commitments is to create a lock-in condition that promotes the continuation of relationships. Cooperation results under such conditions because both parties have constrained alternatives open to them. In effect, a dependence condition is created which, if symmetrical, constitutes a collective incentive to maintain the relationship (Oliver 1990). Microeconomic theories such as transaction cost analysis have been criticized for failing to account for processes that

characterize channel relationships.

In response to the shortcomings of microeconomic explanations of interorganizational relationships, a behavioral research paradigm emerged with a focus on the design of mechanisms for controlling role performance of channel members (Stern 1969). Relationship management in this paradigm is a matter of establishing and employing power, subject to the overarching goal of coordinating the efforts of channel members. A level of power - “the potential for influence on another’s beliefs and behavior” (cf. El-Ansary and Stern 1972) - accrues to the firm based on two primary factors: authority and dependence (Frazier 1983). A firm’s authority represents its right to influence or specify certain behaviors that are accepted by other firms (Robicheaux and El-Ansary 1975). Dependence theory (Emerson 1962) predicts one firm’s power in a two-firm relationship is based on relative dependence. The higher the level of valued rewards anticipated in the relationship relative to those available in alternative relationships, the higher a firm’s dependence (Aldrich 1979, Emerson 1962).

Heide (1994) developed a formal typology of approaches to relationship management. His typology separated market and nonmarket governance, and then further divided nonmarket governance into unilateral/hierarchical and bilateral forms of governance. He proposed nonmarket governance is a heterogeneous phenomenon and different relationship management strategies are appropriate under different conditions. For each form of governance, he explicated three states of relationship development, which he calls generic governance processes - initiation, maintenance, and termination - noting that the emphasis in most relationships is on the maintenance phase.

In summary, the literature in relationship management offers several approaches

to understanding the context of this study. The phenomenon of brand equity in interorganizational exchange is clearly situated in relationship management. The relationship management literature supports the theoretical framework for this study, which parallels resource dependence theory and offers additional insight into the interactions of various theoretical concepts such as power, dependence, and cooperation. The literature also suggests that interorganizational relationships are dynamic over time, moving through multiple stages of development.

CHAPTER SUMMARY

Chapter II provided an overview of grounded theory methodology, the method used to collect and analyze field data in building the theory, followed by reports from the field combined with extant theory to generate a theory of brand equity in the supply chain. A literature review of the broad concepts relevant to brand equity in the supply chain - brand equity, interorganizational exchange, and relationship management - was provided and discussed in light of the field study. Key findings included the discovery of a second dimension of brand equity, trade-based brand equity. Brand equity is proposed to comprise both trade-based brand equity and consumer-based brand equity.

Pfeffer and Salancik's (1978) conceptualization of perceived risk in organizations as an outcome of uncertainty and dependence was confirmed; however, the uncertainty construct developed in this study differs from their conceptualization. Pfeffer and Salancik viewed uncertainty as the ability to predict and control future resource flows. Informants clearly saw these as two separate conditions; that is, the level of predictability is distinct from the level of control. In this study, predictability of resource flows is

conceptualized as uncertainty; control over resource flows is reflected in the power construct.

Brand equity was proposed to increase relationship commitment by operating as a moderator between perceived risk and its antecedents. The level of the trade partner's brand equity changes the level of importance of the antecedent conditions - uncertainty, dependence, and power - thereby changing the level of perceived risk. Thus, by increasing perceived risk, brand equity increases relationship commitment. The findings support Morgan and Hunt's (1994) conclusions about the relationship between commitment and cooperation, and commitment and propensity to leave. A third concept, forbearance, also was found to be an important outcome of committed relationships.

The qualitative study provided a theoretical framework and testable hypotheses related to brand equity in the supply chain. The following chapter presents the methodology for the quantitative test of the hypotheses from the perspective of a focal customer-supplier relationship.

CHAPTER III TESTING THE THEORY

RESEARCH DESIGN

This chapter provides details of the procedures used for gathering and analyzing data for the tests of theoretical hypotheses presented in Chapter II. A survey methodology was employed to collect perceptions of the effect of brand equity in the supply chain from a large, cross-sectional sample of retail managers in the home appliance industry. Survey methodology was used for three reasons: 1) surveys are appropriate for gathering a large number of responses in a relatively cost-effective manner, 2) the large amount of cross-sectional data obtained from a survey permits quantification of responses in a way that allows statistical testing for significance of results, and 3) survey results are generalizable to populations within the limitations of the sampling design. The following sections outline the research questions and hypotheses tested, along with procedures for data collection, survey design, and data analysis.

RESEARCH QUESTIONS AND HYPOTHESES

As stated in Chapter I, the primary purpose of the theory test was to determine the effect of brand equity in supply chain relationships. The theory test was conducted from the customer's perspective of a focal customer-supplier relationship; therefore, this study examined the effect of the supplier's brand equity in relationships with customers. The customers are home appliance retailers, and the suppliers are home appliance manufacturers.

The home appliance industry was chosen because the structure and characteristics

provide an appropriate context for a test of this theory. Home appliances are sold by manufacturers directly to retailers, eliminating possible influences due to intermediaries such as distributors. There are three major manufacturers of home appliances (General Electric, Maytag, and Whirlpool) and a host of less well-known manufacturers in the industry, providing the variation required to test CBBE and TBBE as dimensions of brand equity and the effect of brand equity on supply chain relationships.

Again, the primary research question was “What is the effect of brand equity in the supply chain?” Related questions included:

1. What is the relationship between brand equity in the supply chain and perceived risk?
2. Does relationship commitment differ with various levels of brand equity?
3. What is the relative importance of trade-based brand equity versus consumer-based brand equity to the level of brand equity perceived by the organizational customer?
4. What do companies stand to gain by building brand equity with trade partners?

Figure 5 illustrates the theoretical model and locates the hypotheses to be tested.

The model can be viewed as a contingency model; that is, the customer’s perceived risk was thought to vary contingent on the seller’s level of brand equity.

In turn, increased perceived risk affects the level of relationship commitment.

Therefore, the seller’s brand equity was hypothesized to operate indirectly - through perceived risk - to affect the level of relationship commitment. These theoretical relationships addressed the first three research questions. The fourth question was addressed by the right-hand side of the model, the outcomes of

relationship commitment.

DATA COLLECTION

The principal function of research design for a theory test is to control variance. The objective is to maximize variance attributable to theoretical relationships (systematic variance), control variance due to extraneous influences, and minimize error variance (Kerlinger and Lee 2000). In this study, the theory test was limited to a single industry (major home appliances) and a specific point in the supply chain (retailer-manufacturer relationship) in order to minimize extraneous variance due to influences of industry characteristics or position in the supply chain. To maximize variation of theoretical relationships, respondents were asked to report on their relationships with either their highest or lowest volume suppliers.

Sample Selection

The sampling frame was constructed from the list of current and prospective United States-based retail accounts provided by a leading home appliance manufacturer. Target respondents were senior-level managers with knowledge of relationships with home appliance manufacturers. Pre-qualifying telephone calls were placed to identify target respondents at each retailer who met knowledgeability criteria for key informants and who agreed to complete the survey. As a final check on respondent selection, the survey included self-report scales on the respondent's degree of knowledge of the relationship with the home appliance manufacturer, years of experience in the home appliance industry, and position within the company.

The initial list comprised approximately 21,000 names of independent, regional, and national retail accounts of a leading home appliance manufacturer. Some accounts were eliminated from the sampling frame due to either the unusual characteristics of the retailer (e.g., military exchange stores) or unique relationships with appliance manufacturers (e.g., manufacturers also the sole supplier of store brands). The pre-test sample size was guided by response ratios to recent surveys in similar settings; the main study sample size was determined based on responses to the pre-test. For the pre-test, 300 names were randomly selected for pre-qualifying telephone calls. During telephoning, approximately one-third of the list was found to contain invalid contact information along with names of businesses that had closed or no longer sold home appliances. Callers were able to reach 163 potential respondents of whom 116 (71 percent) agreed to participate. Fifty-two pre-test surveys were returned, yielding a 45 percent response rate.

The sample size for the main study was guided by the need to obtain a minimum of 700 usable responses in order to allow a robust test of the moderating latent variable, brand equity, using structural equation modeling. Based on a 45 percent response rate in the pre-test, the target was set at mailing a minimum of 1,500 surveys. A panel of 10 callers comprised of recent MBA graduates was employed to place pre-qualifying calls over a three-week period. A random sample of 7,200 names was drawn and distributed electronically to the callers along with a telephone protocol. Again, pre-qualifying calls revealed approximately one-third of the list was not usable. Callers were unable to reach another 17 percent of the list after three attempts. Contact was made with 3,636 potential respondents of whom 70 percent (2,463) were qualified to participate. Of those who

were qualified, 65 percent (1,612) agreed to participate. Surveys were mailed to these 1,612 retail managers in the home appliance industry in February, 2003. A total of 801 surveys were returned yielding a 49.7 percent response rate.

SURVEY DESIGN

The survey design for the pre-test and the main study followed Dillman's (2000) total design method. There were three to five contacts with each potential respondent, depending on the date of the respondent's reply, including two waves of survey distribution. The contacts included:

1. Pre-qualifying telephone call
2. Initial distribution of survey packets
3. Follow-up postcard reminder of due date for survey
4. Second distribution of survey packets to non-respondents
5. Final telephone call

As an incentive for participation, the names of those who responded in a timely manner (i.e., to the first survey mailing) were entered into a drawing for \$500 with the option to have the prize sent to either themselves or their favorite charities. The nature of the incentive was decided after conversations with selected home appliance retailers. All mailings were sent by first-class mail. The initial survey packet included a cover letter, survey, reply envelope with first-class postage stamp, postcard for entering the drawing, and University of Tennessee pencil. The second survey packet contained a cover letter, survey, and business-reply envelope. For the main study, a commercial mail house was engaged to assure timely distribution of the mailings.

Given the large number of expected survey responses, the survey for the main study was produced in scannable format to assure accuracy and efficiency in data entry. A Pennsylvania firm specializing in scannable survey design (NCS Pearsons) designed and printed the survey, and the University staff in the Office of Information Technology scanned the surveys. Survey data were provided to the principal researcher in an Excel spreadsheet. The survey pre-test items are found in Appendix C, and main survey items are located in Appendix E.

Data Integrity

Pre-test responses were manually entered into an Excel spreadsheet. Each survey was independently re-keyed a second time, and the results were compared to assure accuracy in data entry. To verify data integrity in the main study, a random sample of 30 scanned surveys were manually re-keyed and compared to the scanned results. No differences were found in the data verification step. Responses from all surveys in the main study with a high number of missing values (i.e., more than 15 percent) were reviewed to check for items that did not scan properly. Six surveys were inappropriately marked and entered manually.

Scale Development

Because several of the constructs in this study have been used in previous research, the first step in developing measures was to review scales used in similar studies. Scales for dependence (Ganesan 1994), supplier power (Gaski and Nevin 1985) and relationship commitment (Morgan and Hunt 1994) were compared to findings in the

qualitative study and subsequently adapted for the theory test. Achrol's (1988) scale for Uncertainty and Morgan and Hunt's (1994) scales for Cooperation and Propensity to Leave were also reviewed. The Uncertainty scale was not adopted because the measures were related to environmental uncertainty rather than uncertainty in a buying situation, the context of this study. The Cooperation scale was not adopted because it was a formative scale. The Propensity to Leave scale was not adopted because it measured intentions to leave the relationship rather than behavior.

New scales were developed where no appropriate scales existed, drawing on qualitative data to identify both the domain of the constructs and appropriate language for generation of potential items. Scales were developed following a five-step process: 1) generation of items, 2) review of items by academic colleagues familiar with the phenomenon, 3) review of items with industry representatives, 4) pretest of scales with a sub-sample of managers, and 5) purification of scales following both the pretest and main study (Churchill 1979). These steps are detailed in the following discussion.

Item Generation. A pool of items was generated for each construct, drawing on informant reports obtained in the qualitative phase of this study. Various forms for measures were developed and tested such as statements and questions followed by response mechanisms such as Likert scales and semantic differentials.

Academic Review. Academic colleagues familiar with the phenomenon and context of the study reviewed a draft of the proposed scales in order to assess item specificity, readability, face validity, and content validity. Item specificity evaluated the extent to which items had one-to-one correspondence with the property or dimension being measured; that is, items were assessed to minimize ambiguity and revise items that

asked for responses on more than one characteristic. Readability examined the language and grammatical construction of the items for ease-of-use by the intended audience. Face validity assessed whether the items were consistent with the theoretical domain of the construct and representative of the constructs they aimed to measure. Content validity related to the extent to which the items were representative of the construct they were intended to measure. Items were revised as needed based on feedback from this step.

Industry Review. Three managers in the home appliance industry were recruited who were willing to talk through their thought processes as they responded to an initial draft of the survey. Specifically, they were asked to evaluate items for readability and clarity, to assess the survey format for ease-of-use, and to report the amount of time required to complete it. Again, based on feedback from this step, items were reworded or eliminated, and the format of the survey was modified.

Pre-test with Managers. As described previously, a sub-sample of 300 respondents was drawn from the sampling frame and contacted in the same manner used for the main study. The purpose of the pre-test was to identify potential obstacles to survey completion, determine response rates, assess data quality, and evaluate unidimensionality and reliability of the scales.

Scale Purification. Scales were purified in a two-step process. First, scales were subjected to factor analysis scale and reliability tests following the pre-test. Scales were evaluated a second time during data analysis for the main survey. The following section provides details of scale purification based on pre-test analyses; scale purification from the main survey is detailed in the data analysis reported in Chapter IV.

PRE-TEST DATA ANALYSES

This section presents the results of the analysis of pre-test data. All analyses were conducted using SPSS 11.0.1. A copy of the pre-test survey is located in Appendix C, and detailed output from the principal component and scale reliability analyses for each construct are found in Appendix D.

Descriptive Statistics

Nine demographic questions were included in the survey. Three questions were used to verify the knowledgeability of the respondent and one was a check on the high/low volume manipulation. The five remaining questions described the retailer-manufacturer relationship and the nature of the retailer.

As a check on knowledgeability, respondents were asked to report their level of knowledge of the relationship with the manufacturer, number of years' experience in the home appliance industry, and position. Ninety percent of respondents reported adequate or more than adequate knowledge of the relationship. Specifically, 52 percent (27) reported "high" or "very high" levels of knowledge while 38 percent (20) reported "adequate" levels of knowledge. Five respondents reported "very little" or "no knowledge" of the relationship on which they were reporting. Thirty-seven respondents (71 percent) reported more than 15 years' experience in the home appliance industry, and only five reported less than six years' experience. Thirty-one respondents (60 percent) were owners, presidents, or vice-presidents of their firms. Twelve were managers and three were staff positions. Six respondents did not provide their positions.

More than half of respondents (56 percent) reported relationships of more than ten

years with the appliance manufacturer. The second largest category of responses was one to five years. Ten respondents reported doing business with only one appliance manufacturer while nineteen reported relationships with five or more manufacturers. Twenty-three did business with two, three, or four manufacturers.

Eighty-one percent of respondents were independent retailers. Seventy-six percent had annual sales volume under \$10 million and annual appliance sales volume under \$2 million.

Missing Data Analysis

To determine possible effects due to missing data, the surveys were first examined for missing responses and then items were evaluated for missing data points. Forty-two (85 percent) of the pre-test surveys had complete data. Of the remaining 15 percent, eight surveys had one missing response, one had two missing responses, and one had nine missing responses. The survey with nine missing responses was removed from further analysis. Of the 59 items on the pre-test, 51 had no missing responses, six items had one missing response, and two items had two missing responses. Overall, the ten missing responses represented less than 1% of all responses (0.00326) and were determined to be missing completely at random (MCAR). By removing one survey, missing data were eliminated as an issue with the pre-test data, and no further adjustments were necessary.

