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THE ROLE OF LOGISTICS SERVICE QUALITY IN CREATING CUSTOMER LOYALTY

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

Elizabeth R. Davis
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DEDICATION

This dissertation is dedicated to my son, Hunter.

Thank you for being my inspiration. Giving you the life you deserve has always been my light at the end of the tunnel. Follow God's path, and He will give you much happiness and success.

I love you.

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ABSTRACT

The purpose of this dissertation is to examine the loyalty phenomenon and to understand the role of logistics service in creating customer loyalty. The main objective is to help companies assess the impact of logistics service in creating loyalty. Logistics service quality is purported to consist of two separate constructs – relational LSQ and operational LSQ. These elements of LSQ drive satisfaction. This research also explores the loyalty phenomenon, which is conceptualized as a causal relationship between affective commitment and purchasing behavior. The strength of this relationship is proposed to be moderated by calculative commitment, which involves the calculation of costs and benefits and the assessment of the investments made in the relationship, along with the availability of alternatives. Further, satisfaction influences the loyalty relationship differently. This research contends that satisfaction has a linear relationship to affective commitment, but its relationship to purchase behavior is nonlinear, being more significant at the extremes. These constructs are defined and operationalized, and by testing its components, along with calculative commitment and satisfaction, different loyalty "types" should be identified. Understanding that firms have a portfolio of different customer relationships, the research should ascertain what conditions drive various types of customer relationships.

This nomological model should also provide managerial insight to the proposition that there are different loyalty "types" that would have different strategic implications. Top firms recognize the differences in the needs and desires of major customers and design offerings according to those needs (Zhao, Droge and Stank 1996). Because an important goal for firms is to grow a larger share of the profitable revenue available

(Bowersox, Closs and Stank 2000), managers must realize that not all customers are the same. This research should help distinguish different customer segments based on their loyalty profiles. If the loyalty relationship can be better understood, then managers will have more clarity about how to determine what level of logistics service (as well as other services) to provide to different customer groups.

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CHAPTER 1 – INTRODUCTION

Over the last decade, there has been a significant directional change in both marketing practice and theory to the idea of relationship marketing – establishing, developing, and maintaining successful relational exchanges (Morgan and Hunt 1994). Today, the importance of developing and maintaining enduring relationships with customers is widely accepted in the literature. Extending to supply chain research, organizations can benefit from long-term relationships (Ganesan 1994). There is also the assumption that building and maintaining relationships with customers leads to long-term customer retention (Mattila 2001). Further, supply chain relationships can be a stable source of competitive advantage because of their ability to create barriers to competition (Day 2000). Since an important focus of supply chain research revolves around collaborative relationships with select trading partners (Bowersox and Daugherty1995), an important strategic outcome for firms is the attainment of customer loyalty.

Customer loyalty is increasingly recognized as a path to long-term success because finding new customers and doing business with them takes time, effort and money (Mittal and Lassar 1998). It can be more expensive to obtain a new customer than retain one, and an organization's long-term success in a market is increasingly determined by its ability to expand and maintain a large and loyal customer base (Kandampully 1998). Fay (1994) asserts that achieving the customer-loyalty rate objective has become at least as important as achieving any other financial or strategic objective. Reichheld et al. (2000) also contend that in the past, building loyalty with

select customers was just one weapon to use against competition, but today it has become essential to survival.

As products become more commoditized, companies can no longer maintain a loyal customer base or create sustainable advantages for themselves by only having a variety of tangible products. Rather, firms form complex relationships with customers and differentiate themselves by offering goods and service mixes in distinct ways to offer convenience, reliability, and support (Fuller, O'Connor and Rawlinson 1993). One effective tool for building closer relationships with customers involves leveraging a firm's logistics capabilities (Bowersox, Mentzer and Speh 1995); this way management can exploit logistics capabilities to gain and maintain customer loyalty (Bowersox et al. 1992). As suppliers in dynamically competitive markets try to find ways to retain strategically important business customers (Flint and Mentzer 2000), firms can positively impact customer loyalty by providing outstanding logistics service.

A key goal of relationship marketing theory is to identify key drivers that influence important outcomes for the firm and to gain a better understanding of the causations between drivers and outcomes (Hennig-Thurau, Gwinner and Gremier 2002). Therefore, understanding how logistics service can influence loyalty could be significant in examining and predicting supply chain relationship outcomes. However, logistics service is sometimes ignored as a competitive tool (Sharma, Grewal and Levy 1995). Further, understanding how or why a sense of loyalty develops in customers remains a crucial management issue, but the psychology behind the development of customer loyalty is not well understood (Pritchard, Havitz and Howard 1999). The purpose of this dissertation is to examine the loyalty phenomenon and to understand the role of logistics

service in creating customer loyalty. The main objective is to help companies assess the impact of logistics service in creating loyalty. Further, managers need to recognize that in decision-making about logistics service, standard logistics services may not be appropriate in some situations. Some customers may require one level of service to remain loyal, while others may not expect or need that same level of service**,** so logistics service can be tailored to meet the needs of different customer groups.

The remainder of this chapter examines the justification for this research and its specific goals. Existing literature on the theories related to loyalty are reviewed in the following section to determine the gaps that this research attempts to fill. The conceptual framework surrounding logistics service and loyalty is presented in the third section. Research objectives are then discussed, followed by contributions expected from the dissertation. The chapter concludes with a description of the organization of the dissertation proposal.

Theoretical Justification

Customer loyalty has been gaining increasing prominence in the marketing literature and in business practice (Parasuraman and Grewal 2000). Because of the growing intensity of competition, companies' marketing strategies have changed from focusing on attracting new customers to marketing strategies today focusing on securing and improving customer loyalty (Bruhn and Grund 2000). Customer loyalty has been put forth to capture long-term relationship elements that provide a more complete picture of customers' feelings (Hart and Johnson 1999). Equally important, research has supported the prediction that customer loyalty positively affects profitability (Hennig-Thurau,

Gwinner and Gremier 2002; Hallowell 1996; Banwari and Lassar 1998; Bruhn and Grund 2000; Abdullah, Al-Nasser, and Husain 2000; Kristensen 1998; Gould 1995; McIlroy and Barnett 2000; Reichheld et al. 2000).

Although the importance of loyalty is recognized in academic research and in the popular business press, there is still