Independence Tests

The pre-test data were tested for differences on business type and number of suppliers in order to identify possible confounds. To analyze business type, respondents who selected regional, national, and multinational categories were grouped together as business units of a chain, and this group was tested against those who selected the category of independent retailer. In an independent samples test, no significant differences ($\alpha = .05$) were found on any item for these two business types. However, retailers who do business with only one manufacturer were found to be significantly different ($\alpha = .05$) on five items – two in the Consumer-based Brand Equity scale, one item that measures Dependence, and two items on the Propensity to Leave scale. These ten respondents were removed from further pre-test analyses, and a question was added to the pre-qualifying telephone protocol for the main study to screen out potential respondents who did business with only one manufacturer.

Evaluation of Measures

Principal component factor analyses were conducted to evaluate unidimensionality for each scale, and then Cronbach's coefficient alpha was calculated to assess scale reliability. Seven scales were found to be unidimensional while three scales loaded on two factors and were subsequently modified to achieve unidimensionality. The unidimensional scales were then evaluated for reliability. The following section describes steps taken to purify each scale during the pre-test data analysis. The characteristics of each scale are summarized in Table 4.

Table 4. Summary of Pre-Test Scale Purification

SCALE	N OF ITEMS		VARIANCE EXPLAINED	ALPHA	MEAN	STD DEV
	Initial	Retained				
CBBE	6	5	67.78%	0.8798	5.13	1.19
TBBE	6	7	67.33%	0.8957	5.18	1.13
UNC	6	3	77.04%	0.8503	5.24	1.25
DEP	6	5	77.25%	0.9005	4.37	1.44
PWR	6	5	66.83%	0.8800	4.35	1.33
RISK	6	5	77.95%	0.9297	4.52	1.27
COMM	6	6	77.38%	0.9391	5.26	1.28
COOP	6	6	78.90%	0.9464	4.18	1.49
PPTL	5	4	66.19%	0.8258	3.23	1.25
FORB	6	4	46.03%	0.3153	3.54	0.93

Scale Purification

Consumer-Based Brand Equity (CBBE). All items loaded on one factor with 62 percent variance explained. Item 13a, the only reverse coded item in the scale, had the weakest loading. The item -- “Our customers rarely ask for appliances produced by this manufacturer” -- taps the same dimension as items 13c and 13f, which ask about the extent to which customers expect the retailer to carry this manufacturer’s brand or would be disappointed if this brand were not carried. Thus, removing the item did not affect the substantive content of the scale. After removing item 13a, scale reliability improved to .8798 and variance explained increased to 68 percent.

Trade-Based Brand Equity (TBBE). Principal component factor analysis revealed two factors underlying six items with cross-loadings on several items. Factor 1 (items 7, 9, 11 and 12) appeared to relate to the value associated with the manufacturer’s name while Factor 2 (items 6, 8 and 10) dealt only with name recognition. Factor 1 was more relevant to the theory and was initially adopted.

As the analysis proceeded, it appeared that three items originally intended to measure Uncertainty (see explanation below) actually measured trade-partner reliability, a dimension of TBBE. Retaining the four items from Factor 1 and adding the three items from Uncertainty (items 16, 17, and 18) yielded a seven-item scale that again loaded on two factors, with item 7 loading separately. The content of item 7 -- “Retailers recognize this manufacturer as a strong trade partner.” -- is very similar to item 11 -- “This manufacturer is known in the industry as a company that takes good care of their trade partners.” Therefore, eliminating item 7 did not affect the substantive content of the scale. Removing the item produced a more robust, unidimensional six-item scale by adding additional items that more fully tap the domain of the construct (N=6 versus N=4). The six-item scale improved explanation of variance (67 percent versus 51 percent), and increased the coefficient alpha measure of reliability (.8957 versus .6998). The six-item scale was adopted for the main study.

Uncertainty (UNC). The six-item scale loaded on two factors. Factor 1 (items 16, 17, and 18) described trade-partner characteristics while Factor 2 (items 19, 20, and 21) dealt with uncertainty in resource acquisition. Factor 2 was a better fit with the theory and was adopted for the main survey. As previously described, the three items that comprised Factor 1 were added to the TBBE scale. The three-item scale explained 77 percent of variance and had a coefficient alpha of .8503.

Dependence (DEP). All items loaded on one factor with 66 percent variance explained. Item 14a -- “Our company could easily replace this manufacturer” -- was the only reverse coded item in the scale and had a weak loading. The content of the item also overlapped an item in the relationship commitment scale: “The relationship my company

has with this manufacturer would take very little effort to end.” Thus, item 14a was removed due to substantive overlap with an item in another scale. Removing the item improved reliability from .8604 to .9005 and increased variance explained to 77 percent.

Supplier Power (PWR). All items loaded on one factor with 58 percent variance explained. Item 22a asked about the manufacturer’s ability to dictate pricing policies. The item’s factor loading was significantly weaker than other items. The content of this item differed from the rest of the scale in that all other items related to policies about product availability or promotion. The item was removed due to the lack of consistency in content with other scale items. Removing the item improved variance explained to 67 percent with a coefficient alpha of .8800.

Perceived Risk (RISK). All items loaded on one factor with 68 percent variance explained. Item 15d -- “If we could no longer get appliances from this manufacturer, our firm would see virtually no change in profits” -- was the only reverse coded item in the scale. Item 15f asked the same question but was worded positively: “If we could no longer get appliances from this manufacturer, it would threaten the profitability of our firm.” The stronger item (15f) was retained, and the weaker item (15d) was removed. Removing the item improved variance explained to 78 percent with a coefficient alpha of .9297.

Relationship Commitment (COMM). All items loaded on one factor with 77 percent variance explained and a coefficient alpha of .9391. All items were retained.

Cooperation (COOP). All items loaded on one factor with 79 percent variance explained and a coefficient alpha of .9464. All items were retained.

Propensity to Leave (PPTL). All items loaded on one factor with 58 percent

variance explained. The content of item 31e -- “How often does your firm explore options for replacing this manufacturer?”-- was very similar to item 31c, which asks about the frequency of evaluations of alternatives to this manufacturer. Item 31e had the weaker factor loading and was removed from the scale. The four-item scale increased variance explained to 66 percent with coefficient alpha of .8258.

Forbearance (FORB). The six-item scale loaded on two factors with cross-loadings on several items. Factor 1 included two reverse coded items describing punishments that loaded in the wrong direction (items 29 and 30) and two items describing leniency that loaded correctly (items 27 and 28). Factor 2 included one item that loaded in the wrong direction (item 26) and four positive correct loadings (items 25, 26, 29, and 30). Various combinations were tried to produce a one-factor result with loadings in the right direction. The combination of items 25, 27, 28, and 29 yielded the only one-factor solution; however, item 29 loaded negatively while the other items load positively. The combination of items 25, 27 and 28 correlated well with the domain of the construct. Although variance explained and reliability improved by dropping item 29, it was retained at this stage in order to avoid the possibility of a two-item scale when the scales were purified again during the main study. The four-item scale explained 46 percent of variance with a coefficient alpha of .3153.

MAIN SURVEY DATA ANALYSES

Structural equation modeling (SEM) was used in the main study as the primary statistical tool to test for relationships among variables. This powerful statistical tool is particularly well suited for analysis of complex, multivariable data such as that found in

the social sciences. SEM combines the measurement model (confirmatory factor analysis) and the structural model (linear regression or path analysis) in a simultaneous statistical test (Garver and Mentzer 1999). The measurement model relates observed (i.e., measured) variables to unmeasured constructs (i.e., factors), and the structural model specifies and estimates the relationships among unobserved (i.e., latent) constructs (Marsh and Hocevar 1986).

Various indices were used to evaluate the adequacy of the overall fit between the data and the theoretical model, as well as the components of the model. Two absolute measures and two incremental measures were used to determine appropriate fit. The following list provides information about the test statistics along with their recommended threshold levels for acceptable fit.

- The likelihood-ratio chi-square (χ^2) test is an absolute measure of fit that indicates the degree to which the model is consistent with the pattern of variances and covariances from the set of observed data. The chi-square test evaluates non-significance of difference (i.e., the observed matrix is not significantly different from the estimated matrix); therefore, low values are an indication of good fit. This test, while frequently used, is extremely sensitive to sample size and may produce misleading results. When sample sizes are large (over 200 observations), most models will produce significant differences in the chi-square test (Garver and Mentzer 1999). This study qualifies as a “large” study; therefore, the chi-square statistic must be interpreted with caution.
- The chi-square ratio (CMIN) is an absolute measure of fit that adjusts the chi-square statistic for the degrees of freedom (df) in the model. Ratios in the range of two to five are generally thought to be an indication of acceptable fit (Hair et al. 1998). However, because this statistic is based on the chi-square test, it also tends to be higher when the sample size is large.
- The Bentler comparison-fit index (CFI) is an incremental fit statistic that allows the comparison of various models with the independent model where no relationships among variables are specified. The index ranges from 0 to 1, and values of .90 or greater represent an adequate fit (Baumgartner and Homburg 1996).

- The Tucker-Lewis index (TLI) is an incremental fit statistic that combines a measure of parsimony into a comparative index between the proposed and null models. Also known as the non-normed fit index (NNFI), the recommended value for the TLI is .90 or greater.
- The root mean square error of approximation (RMSEA) is a measure of absolute fit that compares the average difference per degree of freedom expected to occur in the population (not the sample), thus this index is thought to be relatively unaffected by sample size. Values falling between .05 and .08 are considered to be acceptable (Baumgartner and Homburg 1996).

Testing the Moderating Effect of Brand Equity

In order to test the moderating effect of brand equity, the data were grouped and then treated as categorical, rather than continuous, data. Splitting the data into groups permitted analysis of the moderating effect of brand equity under two conditions relevant to this study: High Brand Equity (HBE) and Low Brand Equity (LBE). In order to have a strong test for differences, the data were trichotomized; that is, three groups were created. The HBE and LBE groups were used to test for moderating effects and the middle group was not analyzed. Testing for differences under HBE and LBE answers the research question: What is the effect of brand equity in supply chain relationships?

In order to accommodate tests of the categorical variable, the hypotheses related to the moderating effect of brand equity proposed in Chapter II were restated as follows:

Original hypotheses:

H3: Brand equity held by a trade partner increases moderates the relationships between perceived risk and its antecedents.

H3a: Increased brand equity weakens the relationship between uncertainty and perceived risk.

H3b: Increased brand equity strengthens the relationship between dependence and perceived risk.

H3c: Increased brand equity strengthens the relationship between power and perceived risk.

Restated hypotheses:

H3: Brand equity held by a trade partner moderates the relationships between perceived risk and its antecedents.

H3a: HBE decreases the strength of the relationship between uncertainty and perceived risk.

H3b: HBE increases the strength of the relationship between dependence and perceived risk.

H3c: HBE increases the strength of the relationship between power and perceived risk.

H3d: LBE increases the strength of the relationship between uncertainty and perceived risk.

H3e: LBE decreases the strength of the relationship between dependence and perceived risk.

H3f: LBE decreases the strength of the relationship between power and perceived risk.

The Structure of Brand Equity

In addition to tests for the moderating effect of brand equity, analyses were conducted on the structure of brand equity (Figure 9) in order to examine the relative effects of trade-based brand equity and consumer-based brand equity in supply chain relationships. A 2 x 2 matrix was employed with the levels of consumer-based and trade-based brand equity as the two axes (Figure 9). The trade-dominant brand equity and consumer-dominant brand equity cells were the conditions of interest. Evaluating the effect of dominance helped answer questions about the benefits of relative investments in TBBE and CBBE.

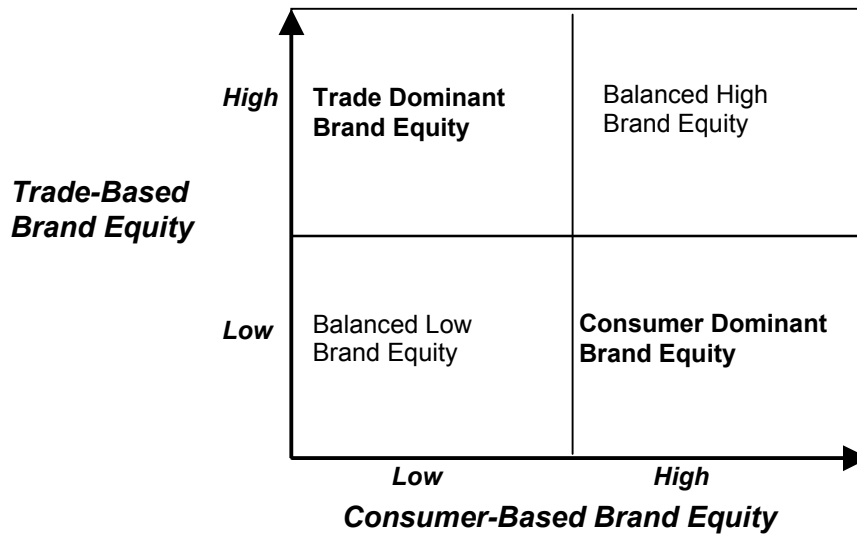


Figure 9. Brand Equity Structure Matrix

CHAPTER SUMMARY

This chapter provided details of the survey design, reported results of the pre-test survey data analyses and subsequent scale purification, and described the analysis strategy for the main survey. A survey methodology was employed with the home appliance industry as the context and retailers as the sample. The customer's perspective of the supplier's brand equity was the unit of analysis. The study was limited to one industry and one point in the supply chain in order to reduce extraneous variance; respondents were asked to report on perceptions of their lowest or highest volume home appliance suppliers to maximize theoretical variance.

Structural equation modeling with a nested model strategy was used as the tool for data analysis in the main study. In order to test the moderating effect of brand equity, the data were trichotomized and the high and low brand equity groups were analyzed. Data were trichotomized to produce greater separation between the two conditions to

allow a strong test of differences; therefore, the middle category was not analyzed.

Hypotheses related to the moderating effect of brand equity were rewritten to facilitate the test of a categorical variable.

CHAPTER IV FINDINGS AND ANALYSES

INTRODUCTION

This chapter presents the findings from the main survey and describes the analyses conducted to test the hypotheses proposed in Chapter II. Descriptive statistics were calculated using SPSS 11.0.1, and structural equation modeling analyses were conducted using AMOS 4.01. For ease of reading, analysis details are provided within the text rather than in the appendices in the following sections. Survey items are displayed in Appendix E.

DESCRIPTIVE STATISTICS

Eighty-five percent of the 801 respondents represented independent retailers, and the remaining 15 percent were business units of chain retailers. Total annual sales were reported to be less than \$10 million for 86 percent of respondents, and 85 percent reported annual appliance sales less than \$3 million. Relationships between these retailers and their appliance manufacturers were long-standing with over half of the respondents reporting on relationships longer than 15 years. Only three percent had been engaged less than one year with the manufacturer. The mean and median number of appliance manufacturers serving these retailers was four.

Responses to questions evaluating respondents' experience, positions, and knowledge lend confidence to the suitability of these respondents as key informants. The years of experience in the home appliance industry were heavily skewed to the high end of the scale with a median response of more than 15 years. Only ten respondents (1.3

percent) had less than one year of industry experience. Fifty-two percent of respondents were executives (Owner, President, or Vice President) and 48 percent were managers. Finally, respondents' self-assessment of knowledge of the relationship with the appliance manufacturer was also heavily skewed to the high end of the scale with a mean and median response of 4 on a 5-point scale, indicating a "High" level of knowledge.

MISSING DATA

As the first step in data analysis, the main survey data were reviewed for completeness. The level of missing data for each respondent was evaluated, and responses to each item were assessed to discern both the level and pattern of missing data, which may indicate systematic bias due to a problem with the item (e.g., sensitive information, difficult or ambiguous wording). Finally, the extent of measurement error due to non-response was assessed.

Among the 801 cases analyzed, 674 (84 percent) were complete and 127 had missing responses. Nine cases with more than seven missing responses (15 percent) were eliminated from further analysis, reducing the dataset to 792. In the item analysis, only one item had no missing values. The average number of missing values per item was 4.6 out of 792 responses, or less than 1% (.00584). The missing pattern was evaluated using Little's MCAR test, and missing responses were found to be missing completely at random (Little's MCAR test: $\chi^2 = 3729$, df 3224, prob. 0.000). The expectation maximization (EM) method was then used to estimate and replace missing values. This method uses a two-step, iterative process to determine expected values of parameters and then calculates maximum likelihood estimates. The EM method has been shown to be

superior to alternative remedies such as listwise, pairwise, and mean imputation estimation techniques (Meng 2000; Raaijmakers 1999).

As proposed by Armstrong and Overton (1979), non-response bias was evaluated by testing for significant differences in responses from early and late respondents. Surveys were classified as early or late based on their postmark dates, and an independent samples t-test was conducted to determine if responses were significantly different for the two groups. There were no significant differences ($\alpha < .05$) on any item. Non-response bias was also evaluated by testing responses of a random selection of 30 non-respondents for significant differences as proposed by Mentzer and Flint (1997). These respondents were contacted by telephone and asked to respond verbally to five substantive items related to key constructs. There were no significant differences ($\alpha < .05$) in responses to any item.

To summarize the missing data analysis and remedies, nine cases with excessive levels of missing data were removed from further analysis. Missing data in the remaining 792 cases were determined to be missing completely at random and were replaced using the EM method. Non-response was eliminated as a concern through two tests for non-response bias. Thus, data integrity was sufficiently robust for further statistical testing.

CONFIRMATORY FACTOR ANALYSIS

Following Anderson and Gerbing's (1988) recommended two-step process for structural equation modeling, data analysis began with specification and evaluation of the measurement model (Figure 10). Model specification was accomplished by assigning observed indicators to latent variables as specified by the theory. Each observed

exceed acceptable limits by having negative variances or standardized regression weights that exceed 1.00 (Hair et al. 1998). All items were examined and found to be satisfactory.

All 48 measures in the main study were 7-point Likert-type scales. The mean values ranged from 3.05 to 5.84 with standard deviations ranging from .96 to 1.68 (Table 5). The means of 37 items were centered around the middle of the scale with standard deviations greater than one and less than two, indicating a normal distribution of data. The remaining 11 items appeared to be skewed to the high end of the scale, with means greater than 5. The item with the highest mean (v1 “Our customers know this manufacturer’s products to be a good value”) also had the lowest standard deviation (.96), strongly suggesting a non-normal data distribution for this item. Further analysis of data distribution for all items was conducted using statistical tests for skewness and kurtosis.

An examination of the test for normality (Table 6) showed five items with distributions significantly different from normal. First, v1 in the CBBE scale was highly kurtotic (kurtosis=3.25, c.r.=18.674) exhibiting insufficient variation, with most respondents marking either “Agree” or “Strongly Agree.” Given the relatively high cost of home appliances, it is understandable that retailers would stock only those appliances they believe to be highly valued by their customers; therefore, the lack of variation in this item is most likely an artifact of the home appliance industry and is not a good measure of CBBE in this context. This item was removed.

The remaining four items had moderate levels of skewness ranging from -1.284 to -1.203 and kurtosis ranging from 1.35 to 1.89. Three of these items were in the TBBE

Table 5. Item Means and Standard Deviations

Item	Scale	Question	Mean	Std. Deviation
v1	CBBE	Q6a-Good value	5.84	0.96
v2	CBBE	Q6b-Expect to carry	5.53	1.18
v3	CBBE	Q6c-Pay more	4.58	1.43
v4	CBBE	Q6d-Exclusive buy	4.77	1.41
v5	CBBE	Q6e-Disappoint	5.22	1.32
v6	TBBE	Q7-Know what to expect	5.34	1.21
v7	TBBE	Q8-Accurately predict	5.23	1.19
v8	TBBE	Q9-Name advantage	5.21	1.25
v9	TBBE	Q10-Keeps promises	5.37	1.27
v10	TBBE	Q11-Takes care of partners	5.22	1.32
v11	TBBE	Q12-Willing to pay more	3.97	1.44
v12	UNC	Q15-Uncertain follow-through	3.09	1.40
v13	UNC	Q16-Get what we expect	3.05	1.39
v14	UNC	Q17-Unexpected changes	3.12	1.37
v15	DEP	Q13a-Dependent	3.87	1.64
v16	DEP	Q13b-Crucial to success	4.16	1.63
v17	DEP	Q13c-No good alternative	3.47	1.53
v18	DEP	Q13d-Need to achieve goals	4.16	1.65
v19	PWR	Q18a-Determine inventory	3.50	1.62
v20	PWR	Q18b-Determine orders	3.51	1.68
v21	PWR	Q18c-Determine product mix	3.47	1.54
v22	PWR	Q18d-Display rules	4.22	1.67
v23	PWR	Q18e-Promotion guidelines	4.38	1.65
v24	RISK	Q14a-Hurt our firm	4.35	1.61
v25	RISK	Q14b-Lose money	3.81	1.62
v26	RISK	Q14c-Lose customers	4.29	1.53
v27	RISK	Q14d-Lower customer satisfaction	3.89	1.55
v28	RISK	Q14e-Threaten profitability	4.00	1.62
v29	COMM	Q19a-Committed	5.10	1.34
v30	COMM	Q19b-Maintain indefinitely	5.31	1.18
v31	COMM	Q19c-Maximum effort	4.96	1.32
v32	COMM	Q19d-Do anything to keep	3.93	1.51
v33	COMM	Q19e-Care about long-term	5.18	1.29
v34	COMM	Q19f-Little effort to end	4.62	1.56
v35	COOP	Q24a-Boost sales	4.10	1.45
v36	COOP	Q24b-Serve customers	3.94	1.47
v37	COOP	Q24c-Solve problems	4.64	1.40
v38	COOP	Q24d-Cut costs	3.48	1.59
v39	COOP	Q24e-Estimate demand	3.40	1.56
v40	COOP	Q24f-Common goals	3.67	1.64
v41	PPTL	Q25a-Meet with competitors	3.80	1.49
v42	PPTL	Q25b-Evaluate alternatives	3.68	1.41
v43	PPTL	Q25c-Search for information	3.60	1.44
v44	PPTL	Q25d-Entertain bids	3.44	1.46
v45	FORB	Q20-Fulfillment	3.35	1.24
v46	FORB	Q21-Lenient	3.47	1.30
v47	FORB	Q22-Allow substitutions	3.30	1.42
v48	FORB	Q23-Reduce future orders	4.07	1.37

Table 6. Assessment of Normality

Item	Min	Max	Skew	c.r.	Kurtosis	c.r.
v1	1	7	-1.424	-16.356	3.253	18.674
v2	1	7	-1.212	-13.914	1.805	10.361
v3	1	7	-0.495	-5.684	-0.213	-1.225
v4	1	7	-0.770	-8.843	0.230	1.323
v5	1	7	-0.857	-9.840	0.524	3.006
v6	1	7	-1.203	-13.815	1.716	9.849
v7	1	7	-1.101	-12.643	1.353	7.770
v8	1	7	-0.844	-9.693	0.613	3.520
v9	1	7	-1.284	-14.747	1.886	10.827
v10	1	7	-0.941	-10.799	0.642	3.686
v11	1	7	-0.257	-2.948	-0.327	-1.879
v12	1	7	0.436	5.010	0.060	0.347
v13	1	7	0.514	5.904	0.254	1.455
v14	1	7	0.440	5.054	0.217	1.245
v15	1	7	-0.181	-2.079	-0.720	-4.133
v16	1	7	-0.353	-4.057	-0.645	-3.703
v17	1	7	0.170	1.956	-0.521	-2.990
v18	1	7	-0.364	-4.179	-0.657	-3.772
v19	1	7	0.078	0.901	-0.794	-4.558
v20	1	7	0.163	1.877	-0.779	-4.474
v21	1	7	0.051	0.588	-0.727	-4.175
v22	1	7	-0.431	-4.951	-0.766	-4.400
v23	1	7	-0.425	-4.878	-0.624	-3.584
v24	1	7	-0.431	-4.947	-0.508	-2.918
v25	1	7	0.069	0.790	-0.641	-3.678
v26	1	7	-0.366	-4.200	-0.428	-2.455
v27	1	7	0.017	0.192	-0.495	-2.843
v28	1	7	-0.113	-1.300	-0.664	-3.812
v29	1	7	-0.694	-7.965	0.329	1.889
v30	1	7	-0.866	-9.949	0.967	5.550
v31	1	7	-0.476	-5.470	-0.130	-0.746
v32	1	7	-0.047	-0.535	-0.421	-2.414
v33	1	7	-0.842	-9.671	0.664	3.814
v34	1	7	-0.290	-3.331	-0.432	-2.480
v35	1	7	-0.276	-3.166	-0.335	-1.925
v36	1	7	-0.187	-2.150	-0.349	-2.004
v37	1	7	-0.373	-4.282	0.039	0.223
v38	1	7	0.158	1.819	-0.633	-3.636
v39	1	7	0.244	2.799	-0.605	-3.474
v40	1	7	0.066	0.761	-0.728	-4.182
v41	1	7	-0.030	-0.347	-0.517	-2.965
v42	1	7	0.041	0.469	-0.325	-1.866
v43	1	7	0.110	1.260	-0.434	-2.494
v44	1	7	0.150	1.721	-0.381	-2.190
v45	1	7	0.203	2.329	0.610	3.500
v46	1	7	0.251	2.880	0.238	1.368
v47	1	7	0.145	1.666	-0.378	-2.169
v48	1	7	-0.039	-0.453	-0.254	-1.460

scale (v6, v7, and v9) and one was in the CBBE scale (v2). The three items in the TBBE scale all measured the reliability of the appliance manufacturer. Again, given that respondents were largely independent retailers, it makes sense that they would establish and maintain relationships with only with those manufacturers they believe to be reliable. As small businesses, they are not in the position to trade off reliability for some other consideration such as price breaks or promotional support. However, the qualitative study strongly supports reliability as an important aspect of TBBE, so completely eliminating this dimension would have compromised the theoretical analysis. Therefore, the two items with higher kurtosis were removed and the item with the lowest level of kurtosis (v7, kurtosis = 1.35) was retained. The remaining item, v2, measured the extent to which retailers believe their customers expect them to carry the manufacturer's brand. It is very similar to v5, which asks if customers would be disappointed if the retailer did not carry the brand. Because there is substantive overlap between the two variables, v2 was removed.

To summarize the analysis of data distribution, the lack of a normal distribution for some items in the initial data was a concern. Several steps were taken to address this issue. First, one case was determined to be an outlier and was removed. While most items exhibited satisfactory variation around means near the centers of their scales, five items deviated from the normal distribution. Four of these items were removed. After removing these items, 43 of 44 items exhibited univariate normality. Given the large sample size in this study, the moderate departure from univariate normality for one item was considered a modest violation and inconsequential to the assumption of multivariate normality necessary for SEM analyses (Hair et al. 1998).

Scale Purification

The measurement model comprised of the remaining 44 items was a good fit with the data ($\chi^2=3511$, df 857, CMIN = 4.097; TLI .969, CFI .973; RMSEA .0633) providing a sound basis for scale purification. Several diagnostic tools are available using SEM to aid in scale purification. These diagnostics were weighed against theoretical considerations in making decisions to retain or remove items. Four diagnostic tools were used in scale purification: 1) standardized regression weights, 2) squared multiple correlations, 3) standardized residuals, and 4) modification indices. These tools provided useful information for assessing unidimensionality along with convergent and discriminant validity of scales.

Unidimensionality of scales is a fundamental assumption underlying evaluation of scale reliability and is a function of convergent and discriminant validity in SEM analysis (Anderson and Gerbing 1988; Garver and Mentzer 1999; Hair et al. 1998). Convergent validity is demonstrated when items have substantial loadings on the constructs they are intended to measure (i.e., greater than .70). Discriminant validity is achieved when items are more strongly related to the constructs they are intended to measure than to other constructs in the model. Scales that possess both convergent and discriminant validity are deemed to be unidimensional.

Convergent validity. To assess convergent validity, the statistical significance, direction, and magnitude of the estimated standardized regression weights (r) and squared multiple correlations (R^2) between the items and their latent variables were evaluated (Table 7). Each latent variable-to-item equation in SEM assesses the reliability of the individual item as a measure of the latent variable (Garver and Mentzer 1999). The R^2

Table 7. Standardized Regressions and Squared Multiple Correlations

Item		Construct	<i>r</i>	R ²
v3	<--	Consumer-based Brand Equity	0.713	0.508
v4	<--	Consumer-based Brand Equity	0.735	0.540
v5	<--	Consumer-based Brand Equity	0.705	0.497
v7	<--	Trade-based Brand Equity	0.526	0.277
v8	<--	Trade-based Brand Equity	0.678	0.460
v10	<--	Trade-based Brand Equity	0.681	0.464
v11	<--	Trade-based Brand Equity	0.731	0.534
v12	<--	Uncertainty	0.835	0.697
v13	<--	Uncertainty	0.893	0.797
v14	<--	Uncertainty	0.780	0.608
v15	<--	Dependence	0.848	0.719
v16	<--	Dependence	0.914	0.835
v17	<--	Dependence	0.629	0.396
v18	<--	Dependence	0.838	0.702
v19	<--	Power	0.731	0.534
v20	<--	Power	0.674	0.454
v21	<--	Power	0.754	0.569
v22	<--	Power	0.712	0.507
v23	<--	Power	0.655	0.429
v24	<--	Perceived Risk	0.872	0.760
v25	<--	Perceived Risk	0.906	0.821
v26	<--	Perceived Risk	0.866	0.750
v27	<--	Perceived Risk	0.815	0.664
v28	<--	Perceived Risk	0.875	0.766
v29	<--	Relationship Commitment	0.866	0.750
v30	<--	Relationship Commitment	0.859	0.738
v31	<--	Relationship Commitment	0.858	0.736
v32	<--	Relationship Commitment	0.732	0.536
v33	<--	Relationship Commitment	0.883	0.780
v34	<--	Relationship Commitment	0.479	0.229
v35	<--	Cooperation	0.821	0.674
v36	<--	Cooperation	0.876	0.767
v37	<--	Cooperation	0.750	0.563
v38	<--	Cooperation	0.790	0.624
v39	<--	Cooperation	0.815	0.664
v40	<--	Cooperation	0.880	0.774
v41	<--	Propensity to Leave	0.605	0.366
v42	<--	Propensity to Leave	0.844	0.712
v43	<--	Propensity to Leave	0.800	0.640
v44	<--	Propensity to Leave	0.711	0.506
v45	<--	Forbearance	0.721	0.520
v46	<--	Forbearance	0.549	0.301
v47	<--	Forbearance	0.301	0.091
v48	<--	Forbearance	-0.422	0.178

value is the measure of the strength of the linear relationship between the latent variable and the item; that is, the latent variable is considered to cause variation in the item. The higher the correlation, the stronger the systematic component of variance associated with the item, offering strong support for the assumption of unidimensionality.

All 44 item loadings were significant; however, v48 loaded negatively. The item was part of the FORB scale: “We reduce future orders if this manufacturer fails to deliver as promised.” It was the only reverse-coded item in the scale and was also problematic in the pre-test; however, it was retained in order to avoid the possibility of having a two-item scale after purification in the main study. The item’s loading indicated it did not converge on the construct, therefore it was removed from further analysis.

Two items were identified with weak loadings: v34 ($r = .48$, $R^2 = .23$) in the six-item COMM scale and v47 ($r = .30$, $R^2 = .09$) in the three-item FORB scale. The first item, (v34 “The relationship my company has with this manufacturer would take very little effort to end”), was the only reverse-coded item in its scale and likely suffered from order effects. While the item was weak, it was one that is important for the theory test because it measured the extent to which retailers believed themselves to be locked into the relationship with the appliance manufacturer. Thus, the item was retained. The second item, (v47 “We allow this manufacturer to substitute products”) was too weak to be considered a reliable measure. Allowing substitution of products was apparently not characteristic of forbearance for the home appliance industry. Product substitution may have been routine as manufacturers ship slightly modified versions of appliances with new product numbers. This item was reluctantly removed, reducing the FORB scale to two items. Although a two-item scale is undesirable, it was a better alternative than

retaining an item that did not reliably measure the construct. After removing items 47 and 48, 33 remaining items (80 percent) exhibited strong loadings with standardized regression weights greater than .70 and squared multiple correlations higher than .50. Standard regression weights for six items across the TBBE, PWR, DEP, and PPTL scales were slightly lower, ranging in strength from .63 to .68, all with R^2 greater than or equal to .40. Although their loadings were somewhat lower than the recommended levels of .70 and .50, these items were retained at this stage of analysis. Two items loaded less than .60; one in the beleaguered FORB scale, v46 ($r = .41$, $R^2 = .17$) and one item in the TBBE scale, v7 ($r = .53$, $R^2 = .28$). The FORB scale had been reduced to two items and could not withstand a further reduction; therefore, v46 was retained. The item in the TBBE scale was evaluated earlier for removal due to slight kurtosis and was retained for theoretical reasons. It was retained again at this step for the same reasons.

An examination of standardized residuals did not point to problems with any items. There were no negative residuals, all residuals were small (i.e., < 2.58), and there were no discernable patterns.

Discriminant validity. Modification indices (see Appendix E) were examined for changes in relationships between indicators and latent constructs that would result in a better fit, providing evidence for items with poor discriminant validity. Changes with a modification index of 10 or higher were considered. Modification indices pointed to v41 in the PPTL scale as a potential problem. The item asked, “How often does your firm invest a great deal of effort meeting with representatives from this manufacturer’s competitors?” This item loaded on every latent construct in the model, appearing to be a global assessment of the relationship rather than a specific measure of PPTL. Items 42

and 43 in the PPTL scale also measured effort expended in evaluating alternatives and searching for information, similar to item 41. Removing the item did not compromise the substantive content of the scale, and it significantly improved the fit of the measurement model; therefore, v41 was removed.

Exogenous constructs with high correlations also present concerns for discriminant validity. That is, highly intercorrelated constructs may actually measure the same latent concept. There were five exogenous constructs in this study: UNC, DEP, PWR, CBBE, and TBBE. Among UNC, DEP, and PWR (the three exogenous antecedents to RISK), all intercorrelations were less than .30 indicating the constructs possess discriminant validity (Table 8). Because CBBE and TBBE were proposed as dimensions of a higher order construct, BE, they were expected to be highly correlated (.851).

Construct reliability and variance extracted. Construct reliability and variance extracted provide additional evidence of convergent and discriminant validity (Table 9). Construct reliability evaluates internal consistency of construct indicators, or the degree to which indicators reliably depict the latent construct, and is an alternative to Cronbach's alpha coefficient of reliability. A commonly used threshold for acceptable reliability is .70 (Hair et al. 1998). All scales in this study met or exceeded the .70 threshold.

Table 8. Correlations Among Exogenous Constructs

Exogenous Constructs			Estimated Correlation
Uncertainty	<-->	Power	0.261
Uncertainty	<-->	Dependence	-0.181
Power	<-->	Dependence	0.225
Consumer-based Brand Equity	<-->	Trade-Based Brand Equity	0.851

Table 9. Construct Reliability and Variance Extracted

Scale		N of items	Construct Reliability ^a	Variance Extracted ^b
Consumer-Based Brand Equity	CBBE	3	0.76	0.51
Trade-Based Brand Equity	TBBE	4	0.75	0.43
Uncertainty	UNC	3	0.87	0.70
Dependence	DEP	4	0.89	0.66
Supplier Power	PWR	5	0.83	0.50
Perceived Risk	RISK	5	0.94	0.75
Relationship Commitment	COMM	6	0.91	0.63
Cooperation	COOP	5	0.93	0.68
Propensity to Leave	PPTL	4	0.84	0.64
Forbearance	FORB	2	0.70	0.58
$\text{Construct reliability} = \frac{(\sum \text{standardized loadings})^2}{(\sum \text{standardized loadings})^2 + \sum \text{measurement error}}$ $\text{Variance extracted} = \frac{\sum \text{squared standardized loadings}}{\sum \text{squared standardized loadings} + \sum \text{measurement error}}$				

Variance extracted reflects the overall amount of variance in the indicators accounted for by the latent construct. Higher variance extracted values signify that the indicators accurately represent the latent construct. Guidelines for acceptable levels suggest variance extracted values should exceed .50 (Hair et al. 1998). Nine of ten scales met or exceeded the .50 threshold. TBBE was the only scale less than .50, reflecting 43 percent of variance in the indicators. Although the level of variance extracted for TBBE was somewhat below recommended levels, it was central to the theory and was retained. Somewhat lower levels of variance extracted are acceptable for new scales in exploratory research (Hair et al. 1998).

To summarize the scale purification step, one item in the FORB scale (v48) was removed due to a negative loading. Two additional items were analyzed due to weak loadings: one item in the COMM scale (v34) was retained for theoretical reasons and

one item in the FORB scale (v47) was removed. One item in the PPTL scale (v41) was identified as having poor discriminant validity and was removed. Reliability for all ten constructs passed the threshold of .70, ranging from .70 to .94. Variance extracted for nine of ten constructs met the criterion of .50 with a range from .50 to .75. One scale, TBBE, measured .43 variance extracted and was retained for theoretical reasons.

After scale purification, the fit of the measurement model was evaluated again. The changes resulted in an improved fit between the model and the data ($\chi^2=2399$, df 735, CMIN 4.08; TLI .971, CFI .975; RMSEA .062).

STRUCTURAL MODEL ANALYSIS

The basic structural model (Figure 11) estimated relationships that were the subject of hypotheses related to the interorganizational buying situation. Because brand equity and its dimensions (CBBE and TBBE) were hypothesized to be moderating variables, they did not appear in the basic structural model diagram. Table 10 displays standardized regression weights and fit statistics for the basic structural model.

Hypotheses Tests

H1a: Increased uncertainty (UNC) increases perceived risk (RISK).

The path from UNC to RISK was not significant ($p = .442$); therefore, the hypothesis that uncertainty is antecedent to perceived risk was not supported by the data.

H1b: Increased dependence (DEP) increases perceived risk (RISK).

The path from DEP to RISK was significant ($p = .000$), in direction hypothesized, and strong (.74). The data strongly supported the hypothesis that dependence is

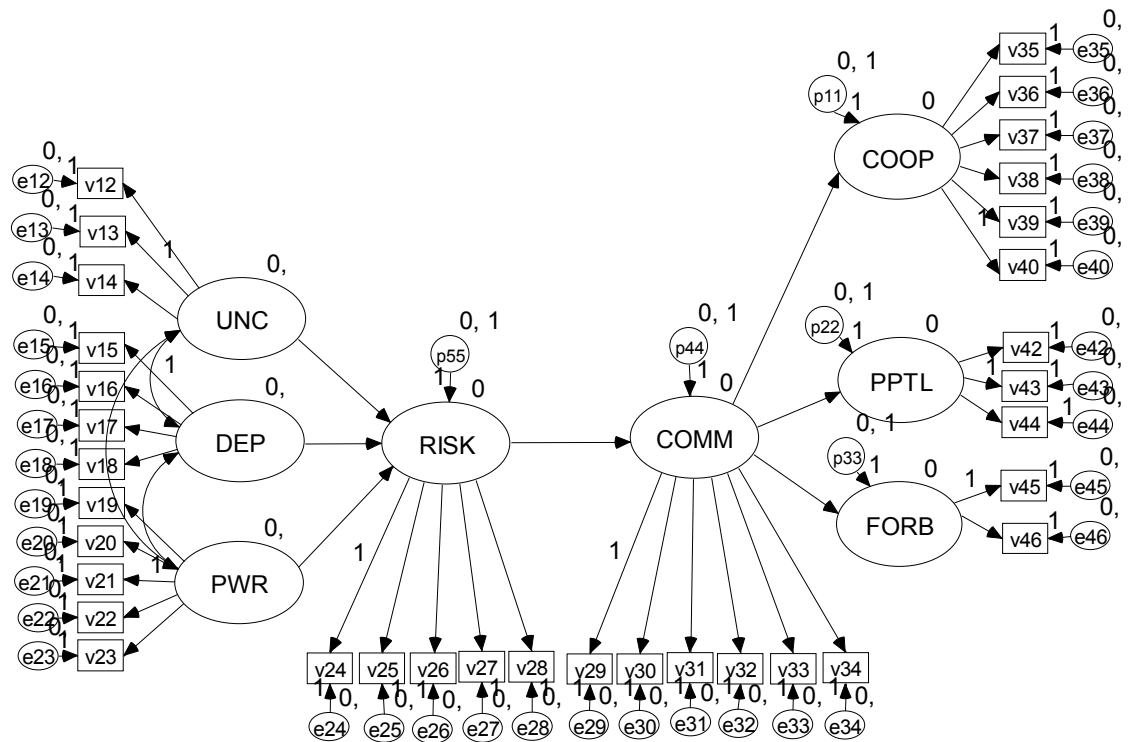


Figure 11. Basic Structural Model

Table 10. Basic Structural Model Statistics

Hypothesized Relationship			Estimates
H1a: Uncertainty	→	Perceived Risk	-0.02 ^a
H1b: Dependence	→	Perceived Risk	0.74 ^b
H1c: Power	→	Perceived Risk	0.11 ^b
H4: Perceived Risk	→	Relationship Commitment	0.63 ^b
H5: Relationship Commitment	→	Cooperation	0.60 ^b
H6: Relationship Commitment	→	Propensity to Leave	-0.10 ^c
H7: Relationship Commitment	→	Forbearance	-0.43 ^b
^a Not significant ^b Significant at .001 ^c Significant at .05			
Fit Statistics: $\chi^2 = 2627, 522 \text{ df}$ TLI = .968 CMIN = 5.03 CFI = .973 RMSEA = .071			

antecedent to perceived risk.

H1c: Increased supplier power (PWR) increases perceived risk (RISK).

The path from PWR to RISK was significant ($p = .000$) and in the hypothesized direction, but weak (.11). The data supported the hypothesis that power is antecedent to perceived risk.

H4: Increased perceived risk (RISK) increases relationship commitment (COMM).

The path from RISK to COMM was significant ($p = .000$), in the direction hypothesized, and strong (.63). The data strongly supported the hypothesis that increased perceived risk increases relationship commitment.

H5: Increased relationship commitment (COMM) increases cooperation (COOP).

The path from COMM to COOP was significant ($p = .000$), in the direction hypothesized, and strong (.60). The data strongly supported the hypothesis that increased relationship commitment increases cooperation.

H6: Increased relationship commitment (COMM) decreases propensity to leave (PPTL).

The path from COMM to PPTL was significant ($p = .019$), in the direction hypothesized, but weak (-.10). The data supported the hypothesis that increased relationship commitment decreases propensity to leave.

H7: Increased relationship commitment (COMM) increases forbearance (FORB).

The path from COMM to FORB was significant ($p = .000$) and strong (-.43); however, it was not in the direction hypothesized. Increased relationship commitment decreased, rather than increased, forbearance. Therefore, the hypothesis that increased relationship commitment increases forbearance was not supported by the data.

H2: Both trade-based brand equity (TBBE) and consumer-based brand equity (CBBE) are dimensions of brand equity (BE).

To test the second-order structure of brand equity, the fit of two nested models were estimated (Figure 12) in addition to the saturated and independence models. The second-order model estimated the path weights B1 and B2 from brand equity (BE) to its dimensions (CBBE and TBBE), constraining them to equality ($B1 = B2$). The nested first-order model did not estimate those paths; they were constrained to zero. The nested model comparison revealed a significant difference between the first-order and second order models ($p = .000$, χ^2 change 417, 1 df); that is, the second-order model improved the chi-square statistic by 417 with one additional degree of freedom. Although the incremental fit of the second order model is good (TLI .963, CFI .983), the absolute fit of

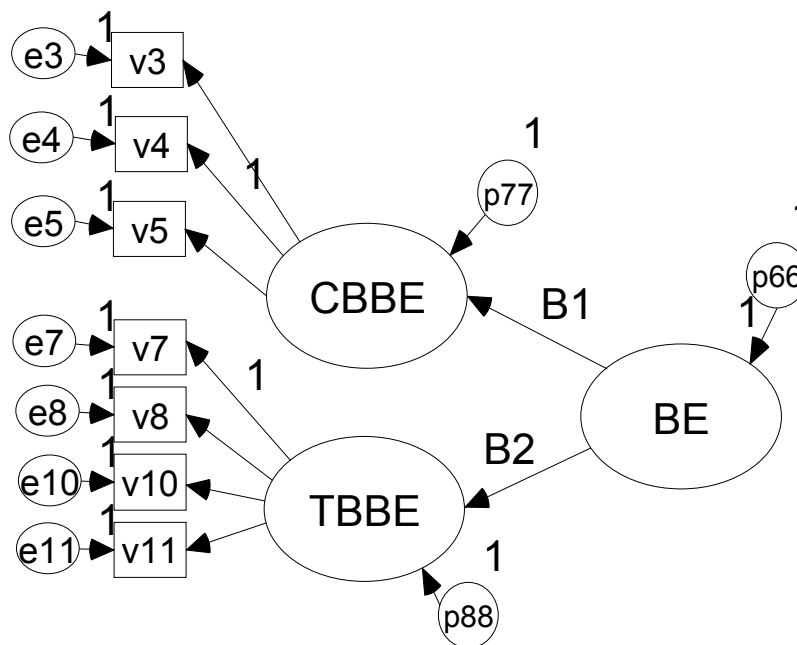


Figure 12. Second-Order Model of Brand Equity

the second-order model is poor ($\chi^2 = 301$, 15 df, CMIN 23.172; RMSEA .252).

Therefore, the data offered marginal support for the hypothesis that there are two dimensions of brand equity.

Hypothesis 3: Brand equity held by a trade partner moderates the relationships between perceived risk and its antecedents.

Testing the moderating effect a variable using SEM is similar to testing for group differences. Identical models are used for the groups tested; however, parameters take on different values for the different groups as dictated by the theory (Arbuckle and Wothke 1999). To accomplish the test of brand equity as a moderator required a three-step process. First, average scores were calculated for the dimensions of CBBE and TBBE, and then an average of those values was taken to arrive at a BE score. Next, the data were trichotomized by grouping the BE scores into three categories -- Low BE, Moderate BE, and High BE. To maximize variation, the LBE and HBE groups were used to test for a moderating effect. Finally, the parameters of interest (i.e., the paths from UNC, DEP, and PWR to RISK) were labeled in order to constrain the estimates of their values (Figure 13), and the fit of the two nested models were estimated.

The first model was the Moderated Model; that is, the paths from UNC, DEP, and PWR to RISK were free to vary depending on the level of BE. For the second model -- the Unmoderated Model -- the paths were constrained to equality under conditions of Low BE and High BE (i.e., $G1_{Low} = G1_{High}$). Therefore, the Unmoderated Model constrained the path weights to be the same regardless of the level of BE, while the Moderated Model allowed differences in the level of BE to change the path weights. The models were then compared to determine if there were significant differences in the fit

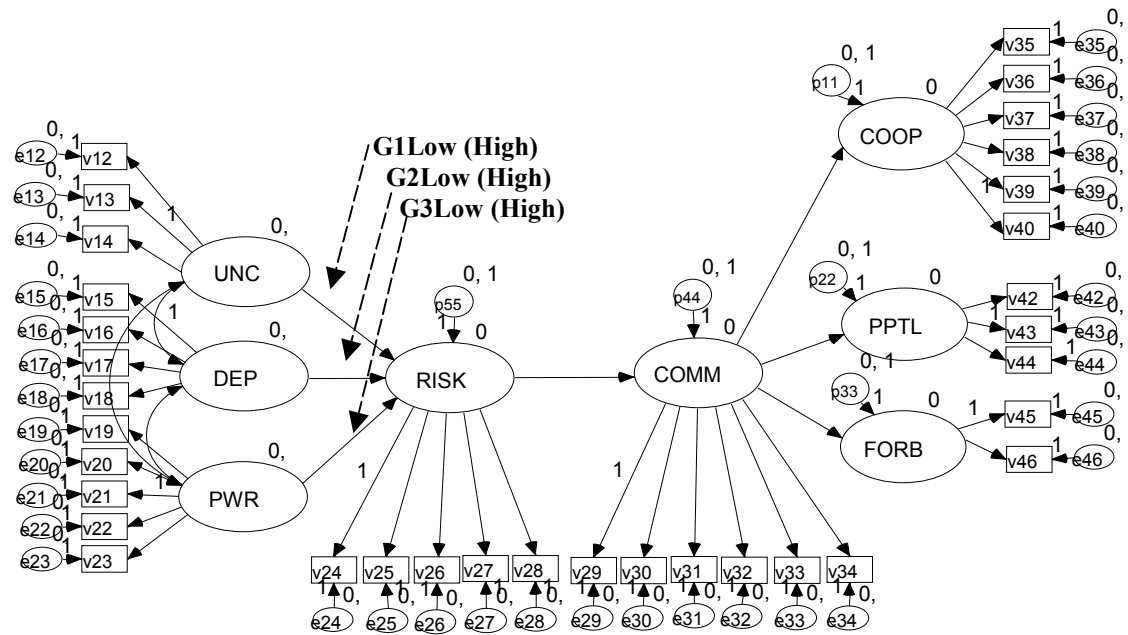


Figure 13. Moderating Effect of Brand Equity

with the data. If there were significant differences, then the fit statistics were examined to determine which model was the better fit -- in this case, the Moderated Model or the Unmoderated Model. The nested model comparison showed no significant differences between the Moderated Model and Unmoderated Model for any path between perceived risk and its antecedents. Therefore, H3 was rejected, based upon the data -- brand equity did not moderate the relationships between Perceived Risk and its antecedents. Statistics for the tests are given following each pair of specific hypotheses.

H3a: High brand equity decreases the strength of the relationship between uncertainty and perceived risk.

H3d: Low brand equity increases the strength of the relationship between uncertainty and perceived risk.

The model with a moderated path from UNC to RISK was not significantly

different from the model with an unmoderated path from UNC to RISK ($p = .885$).

Based upon the data, the hypotheses that brand equity moderates the relationship between uncertainty and perceived risk was rejected.

H3b: High brand equity increases the strength of the relationship between dependence and perceived risk.

H3e: Low brand equity decreases the strength of the relationship between dependence and perceived risk.

The model with a moderated path from DEP to RISK was not significantly different from the model with an unmoderated path from DEP to RISK ($p = .690$). Based upon the data, the hypotheses that brand equity moderates the relationship between dependence and perceived risk was rejected.

H3c: High brand equity increases the strength of the relationship between power and perceived risk.

H3f: Low brand equity decreases the strength of the relationship between power and perceived risk.

The model with a moderated path from PWR to RISK was not significantly different from the model with an unmoderated path from PWR to RISK ($p = .860$). Based upon the data, the hypotheses that brand equity moderates the relationship between power and perceived risk was rejected.

Post-Hoc Analysis

Because the data did not support a moderating effect of brand equity, the primary research question remained unanswered: “What is the effect of brand equity on supply chain relationships?” The literature lends theoretical support for a direct effect of brand equity on relationship commitment (Fournier 1998; Kapferer 1992; Morgan and Hunt

1994; Wathne 2001). Therefore, an alternative model was tested to estimate the direct effect of brand equity on relationship commitment (Figure 14). Two nested models were fit along with the saturated and independence models:

Model 1. First-Order Effects of Consumer-Based Brand Equity (CBBE) and Trade-Based Brand Equity (TBBE) on Relationship Commitment (COMM)

Model 2. Second-Order Effect of Brand Equity (BE) on Relationship Commitment (COMM)

Model 2, the Second-Order Effect of Brand Equity, was significantly different from Model 1 ($p=0.000$). The second-order model improved the χ^2 statistic over the first-order model by 110 with 1 additional degree of freedom and has acceptable fit (χ^2 4340, 773 df, CMIN 5.6; TLI .957 CFI .961; RMSEA .076).

Like the basic structural model, all paths in the model were significant with the exception of the path from UNC to RISK (see Table 11). The path from BE to COMM was significant ($p=0.000$) and relatively strong (.38). Introducing BE with a direct effect on COMM reduced the weight of the path from RISK to COMM from .63 (in the basic structural model) to .51. Therefore, perceived risk explained 51 percent of variance in relationship commitment while brand equity explained 38 percent of variance in relationship commitment.

The direct-effect model also permitted a more robust test of the second-order structure of brand equity by allowing the second-order structure to be tested in the presence of all other constructs. As stated previously, the fit comparison between the first-order model and second-order model revealed a significant difference ($p=0.000$),

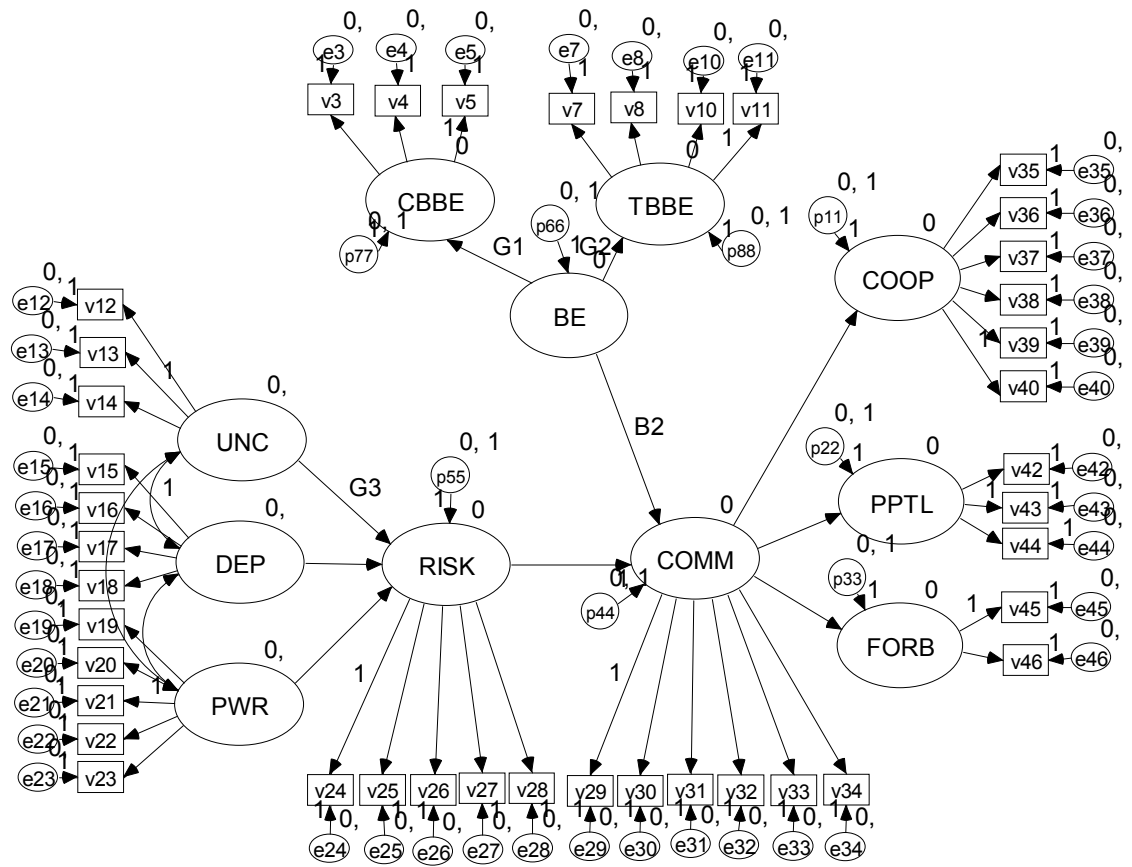


Figure 14. Direct Effect of Brand Equity

and the second-order model was a better fit with the data providing strong support for H2. The test of the second-order model also permitted an estimation of the relative weights of CBBE and TBBE to BE. The path from BE to TBBE was relatively higher (.68) compared to the path from BE to CBBE (.61).

This model permitted an analysis of the effect of the structure of brand equity (Figure 15). To test the effect of CBBE-dominant and TBBE-dominant structures, cases were selected where the difference between CBBE and TBBE was greater than one on a 7-point scale. There were 99 TBBE-dominant cases (i.e., $TBBE - CBBE \geq 1$) and 103 CBBE-dominant cases (i.e., $CBBE - TBBE \geq 1$). All paths were significant ($p < .01$) with the exception of the path from COMM to PPTL (Table 11). The model was a good fit with the data ($\chi^2 = 4963, 275$ df, CMIN 4.9; TLI .958, CFI .964; RMSEA .050).

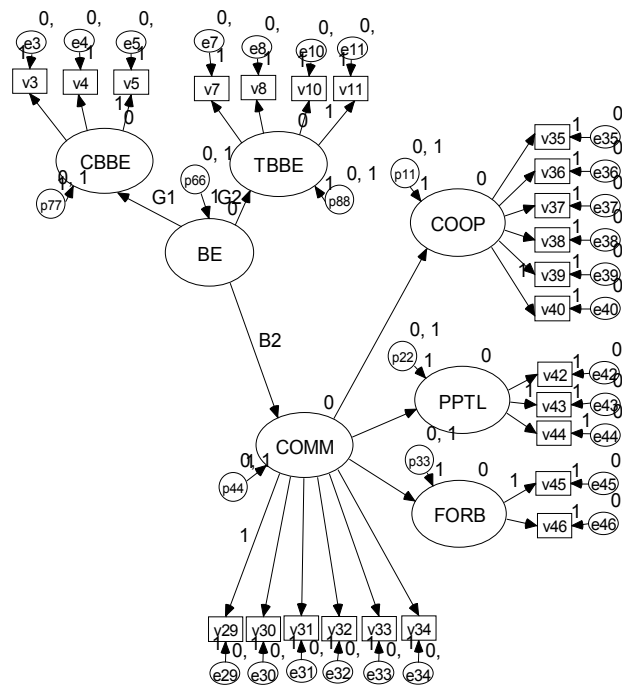


Figure 15. Brand Equity Structure

Table 11. Direct Effect Model Statistics

Hypothesized Relationship			Estimate
Power	→	Perceived Risk	0.112 ^a
Dependence	→	Perceived Risk	0.739 ^a
Uncertainty	→	Perceived Risk	-0.016 ^b
Brand Equity	→	Trade-Based Brand Equity	0.680 ^a
Brand Equity	→	Consumer-Based Brand Equity	0.605 ^a
Brand Equity	→	Relationship Commitment	0.383 ^a
Perceived Risk	→	Relationship Commitment	0.506 ^a
Relationship Commitment	→	Cooperation	0.590 ^a
Relationship Commitment	→	Propensity to Leave	-0.092 ^c
Relationship Commitment	→	Forbearance	-0.415 ^a
^a Significant at .000 ^b Not significant ^c Significant at < .05			

While the path from BE to COMM was the same weight for both structures, the paths from COMM to the outcome variables (COOP, PPTL, and FORB) were different (Table 12), suggesting a difference in COMM under different structures of BE. The path between COMM and COOP was stronger under TBBE-dominant brand equity. COMM explained 59 percent of variance in COOP when there was TBBE-dominant brand equity, compared to 41 percent for CBBE dominance. The path between COMM and PPTL was significant under TBBE-dominant brand equity, with COMM explaining 22 percent of PPTL. The path from COMM to PPTL was not significant for CBBE-dominant brand equity. The path between relationship commitment and forbearance was stronger for CBBE-dominant brand equity. When BE was CBBE-dominant, COMM explained 54 percent of forbearance, and when BE was TBBE-dominant, COMM explained only 40 percent of forbearance.

These findings suggest there was a differential effect on relationship commitment for the two structures of brand equity -- CBBE-dominant brand equity and TBBE-

Table 12. Brand Equity Structural Statistics

			CBBE Dominant	TBBE Dominant
Brand Equity	→	Relationship Commitment	0.645	0.645
Relationship Commitment	→	Cooperation	0.415	0.591
Relationship Commitment	→	Propensity to Leave	-0.122 ^a	-0.224 ^b
Relationship Commitment	→	Forbearance	-0.538	-0.400
^a Not significant				
^b p = .05				

dominant brand equity. Under conditions of TBBE-dominant brand equity, relationship commitment explained more variance in cooperation and propensity to leave. Under conditions of CBBE-dominant brand equity, relationship commitment explained more variance in forbearance.

CHAPTER SUMMARY

This chapter provided details of the main study data analyses along with findings related to the hypotheses proposed in Chapter II. Structural equation modeling was used to test hypothesized theoretical relationships. The data supported six hypothesized relationships and rejected five. One of the rejected relationships was the moderating effect of brand equity on the relationships between perceived risk and its antecedents. A post-hoc analysis provided an alternative model of the direct effect of brand equity on relationship commitment that was found to be an adequate fit with the data. This conceptualization also permitted a more robust test of the second-order structure of brand equity, including a test of the effect of the structure of brand equity. The final chapter discusses the findings, limitations of the study, and directions for future research.

CHAPTER V

DISCUSSION OF FINDINGS

INTRODUCTION

This dissertation set out to understand the phenomenon of brand equity in the supply chain and explain its effect on supply chain relationships. The qualitative study described in Chapter II provided exploratory insights into the meaning of brand equity in the supply chain and the ground for a theoretical model of the effect of brand equity in supply chain relationships. This chapter discusses the findings of the quantitative test of the theoretical model, the directions for future research, and marketing implications for this research.

DISCUSSION

The primary research question for this dissertation was “What is the effect of brand equity in the supply chain?” To answer this question, it was first necessary to understand the meaning of brand equity in the supply chain. The qualitative study reported in Chapter II provided a methodology for exploring the meaning of brand equity in the supply chain in order to build a basic understanding of the phenomenon and the context in which it is embedded. Based on reports of informants in the qualitative study, it appeared that the effect of brand equity in supply chain relationships worked through perceived risk to increase relationship commitment. Informants readily offered examples of the effect of their trade-partners’ brand equity on perceived risk and its antecedents -- uncertainty, dependence, and power. However, these relationships were not borne out in the quantitative test. There are several possible explanations for this.

First, the qualitative study was conducted in industries that differ significantly on several points from the context for the quantitative study. Most of the qualitative data was collected in the textile industry (home textiles and apparel) and the quantitative study was carried out in the home appliance industry. The textile industry was described as very dynamic and turbulent due to its fashion-orientation requiring frequent introduction of new styles and product lines. It was also portrayed as having experienced rapid and extensive globalization that contributed to vast restructuring in the industry. In contrast, supply chain relationships in the home appliance industry appeared to be relatively stable as evidenced by the length of relationships reported by survey respondents. The home appliance industry was also very concentrated while the textile industry was becoming increasingly fragmented. Second, the majority of informants in the qualitative study were further upstream in the supply chain than the retail respondents in the quantitative study. Retailers are closest to consumer demand and, therefore, experience less risk due to the bullwhip effect compared to upstream firms. Taken together, these differences in industry characteristics and position in the supply chain could account for different views of the relationship between perceived risk and brand equity found in the qualitative and quantitative studies. Perhaps the volatility of the textile industry brought perceived risk to the foreground for upstream firms while the stability of the home appliance industry put it in the background for downstream retailers.

For qualitative informants, managing perceived risk was portrayed as an organizing principle for interorganizational exchange and the point where brand equity had the greatest effect. While the quantitative study supported a strong relationship between perceived risk and relationship commitment, it did not support an effect of brand

equity on perceived risk. Rather, the post-hoc analysis revealed a direct effect of brand equity on relationship commitment, a central concern for retailers in the home appliance industry. These conflicting findings suggest the possibility of an interesting dynamic in interorganizational exchange. Perhaps both interpretations are legitimate. Perhaps there are situations where brand equity works through perceived risk to increase relationship commitment and, in other situations, the effect is a direct one on relationship commitment. The literature in interorganizational exchange provides theoretical insights for this speculation.

Drawing on the political economy paradigm (Thorelli 1986), empirical studies in interorganizational exchange in the 1970s centered on power-dependence relations between members of channel dyads (Hunt and Nevin 1974; Reve and Stern 1979; Sheth and Gardner 1982; Stern and Reve 1980). Channel relationships were conceptualized as social structures that perform an economic function, “bridging the gap between production and consumption” (Stern and Reve 1980, p. 55). The internal socio-political structure of channels was defined as the pattern of power-dependence relationships, and internal processes were described in terms of “dominant sentiments” of cooperation and/or conflict. Although the political economy framework opened the door to examination of cooperative forms of exchange, research based on the political economy framework tended to focus on issues of power, dependence, and conflict.

With the advent of relational theories of interorganizational exchange, research stemming from the political economy framework was criticized for its narrow focus on power and conflict. Frazier (1983) proposed broadening the perspective on interorganizational exchange behavior, suggesting a comprehensive framework for

inquiry that was interactive and relational. The subsequent rise of the relationship marketing paradigm in the interorganizational exchange literature spurred a stream of research examining the nature and role of commitment in exchange (Anderson and Weitz 1992; Dwyer, Schurr and Oh 1987; Gundlach, Achrol and Mentzer 1995; Morgan and Hunt 1994), shifting the focus from power and conflict to commitment and cooperation. Power and conflict were characterized as traits of dysfunctional interorganizational relationships while commitment and cooperation were hailed as the hallmarks of functional interorganizational exchange.

The two perspectives on the effect of brand equity in the supply chain in this study bring together the political economy and relationship frameworks of interorganizational exchange. Power-dependence (i.e., the political economy framework) and commitment-cooperation (i.e., the relationship paradigm) are simultaneously modeled as components relevant to interorganizational exchange. Both the qualitative analysis, as well as the results of the quantitative study, support a strong relationship between perceived risk, the outcome of power-dependence, and relationship commitment. Why did qualitative informants describe brand equity in the supply chain in terms of its effect on perceived risk while respondents in the quantitative study located the effect on commitment? The following section on the structure of brand equity provides insights that are helpful in answering this question.

The Structure of Brand Equity in the Supply Chain

The post-hoc analysis provided strong support for a second-order structure of brand equity similar to that described by informants in the qualitative study. Brand

equity in the supply chain was found to be comprised of two dimensions in both studies -- consumer-based brand equity and trade-based brand equity. In the quantitative study, further tests showed trade-based brand equity to be relatively more important than consumer-based brand equity; however, as noted in the qualitative study, these dimensions were highly correlated. Consumer-based brand equity was reported by informants in the qualitative study to be an important aspect of the value proposition between trade partners, often opening the door to new relationships or providing staying power to existing relationships. At the same time, trade-based brand equity secured the upstream and downstream resources necessary for building brand equity in the supply chain.

The quantitative test of differences for CBBE-dominant brand equity and TBBE-dominant brand equity shed additional light on the effect of brand equity in the supply chain. Although the level of relationship commitment was the same for both types of brand equity, the effect of relationship commitment on outcomes were different for the two types. Cooperation and propensity to leave was stronger with firms with TBBE-dominant brand equity, and the effect of relationship commitment on forbearance was stronger for CBBE-dominant brand equity. One plausible explanation for these differences could be that the nature of the commitment is different, thereby producing different effects on outcomes.

Prior research proposes a three-component model of the structure of commitment with instrumental, attitudinal, and temporal dimensions (Gundlach, Achrol and Mentzer 1995; Meyer and Allen 1991). Perhaps TBBE-dominant brand equity tapped into the attitudinal dimension of relationship commitment and CBBE-dominant brand equity

drew on the instrumental dimension. The attitudinal component of commitment comprises intentions to develop and maintain an enduring relationship while the instrumental element signifies a self-interest stake in the relationship. The scale used to measure relationship commitment is a stronger measure of attitudinal commitment (e.g., “This relationship is one we intend to maintain indefinitely.”) than instrumental commitment. The concept of TBBE resonates more strongly with the attitudinal component of commitment (e.g., “This company is known in the industry as a company that takes good care of their trade partners.”). In contrast, CBBE represents a means to an end for retailers, thus tapping into the instrumental notion of commitment. In the case of CBBE-dominant brand equity, relationship commitment may be based on the retailer’s self-interest of doing business with a manufacturer that assures high responsiveness among consumers and has less to do with an attitude of enduring commitment. These differences in the structure of commitment could, therefore, affect the relationship between commitment and its outcomes.

Similarly, in the qualitative study, informants appeared to be describing instrumental commitment; that is, the qualitative informants reported forming relationships out of self-interest in order to defend against threats in turbulent environments. The abandonment of intentions to develop and maintain long-standing relationships in favor of flexibility under these conditions could be interpreted as indicative of instrumental, rather than attitudinal, commitment. In this situation, perhaps commitment and cooperation take a back seat to power and dependence in interorganizational exchange. In response to the environment, firms may position themselves to leverage their brand equity in negotiating issues around power and

dependence rather than as a foundation for attitudinal commitment. Hence, the qualitative informants reported brand equity related to perceived risk rather than relationship commitment.

Perceived Risk in Interorganizational Exchange

Two of the three hypothesized relationships between perceived risk and its antecedents -- uncertainty, dependence, and power -- were supported. The hypothesized antecedent-phenomenon model of perceived risk was different from the conceptualization of risk borrowed from consumer behavior and applied in the interorganizational setting. The weak correlation between uncertainty and dependence (-.181) lends support to the antecedent-phenomenon conceptualization of perceived risk in interorganizational exchange rather than perceived risk as comprised of the dimensions of uncertainty and dependence as holds in the consumer setting. Higher correlations (e.g., >.70) would be expected if they were dimensions of a higher-order construct.

A surprising finding was the lack of significance of the relationship between uncertainty and perceived risk. This is interesting given the prevailing conceptualization of uncertainty as a critical dimension of perceived risk (Bauer 1960, Sheth 1973). Since perceived risk is a function of the level of consequences multiplied by the level of uncertainty, perceived risk would not exist where there is no uncertainty. That relationship did not appear to hold in this study -- the level of uncertainty was not significant to the level of perceived risk. There are several possible explanations for the lack of significance of this relationship.

Again, it is possible very low levels of uncertainty were present in the context of

the quantitative study. Given the length of relationships between retailers and appliance manufacturers, it is probable that uncertainty has been reduced to background noise. In comparison, uncertainty appeared to be a concern for informants in the qualitative study. However, as proposed by Morgan and Hunt, uncertainty may be more appropriately modeled as an outcome of relationship commitment. Second, it is also possible that uncertainty is indeed antecedent, but does not have a linear relationship to perceived risk. If the relationship is curvilinear with increasing and decreasing values at different points on the curve, it is not amenable to testing in SEM. Finally, the lack of significance could be the result of measurement error. The scale for uncertainty in this study was reduced to measure only the uncertainty in the exchange relationship in order to achieve a unidimensional construct. As a result, environmental uncertainty -- an important dimension of uncertainty in the qualitative study -- was excluded from the study. A different conceptualization of uncertainty may yield different results.

The weak correlation between power and dependence in this study (.225) is also an interesting finding. Increased dependence on a trade partner is thought to increase the power of the trade partner; however, the findings in this study do not support this notion. This is an instance where the longevity of relationships in the home appliance industry should provide ample opportunity for a strong correlation, if one is to be found. The relatively weak path between power and perceived risk was also interesting. Survey respondents were retailers; therefore, they occupy the position in the supply chain with the highest potential for power, which could explain the weak relationship between power and perceived risk in the quantitative study. However, these retailers were largely small businesses -- extremely little fish compared to the large manufacturers in the home

appliance industry -- which would argue for a stronger relationship between power and perceived risk in this context. This finding is one that deserves further investigation in post-hoc analyses.

Outcomes of Relationship Commitment

What do managers stand to gain by investing in brand equity in the supply chain? Three hypotheses were tested to answer this question. H5 was strongly supported: increased relationship commitment increases cooperation. Relationship commitment explains 60 percent of the variance in cooperation.

H6 was also supported: increased relationship commitment reduces propensity to leave the relationship. However, relationship commitment explained only 10 percent of variance in propensity to leave. The low magnitude of this path indicates there are other factors not included in the model that influence propensity to leave. H7 was significant and strong, but not in the direction hypothesized. Relationship commitment varies inversely (-.42) with forbearance; that is, forbearance decreases as commitment increases. Overall, there was very little evidence for forbearance in the quantitative study. Responses were largely below the midpoint of the scale with mean value of 3.41. It appeared that customers were less likely to be lenient as they become more committed to relationships with suppliers. One possible explanation for this relationship is that increased commitment may also increase performance expectations for trade partners.

DIRECTIONS FOR FUTURE RESEARCH

Limiting the quantitative study to one industry served the research purpose by minimizing extraneous variation for the theory test; however, the design simultaneously constrained the generalizability of findings. In several instances mentioned previously, it would have been useful to have data from industries with different characteristics in order to examine the effect of industry characteristics. Similarly, this study focused on only one point in the supply chain, the retailer-manufacturer relationship. Future studies that include multiple industries and multiple points in the supply chain would provide the opportunity to explore the boundaries for which theoretical relationships hold.

The scales used to measure consumer-based brand equity and trade-based brand equity can be improved, and the understanding of the interplay of brand equity and interorganizational exchange needs to be deepened. The relatively low variance extracted by the trade-based brand equity scale suggests there is more work to do in tapping the domain of this construct. As a first step, it will be interesting to revisit the qualitative data to further examine reports of brand equity in the supply chain. It will also be important to find field settings that introduce more variation, both in industry characteristics and at different points in the supply chain, to round out the dimensions of brand equity.

An intriguing aspect of brand equity in the supply chain is the effect not only with downstream customers, but also with upstream suppliers. A study that explores this multi-directional effect of brand equity in the supply chain could also examine the effect on competitors, giving a 360° view of brand equity in the supply chain.

As reported by informants in the qualitative study, the effect of brand equity in

the supply chain is dynamic, changing over time and responsive to changes in the context. The cross-sectional nature of this study prohibited an examination the dynamic nature of brand equity in the supply chain and constrained the exploration of hypothetical feedback loops. A longitudinal study would provide the opportunity to explore the dynamics of theoretical relationships over time and to discover feedback loops that may add to or subtract from brand equity.

This study purposefully excluded an examination of industrial goods, that is, goods that are consumed in production processes by organizational customers. Comparing brand equity for industrial goods and services with brand equity for products that have individual end-consumers would provide the opportunity to examine a potential important variation in the concept of brand equity in the supply chain.

Both the qualitative and quantitative studies relied heavily on self-reports. Although self-reports have been shown to be reliable, it would be enlightening to add external measures such as market share or financial performance indicators.

Finally, the justification for this research is the increasing pressure on firms to respond to globalization of supply networks. As supply chains become more global, it will be important to extend this research to cross-cultural settings in order to examine differences in cultural influences on the perception of brand equity in the supply chain.

MARKETING IMPLICATIONS

As stated in Chapter I, the challenge to brand managers in the supply chain context is three-fold: 1) understanding how to build brand equity when the customer is an organization rather than an individual, 2) knowing when to invest in the trade brand

versus the consumer brand, and 3) identifying critical target markets both within the supply chain as well as in consumer markets. This study provides guidance for addressing these challenges.

First, the findings strongly suggest brands in the supply chain are much more than “the name, term, sign, or symbol” included in the definition proposed by the AMA. Building brand equity in the supply chain involves a different kind of effort when compared to activities designed to build brand awareness and brand image in consumer markets. Clearly, brand equity in the supply chain is embodied in experience, specifically in the experience of relationships among trade partners. While traditional tools for brand managers such as advertising and promotions are used in building brand equity in the supply chain, they are not sufficient for the whole task. When the customer is an organization, brands are perceived through the experience with the company as participants in a supply chain; therefore, brand managers must be concerned about delivering value in the relationship as well as the product. This requires a more highly integrated effort across the firm and different tools compared to traditional brand management. In many firms, brand management and sales management are divorced with different organizational structures, strategies, and goals, and thus are not organized in a way that facilitates implementing successful brand strategies in the supply chain. To successfully manage the firm’s brand equity, executives are advised to monitor and manage not only the dimension of consumer-based brand equity, but also the dimension of trade-based brand equity.

When should companies invest in the consumer brand and when should they invest in the trade brand? Results of this study suggest that firms should be aware of the

differential effects of consumer-based dominance and trade-based dominance in their relationships with trade partners. On one hand, strong consumer-based brand equity provides a competitive advantage for firms in their dealings with trade partners and can provide a basis for developing stronger trade-based brand equity. However, there may be a point of diminishing returns in investments in the consumer brand's contribution to the brand equity of the firm. This study indicated that firms with trade-dominant brand equity are in a stronger position relative to firms with consumer-dominant brand equity when it comes to propensity to leave the relationship. At a minimum, executives should be aware of the structure of their firms' brand equity, and should consider whether they are appropriately allocating investments between building the consumer brand and the trade brand.

The final challenge for managing brand equity in the supply chain is identifying relevant target markets. The concept of brand equity in the supply chain implies the notion that a firm's brand equity has potentially far-reaching effects, well beyond the next customer or the end-consumer. As noted by informants in the qualitative study, competent management of brand equity in the supply chain can not only provide access to profitable customers, but also afford competitive advantage by solidifying relationships with desirable suppliers who assure consistency and high quality resources needed to strengthen the brand with end-consumers. Focusing efforts on building brand equity only with end-consumers indeed overlooks critical target audiences for the brand as suggested by Shocker, Srivistava and Reukert (1994) and Webster (2000).

For supply chain managers, this research points to the importance of integrating the supply chain strategy with brand strategy. These strategies should be mutually

supportive, with common goals and objectives. The example given by one informant who recognized the importance of building end-to-end strategic relationships in order to support growth of the firm's brand equity captures the vision of the power to be gained by harnessing supply chain and brand strategy to serve the same goals. This study also provides a framework for assessing the impact of brand equity in supply chain relationships. Evaluating the level and structure of the firm's brand equity relative to competitors may provide insight into ways to strengthen critical relationships not only with customers, but also with key suppliers.

CONCLUSION

This research lays a foundation for an ongoing program of research in the area of brand equity in the supply chain. The study provides a different way of looking at brand equity that captures both the effect of brand equity in consumer markets as well as the impact of brand equity in supply chain relationships. This perspective not only holds promise for opening up new avenues of scholarly inquiry in brand management and supply chain management, but also offers guidance to marketing managers who are searching for tools fitted for the task of assuring their firms' survival and prosperity in the turbulent business environment of the new millennium.

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APPENDICES

APPENDIX A. INTERVIEW PROTOCOL

1. I would like to begin by having you tell me a little bit about your job. What do you do for [your company]? How long have you worked for [your company]?
2. How does that fit into [your company's] organizational structure?
3. Let's start by looking upstream -- about how many suppliers do you work with? Has that number been trending up or down?

Probes:

- ☐ Are there some suppliers that are more important than others?
 - ☐ What characteristics make these suppliers important?
 - ☐ Do you have a way of letting them know how they are performing? How do the best performers differ from the worst performers?
 - ☐ What do you worry about as you think about managing relationships with suppliers?
4. What things are considered when you think about supplier qualifications? If you think about a supplier that is a joy to work with, how would you describe that supplier? What about one that is a real headache?
 5. Are there some suppliers that are better known than others in your industry?

Probes:

- ☐ What makes them better known than other suppliers like them? Do you consider them to have consumer brand equity? Does that matter to you?
 - ☐ Does their reputation give them any advantages in dealing with [your company]?
 - ☐ Do you prefer dealing with the better-known companies?
6. Do you have stronger relationships with some suppliers as opposed to others?

Probes:

- ☐ How are these relationships different from those with other suppliers?
- ☐ How would you compare the turnover rates among those you consider to be strong versus the others?
- ☐ How does a supplier's reputation affect your relationship with them?
- ☐ Can you give me some examples of reasons for leaving a relationship with a supplier? Are there any differences between reasons for leaving a close relationship versus another relationship?

Is there anything else I should know if I want to understand your supply chain relationships?

APPENDIX B. NODE LISTING

- 1 Alternative suppliers
Description: The extent to which there is a ready source of supply from other suppliers
- 2 Attributes
Description: Physical characteristics of the product exchanged between supply chain partners
- 3 Brand equity
Description: The added value endowed by the brand
- 4 Brand management
Description: Internal process designed to support and strengthen the company's brands
- 5 Brand strategy
Description: The approach for achieving corporate objectives for the brand
- 6 Branding
Description: Visible, tactical implementation of brand strategy such as identifiable symbols
- 7 Business philosophy
Description: The firm's beliefs that drive business practice
- 8 Change
Description: Differences in internal and external environment of the firm
- 9 Collaboration
Description: Extremely close working partnership with another firm
- 10 Competition
Description: References to the competitive environment of the firm
- 11 Consumer-Based Brand Equity
Description: The differential effect of brand knowledge on consumer response to the marketing of the brand

- 12 Cooperation
Description: The degree to which the buying firm works with the supplier to achieve mutual goals
- 13 Customer Expectations
Description: What customers expect from the firm
- 14 Customers
Description: Characteristics of specific customers or the firm's customer base
- 15 Customer Risk
Description: Risk associated with losing customers
- 16 Decision making
Description: Processes within or between firms for arriving at decisions
- 17 Dependence
Description: The extent to which attainment of goals is mediated by another firm and is available only through the relationship with that firm
- 18 Differentiation
Description: Characteristics that make a firm different from its competitors
- 19 Downstream customers
Description: Customers located closer to the end consumer
- 20 Expertise
Description: Know-how
- 21 Financial Risk
Description: Risk associated with financial performance of the firm
- 22 Forbearance
Description: Leniency with trade partners
- 23 Future
Description: Predictions of what may happen in the future
- 24 Global sourcing
Description: Arrangements for securing resources on a world-wide basis
- 25 Increased Costs
Description: Additional resource commitments

- 26 Industry Restructuring
Description: Changes in the participants or structure of an industry
- 27 Information exchange
Description: Descriptions of method, content and frequency of data and knowledge shared between firms in the supply chain
- 28 Integrity
Description: Evaluations of the ethical conduct of trading partners
- 29 Interdependence
Description: The level of mutual reliance among trading partners
- 30 Intrafirm communication
Description: Communications within the firm
- 31 Mutual Gain
Description: Win/win situations
- 32 Non-product attributes
Description: Intangible characteristics of the offering
- 33 Partnership
Description: Working with another firm for mutual gain
- 34 Penalties
Description: Financial punishments for failing to meet terms of an agreement
- 35 Perceived Risk
Description: The potential impact of failure to acquire a resource on the profitability of the firm
- 36 Power
Description: The ability to control the decision variables in the marketing strategy of another member in the supply chain
- 37 Pricing
Description: Actions that determine price levels
- 38 Private label
Description: Products manufactured and marketed as a retail brand

- 39 Product brand
Description: The brand of a specific product offering
- 40 Propensity to Leave
Description: The likelihood that the buying firm will leave the relationship in the near future
- 41 Pull strategy
Description: Promoting the brand with a downstream customer to pull products through the supply chain
- 42 Quality
Description: Concern for quality or quality control
- 43 Relationship commitment
Description: The strength of the intention to develop and maintain a stable, long-term relationship
- 44 Reputation
Description: What a company is known for
- 45 Responsiveness
Description: Attentiveness to the needs of the trade partner
- 46 Revenue Loss
Description: Potential loss of revenue
- 47 Reverse Auctioning
Description: Putting business out to bid on the Internet
- 48 Role of the salesperson
Description: How the salesperson interacts with trade partners
- 49 Scorecard
Description: Supplier performance reports
- 50 Service levels
Description: Percentage of products actually delivered
- 51 Sole-sourcing
Description: Using a single supplier for a particular resource
- 52 Stability
Description: Low levels of change

- 53 Strategic Supply
Description: Supply that is critical to achieving strategic goals
- 54 Supply base
Description: Descriptions of the nature of the supply base
- 55 Supply chain relationship
Description: Descriptions of trade partner relationships
- 56 Switching Costs
Description: Investments in assets that are specific to one relationship
- 57 Trade-Based Brand Equity
Description: The differential effect of the brand on the response of trading partners to marketing activities of the firm
- 58 Trustworthiness
Description: Characteristic of firms with high integrity
- 59 Uncertainty
Description: The degree to which future resource flows cannot be accurately predicted
- 60 Unpredictability
Description: Events that are unanticipated and unplanned
- 61 Value Added Services
Description: Services designed to augment product offers
- 62 Value proposition
Description: The value perceived in the firm's offer
- 63 Volume of supply
Description: Suppliers responsible for a high volume or high percentage of supply base for a firm

APPENDIX C. PRE-TEST SURVEY ITEMS

1. How long has this manufacturer been a supplier to your business?
 - ☐ Less than 1 year
 - ☐ 1 to 5 years
 - ☐ 6 to 10 years
 - ☐ 11 to 15 years
 - ☐ More than 16 years
2. What percentage of your firm's home appliances are supplied by this manufacturer?
 - ☐ Less than 20%
 - ☐ 20 - 40%
 - ☐ 41 - 60%
 - ☐ 61 - 80%
 - ☐ More than 80%
3. How much do you know about the relationship with this manufacturer?
 - ☐ No knowledge
 - ☐ Very little knowledge
 - ☐ An adequate amount of knowledge
 - ☐ A lot of knowledge
 - ☐ A very high level of knowledge
4. How many home appliance manufacturers does your firm do business with?
 - ☐ 1
 - ☐ 2
 - ☐ 3
 - ☐ 4
 - ☐ 5 or more
5. How many years of experience do you have in your job, including similar experience at other companies?
 - ☐ Less than 1 year
 - ☐ 1 to 5 years
 - ☐ 6 to 10 years
 - ☐ 11 to 15 years
 - ☐ More than 15 years

6. The name of this manufacturer is well-known by retailers in the home appliance industry.
7. Retailers recognize this manufacturer as a strong trade partner.
8. This manufacturer is always given a chance to bid on our business.
9. This manufacturer's name gives them an advantage over other manufacturers.
10. Many retailers in the appliance industry would not recognize the name of this manufacturer.
11. This manufacturer is known in the industry as a company that takes good care of their trade partners.
12. We are willing to pay more in order to do business with this manufacturer.
13. Our customers...
 - a. rarely ask for appliances produced by this manufacturer.
 - b. know this manufacturer's products to be a good value.
 - c. expect us to carry this manufacturer's brands.
 - d. are willing to pay more in order to buy this manufacturer's appliances.
 - e. often buy appliances exclusively from this manufacturer.
 - f. would be disappointed if we did not carry this manufacturer's brands.
14. Our company...
 - a. could easily replace this manufacturer.
 - b. is dependent on this manufacturer.
 - c. believes this manufacturer's products are crucial to our success.
 - d. does not have a good alternative to this manufacturer.
 - e. needs this manufacturer to achieve our goals.
15. If we could no longer get appliances from this manufacturer,
 - a. it would hurt our firm.
 - b. our firm would be in danger of losing a lot of money.
 - c. we would run the risk of losing customers.
 - d. our firm would see virtually no change in profits.
 - e. our customer satisfaction levels would go down.
 - f. it would threaten the profitability of our firm.

15. We know exactly what to expect from this manufacturer.
16. We are certain this manufacturer will keep its promises.
17. We can accurately predict how this manufacturer will perform.
18. We are often uncertain if this manufacturer will follow through on commitments.
19. We never know if we will get what we need from this manufacturer.
20. This manufacturer unexpectedly changes important things.
21. This manufacturer has the ability to ...
 - a. dictate pricing policies for their appliances.
 - b. determine the level of inventory we carry for their appliances.
 - c. dictate the number of appliances we order from them.
 - d. determine the mix of products we order from them.
 - e. require us to follow rules about displaying their products.
 - f. require us to follow specific guidelines in promoting their products.
22. The relationship my company has with this manufacturer...
 - a. is something we are very committed to.
 - b. is one we intend to maintain indefinitely.
 - c. deserves our maximum effort to maintain.
 - d. is something we would do almost anything to keep.
 - e. is one we care a great deal about long-term.
 - f. would take very little effort to end.
23. How often do you work together with this manufacturer to ...
 - a. boost sales of their appliances to your customers?
 - b. help them understand ways to serve your customers more effectively?
 - c. solve any problems that arise?
 - d. figure out ways to cut costs?
 - e. estimate demand for their appliances?
 - f. plan ways to achieve goals you have in common?
24. We let this manufacturer fall below our order fulfillment requirements.
25. We closely inspect this manufacturer's products when we receive them.

26. We are more lenient with this manufacturer than some of our other suppliers.
27. We allow this manufacturer to substitute products.
28. We reduce future orders if this manufacturer fails to deliver as promised.
29. We penalize this manufacturer if they fail to meet any of the terms of our agreement.
30. How often does your firm ...
- a. seriously entertain bids that would affect the volume of business with this manufacturer?
 - b. invest a great deal of effort meeting with representatives from this manufacturer's competitors?
 - c. fully evaluate alternatives to this manufacturer?
 - d. actively search for information about alternative appliance manufacturers?
 - e. explore options for replacing this manufacturer?

(NOTE: Questions 32 - 39 were proprietary to the research sponsor.)

40. What is the approximate total annual sales volume at your business location?
- ☐ Under \$20 million
 - ☐ \$20 million to \$39.9 million
 - ☐ \$40 million to \$59.9 million
 - ☐ \$60 million to \$79.9 million
 - ☐ Over \$80 million
41. What is your approximate total annual sales volume for appliances?
- ☐ Under \$5 million
 - ☐ \$5 million to \$9.9 million
 - ☐ \$10 million to \$14.9 million
 - ☐ \$15 million to \$19.9 million
 - ☐ Over \$20 million
42. Which of the following most accurately describes your business?
- ☐ Independent retailer
 - ☐ Business unit of regional retail chain
 - ☐ Business unit of a national retail chain
 - ☐ Business unit of a multi-national retail chain

APPENDIX D. PRE-TEST ANALYSES

Trade-based Brand Equity (TBBE)

Initial TBBE Component Matrix

	Component	
	1	2
Q9-Name advantage	.811	-.232
Q11- Takes care	.660	-.106
Q7-Strong TP	.654	.498
Q12-Will pay more	.599	-.519
Q6-Name recog	.376	.758
Q10(r)-No name recog	.208	.683
Q8-Chance to bid	.402	-.459

One-factor TBBE

	Component
	1
Q9-Name advantage	.819
Q12-Will pay more	.729
Q11- Takes care	.689
Q7-Strong TP	.591

One-factor TBBE Total Variance Explained
Extraction Sums of Squared
Loadings
% of

Component	Total	Variance	Cumulative %
1	2.026	50.650	50.650

Final TBBE Component Matrix

	Component
	1
Q16-Know what to expect	.923
Q18-Predict performance	.922
Q17-Keeps promises	.913
Q11- Takes care	.758
Q12-Will pay more	.746
Q9-Name advantage	.613

Final Total Variance Explained
Extraction Sums of Squared
Loadings
% of

Component	Total	Variance	Cumulative %
1	4.040	67.333	67.333

TBBE (continued)

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

1.	V10	Q9-Name advantage
2.	V12	Q11- Takes care
3.	V13	Q12-Will pay more
4.	V31	Q16-Know what to expect
5.	V32	Q17-Keeps promises
6.	V33	Q18-Predict performance

Correlation Matrix

	V10	V12	V13	V31	V32	V33
V10	1.0000					
V12	.3453	1.0000				
V13	.5629	.2861	1.0000			
V31	.4491	.7468	.4798	1.0000		
V32	.4420	.6299	.6016	.8888	1.0000	
V33	.5496	.5158	.6409	.8536	.8402	1.0000

N of Cases = 40.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
V10	26.0000	29.7949	.5635	.4032	.8954
V12	25.8000	31.2923	.5902	.6227	.8890
V13	27.8250	27.6353	.6214	.5508	.8905
V31	26.0250	27.4609	.8407	.9003	.8514
V32	26.0250	27.2045	.8467	.8372	.8500
V33	26.2000	27.5487	.8552	.8341	.8497

Reliability Coefficients

6 items

Alpha = .8908

Standardized item alpha = .8957

Consumer-Based Brand Equity (CBBE)

Initial Component Matrix

	Component 1
Q13f-Dissapoint	.862
Q13e-Exclusive buy	.861
Q13c-Exp to carry	.831
Q13b-Good value	.785
Q13d-Customers pay more	.724
Q13a(r)-Rarely asked for	.682

Final Component Matrix

	Component 1
Q13e-Exclusive buy	.884
Q13f-Dissapoint	.864
Q13c-Exp to carry	.836
Q13b-Good value	.780
Q13d-Customers pay more	.743

Total Variance Explained

	Extraction	Sums of Squared
	Loadings	% of
Component	Total	Variance
1	3.389	67.778
		67.778

RELIABILITY ANALYSIS - SCALE (ALPHA)

	V15	V16	V17	V18	V19
V15	1.0000				
V16	.6404	1.0000			
V17	.4507	.4684	1.0000		
V18	.5612	.7014	.5898	1.0000	
V19	.5756	.6107	.5918	.7523	1.0000

N of Cases = 42.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
V15	19.8333	27.9472	.6517	.4704	.8625
V16	20.2857	24.2578	.7113	.5828	.8378
V17	21.3333	22.1301	.6244	.4056	.8629
V18	20.6667	21.0569	.8051	.6763	.8101
V19	20.6429	20.1376	.7746	.6251	.8200

Reliability Coefficients

Alpha = .8681 5 items Standardized item alpha = .8798

Dependence (DEP)

Initial Component Matrix

	Component 1
Q14c-Crucial to success	.929
Q14e-Necessary to goals	.901
Q14b-Dependent	.848
Q14d-No alternative	.795
Q14a(r)-Easily replaced	.517

Final Component Matrix

	Component 1
Q14c-Crucial to success	.933
Q14e-Necessary to goals	.914
Q14b-Dependent	.862
Q14d-No alternative	.800

Total Variance Explained

	Extraction	Sums of Squared
	Loadings	% of
Component	Total	Variance
1	3.090	77.246
		77.246

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Correlation Matrix

	V21	V22	V23	V24
V21	1.0000			
V22	.7759	1.0000		
V23	.5865	.6076	1.0000	
V24	.6661	.8699	.6552	1.0000

N of Cases = 42.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
V21	13.5476	22.6440	.7546	.6278	.8817
V22	12.8571	21.3449	.8664	.8266	.8389
V23	13.4048	25.3688	.6692	.4711	.9094
V24	12.8333	22.3862	.8326	.7849	.8526

Reliability Coefficients

Alpha = .9011 4 items Standardized item alpha = .9005

Uncertainty (UNC)

Initial Component Matrix

	Component	
	1	2
Q16-Know what to expect	.859	-.413
Q17-Keeps promises	.849	-.425
Q18-Predict performance	.833	-.449
Q21(r)-Unexpected	.501	.763
Q20(r)-Get what we need	.528	.707
Q19(r)-Uncertain	.494	.676

Component Matrix

	Component
	1
Q21(r)-Unexpected	.912
Q20(r)-Get what we need	.883
Q19(r)-Uncertain	.837

Total Variance Explained

Extraction Sums of Squared Loadings			
Component	Total	% of Variance	Cumulative %
1	2.311	77.039	77.039

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

1. V34R Q19(r)-Uncertain

2. V35R Q20(r)-Get what we need

3. V36R Q21(r)-Unexpected

Correlation Matrix

	V34R	V35R	V36R
V34R	1.0000		
V35R	.5751	1.0000	
V36R	.6469	.7411	1.0000

N of Cases = 42.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
V34R	10.4762	6.8897	.6513	.4388	.8446
V35R	10.5238	6.2555	.7191	.5650	.7817
V36R	10.4762	7.0360	.7830	.6220	.7299

Reliability Coefficients

Alpha = .8457 3 items Standardized item alpha = .8503

Supplier Power (PWR)

Initial Component Matrix

	Component 1
Q22e-Display	.870
Q22b-Inventory	.823
Q22f-Promotion	.812
Q22d-Mix	.812
Q22c-Quantity	.730
Q22a-Pricing	.482

Final Component Matrix

	Component 1
Q22e-Display	.876
Q22b-Inventory	.837
Q22f-Promotion	.821
Q22d-Mix	.819
Q22c-Quantity	.728

Total Variance Explained

	Extraction Sums of Squared Loadings % of		
Component	Total	Variance	Cumulative %
1	3.342	66.832	66.832

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

	Correlation Matrix				
	V38	V39	V40	V41	V42
V38	1.0000				
V39	.6027	1.0000			
V40	.6278	.5640	1.0000		
V41	.6238	.4685	.6622	1.0000	
V42	.5991	.4641	.5236	.8099	1.0000

N of Cases = 41.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
V38	17.0976	34.5402	.7409	.5544	.8440
V39	16.9512	36.2476	.6137	.4282	.8765
V40	17.2927	37.5622	.7130	.5566	.8522
V41	16.4634	35.0049	.7765	.7378	.8358
V42	16.1951	35.7110	.7180	.6791	.8496

Reliability Coefficients

Alpha = .8779 5 items Standardized item alpha = .8800

Perceived Risk (RISK)

Initial Component Matrix

	Component 1
Q15b-Lose money	.920
Q15c-Lose customers	.912
Q15f-Threaten profits	.876
Q15a-Hurt firm	.853
Q15e-Lower satisfaction	.823
Q15d(r)-No profit loss	.490

Component Matrix

	Component 1
Q15c-Lose customers	.919
Q15b-Lose money	.909
Q15f-Threaten profits	.887
Q15a-Hurt firm	.871
Q15e-Lower satisfaction	.826

Total Variance Explained

Extraction Sums of Squared Loadings					
Component	Total	% of Variance	Cumulative %		
1	3.898	77.951	77.951		
R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)					
Correlation Matrix					
	V25	V26	V27	V29	V30
V25	1.0000				
V26	.7352	1.0000			
V27	.8339	.8510	1.0000		
V29	.5725	.6912	.6467	1.0000	
V30	.7146	.7346	.7118	.7642	1.0000

N of Cases = 41.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
V25	17.8780	35.8598	.8005	.7294	.9165
V26	18.2927	36.4622	.8517	.7675	.9056
V27	17.7561	36.6890	.8673	.8204	.9029
V29	18.3171	40.0720	.7361	.6268	.9272
V30	18.3902	36.6439	.8197	.7110	.9118

Reliability Coefficients

Alpha = .9292 5 items Standardized item alpha = .9297

Relationship Commitment (COMM)

Component Matrix

	Component 1
Q23a-Committed	.962
Q23c-Max effort	.954
Q23b-Intend to maintain	.927
Q23e-Long-term	.897
Q23d-Do anything to keep	.840
Q23f(r)-Easy to end	.662

Total Variance Explained

Extraction Sums of Squared Loadings			
Component	Total	% of Variance	Cumulative %
1	4.642	77.375	77.375
R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)			
1.	V43	Q23a-Committed	
2.	V44	Q23b-Intend to maintain	
3.	V45	Q23c-Max effort	
4.	V46	Q23d-Do anything to keep	
5.	V47	Q23e-Long-term	
6.	V48R	Q23f(r)-Easy to end	

Correlation Matrix						
	V43	V44	V45	V46	V47	V48
V43	1.0000					
V44	.9139	1.0000				
V45	.9082	.8821	1.0000			
V46	.7827	.7090	.7579	1.0000		
V47	.8464	.8007	.8680	.6989	1.0000	
V48R	.5747	.5608	.5661	.4607	.4702	1.0000

N of Cases = 41.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
V43	26.0000	41.3500	.9287	.9015	.8998
V44	25.9756	42.9244	.8825	.8525	.9069
V45	26.0488	42.2476	.9153	.8765	.9026
V46	26.8780	38.7598	.7620	.6284	.9262
V47	25.9756	43.6744	.8321	.7755	.9128
V48R	26.4390	44.6024	.5676	.3522	.9483

Reliability Coefficients

Alpha = .9292 6 items Standardized item alpha = .9391

Cooperation (COOP)

Component Matrix

	Component 1
Q24d-Cut costs	.916
Q24e-Est demand	.904
Q24b-Serve customers	.896
Q24c-Solve problems	.889
Q24f-Common goals	.881
Q24a-Boost sales	.842

Total Variance Explained

	Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %
1	4.734	78.905	78.905

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

1.	V49	Q24a-Boost sales
2.	V50	Q24b-Serve customers
3.	V51	Q24c-Solve problems
4.	V52	Q24d-Cut costs
5.	V53	Q24e-Est demand
6.	V54	Q24f-Common goals

	Correlation Matrix					
	V49	V50	V51	V52	V53	V54
V49	1.0000					
V50	.6795	1.0000				
V51	.8515	.7988	1.0000			
V52	.7073	.7732	.7301	1.0000		
V53	.6378	.7538	.7058	.8656	1.0000	
V54	.6280	.7640	.6603	.7930	.8452	1.0000

N of Cases = 42.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
V49	20.5238	59.2799	.7706	.7520	.9420
V50	20.8333	58.1911	.8454	.7550	.9341
V51	20.3095	58.5604	.8326	.8220	.9355
V52	21.4762	52.5482	.8762	.8048	.9302
V53	21.3810	54.7294	.8642	.8243	.9311
V54	20.9524	54.8757	.8300	.7606	.9356

Reliability Coefficients

Alpha = .9451

6 items

Standardized item alpha = **.9464**

Forbearance (FORB)

Initial Component Matrix

	Component	
	1	2
Q29(r)-Reduce orders	-.705	.533
Q28-Allow substitution	.645	.385
Q30(r)-Penalize	-.630	.577
Q27-Lenient	.606	.409
Q25-Lower fulfillment	.582	.526
Q26(r)-Always inspect	.132	-.478

Final Component Matrix

	Component
	1
Q27-Lenient	.752
Q28-Allow substitution	.747
Q25-Lower fulfillment	.720
Q29(r)-Reduce orders	-.447

Total Variance Explained

Extraction Sums of Squared Loadings			
% of			
Component	Total	Variance	Cumulative %
1	1.841	46.031	46.031

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

1.	V55	Q25-Lower fulfillment
2.	V57	Q27-Lenient
3.	V58	Q28-Allow substitution
4.	V59R	Q29(r)-Reduce orders

Correlation Matrix				
	V55	V57	V58	V59R
V55	1.0000			
V57	.3908	1.0000		
V58	.3923	.3260	1.0000	
V59R	-.0485	-.2292	-.2120	1.0000

N of Cases = 41.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
V55	11.0000	8.3500	.4678	.2385	-.0033
V57	10.9268	7.4695	.2942	.2186	.1504
V58	11.3171	8.2720	.3127	.2129	.1398
V59R	9.1951	14.7610	-.2262	.0823	.6262

Reliability Coefficients

Alpha = .3591 4 items Standardized item alpha = **.3153**

Propensity to Leave (PPTL)

Initial Component Matrix

	Component 1
Q31c-Evaluate alternatives	.908
Q31b-Meet with competitors	.809
Q31d-Search for information	.752
Q31a-Take bids	.715
Q31e-Explore options	.604

Final Component Matrix

	Component 1
Q31c-Evaluate alternatives	.917
Q31b-Meet with competitors	.847
Q31d-Search for information	.746
Q31a-Take bids	.729

Total Variance Explained

Extraction Sums of Squared Loadings				
Component	Total	Variance	Cumulative %	
1	2.648	66.191	66.191	
R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)				
Correlation Matrix				
	V61	V62	V63	V64
V61	1.0000			
V62	.5535	1.0000		
V63	.5471	.7153	1.0000	
V64	.3094	.4512	.6777	1.0000

N of Cases = 42.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
V61	10.7619	19.7956	.5445	.3579	.8259
V62	10.2143	17.6847	.6967	.5499	.7576
V63	10.0238	16.8043	.8188	.6924	.7004
V64	9.9286	19.3362	.5573	.4654	.8215

Reliability Coefficients

Alpha = .8251 4 items Standardized item alpha = .8258

APPENDIX E.
MAIN SURVEY APPENDICES

SURVEY ITEMS

Scale	Items
Consumer-Based Brand Equity <i>Reliability = .76</i>	<i>[Anchors: Strongly Disagree (1) - Strongly Agree (7)]</i> <i>Our customers...</i> v1 ... know this manufacturer's products to be a good value^a v2 ... expect us to carry this manufacturer's brands^a v3 ... are willing to pay more in order to buy this manufacturer's appliances v4 ... often buy appliances exclusively from this manufacturer v5 ... would be disappointed if we did not carry this manufacturer's brands
Trade-Based Brand Equity <i>Reliability = .75</i>	<i>[Anchors: Strongly Disagree (1) - Strongly Agree (7)]</i> v6 -We know exactly what to expect from this manufacturer.^a v7 -We can accurately predict how this manufacturer will perform. v8 -This manufacturer's name gives them an advantage over other manufacturers. v9 -We can rely on this manufacturer to keep its promises.^a v10 - This manufacturer is known in the industry as a company that takes good care of their trade partners. v11 - We are willing to pay more in order to do business with this manufacturer.
Uncertainty <i>Reliability = .87</i>	<i>[Anchors: Strongly Disagree (1) - Strongly Agree (7)]</i> v12 - We are often uncertain if this manufacturer will follow through on commitments. v13 - We never know if we will get what we need from this manufacturer. v14 - This manufacturer unexpectedly changes important things.
Dependence <i>Ganesan (1994)</i> <i>Reliability = .89</i>	<i>[Anchors: Strongly Disagree (1) - Strongly Agree (7)]</i> <i>Our company...</i> v15 - ... is dependent on this manufacturer v16 - ... believes this manufacturer's products are crucial to our success v17 - ... does not have a good alternative to this manufacturer v18 - ... needs this manufacturer to achieve our goals
Supplier Power <i>Gaski and Nevin (1985)</i> <i>Reliability = .83</i>	<i>[Anchors: Strongly Disagree (1) - Strongly Agree (7)]</i> <i>This manufacturer has the ability to...</i> v19 - ... determine the level of inventory we carry for their appliances. v20 - ... dictate the number of appliances we order from them v21 - ... determine the mix of products we order from them v22 - ... require us to follow rules about displaying their products v23 - ... require us to follow specific guidelines in promoting their products

Scale	Items
Perceived Risk <i>Reliability = .94</i>	<i>[Anchors: Strongly Disagree (1) - Strongly Agree (7)]</i> <i>If we could no longer get appliances from this manufacturer...</i> v24 - ... it would hurt our firm v25 - ... our firm would be in danger of losing a lot of money v26 - ... we would run the risk of losing customers v27 - ... our customer satisfaction levels would go down v28 - ... it would threaten the profitability of our firm
Relationship Commitment <i>Morgan and Hunt (1994)</i> <i>Reliability = .91</i>	<i>[Anchors: Strongly Disagree (1) - Strongly Agree (7)]</i> <i>The relationship my company has with this manufacturer...</i> v29 - ... is something we are very committed to. v30 - ... is one we intend to maintain indefinitely v31 - ... deserves our maximum effort to maintain v32 - ... is something we would do almost anything to keep v33 - ... is one we care a great deal about long-term v34- ... would take very little effort to end
Cooperation <i>Reliability = .93</i>	<i>[Anchors: Never (1) - Always (7)]</i> <i>How often do you work together with this manufacturer to...</i> v34 - ...boost sales of their appliances to your customers? v35 - ... help them understand ways to serve your customers more effectively? v36 - ...solve any problems that arise? v37 - ... figure out ways to cut costs? v38 - ... estimate demand for their appliances? v39 - ... plan ways to achieve goals you have in common?
Propensity to Leave <i>Reliability = .84</i>	<i>[Anchors: Never (1) - Always (7)]</i> <i>How often does your firm...</i> v40 - ... invest a great deal of effort meeting with representatives from this manufacturer's competitors? v41 - ... fully evaluate alternatives to this manufacturer? ^a v42 - ... actively search for information about alternative appliance manufacturers? v43 - ... seriously entertain bids that would affect the volume of business with this manufacturer?
Forbearance <i>Reliability = .70</i>	<i>[Anchors: Never (1) - Always (7)]</i> v44 - We let this manufacturer fall below our order fulfillment requirements. v45 - We are more lenient with this manufacturer than some of our other suppliers. v46 - We allow this manufacturer to substitute products. v47 - We reduce future orders if this manufacturer fails to deliver as promised.

^a Item removed from final scale

Table 14. Basic Structural Model Modification Indices

Regression Weights:			M.I.	Par Change
v10	<--	Uncertainty	33	-0.22
v10	<--	Forbearance	15	-0.171
v10	<--	Consumer-based Brand Equity	14	-0.15
v10	<--	Relationship Commitment	14	0.141
v11	<--	Uncertainty	17	0.164
v17	<--	Uncertainty	20	0.207
v17	<--	Relationship Commitment	10	-0.145
v20	<--	Cooperation	25	-0.245
v21	<--	Relationship Commitment	12	-0.146
v22	<--	v23	12	0.034
v23	<--	Cooperation	13	0.178
v23	<--	Relationship Commitment	12	0.166
v23	<--	v22	11	0.035
v26	<--	Power	12	0.112
v27	<--	Consumer-based Brand Equity	18	0.156
v27	<--	Trade-based Brand Equity	12	0.127
v28	<--	Power	12	-0.114
v3	<--	Perceived Risk	24	-0.198
v3	<--	Relationship Commitment	18	-0.171
v3	<--	Dependence	16	-0.162
v30	<--	Perceived Risk	11	-0.082
v32	<--	Perceived Risk	43	0.256
v32	<--	Dependence	33	0.227
v32	<--	Forbearance	11	0.153
v32	<--	Uncertainty	11	0.135
v34	<--	Forbearance	38	-0.365
v34	<--	Uncertainty	24	-0.255
v34	<--	Power	16	-0.215
v35	<--	Relationship Commitment	20	0.146
v35	<--	Dependence	17	0.137
v35	<--	Perceived Risk	14	0.122
v36	<--	Power	11	0.102
v37	<--	Uncertainty	17	-0.15
v37	<--	Forbearance	11	-0.137
v41	<--	Cooperation	82	0.412
v41	<--	Relationship Commitment	56	0.34
v41	<--	Dependence	38	0.28
v41	<--	Perceived Risk	31	0.25
v41	<--	Trade-based Brand Equity	29	0.253
v41	<--	Uncertainty	24	-0.225
v41	<--	Forbearance	23	-0.25
v41	<--	Consumer-based Brand Equity	16	0.192
v41	<--	v40	12	0.039

Table 14. Continued

Regression Weights:			M.I.	Par Change
v41	<--	v39	10	0.038
v43	<--	Cooperation	28	-0.195
v43	<--	Relationship Commitment	16	-0.148
v43	<--	Forbearance	12	0.148
v43	<--	Trade-based Brand Equity	12	-0.133
v44	<--	Forbearance	23	0.227
v44	<--	Uncertainty	13	0.15
v44	<--	Cooperation	11	-0.135
v45	<--	Relationship Commitment	34	-0.222
v45	<--	Consumer-based Brand Equity	25	-0.204
v45	<--	Dependence	25	-0.191
v45	<--	Trade-based Brand Equity	22	-0.188
v45	<--	Perceived Risk	22	-0.177
v45	<--	Cooperation	19	-0.169
v45	<--	Power	19	-0.176
v46	<--	Relationship Commitment	43	0.279
v46	<--	Dependence	41	0.273
v46	<--	Trade-based Brand Equity	38	0.275
v46	<--	Consumer-based Brand Equity	38	0.277
v46	<--	Perceived Risk	34	0.247
v46	<--	Cooperation	29	0.231
v46	<--	Power	15	0.173
v47	<--	Relationship Commitment	32	0.288
v47	<--	Dependence	18	0.218
v47	<--	Trade-based Brand Equity	16	0.208
v47	<--	Perceived Risk	14	0.189
v47	<--	Cooperation	14	0.189
v47	<--	Consumer-based Brand Equity	12	0.183
v5	<--	Perceived Risk	34	0.22
v5	<--	Relationship Commitment	20	0.168
v5	<--	Dependence	17	0.154
v5	<--	Cooperation	12	0.131
v7	<--	Uncertainty	30	-0.214
v7	<--	Power	15	-0.153
v7	<--	Forbearance	12	-0.155
v8	<--	Uncertainty	25	0.182
v8	<--	Propensity to Leave	13	0.137
v8	<--	Consumer-based Brand Equity	11	0.125
v8	<--	Forbearance	10	0.133

VITA

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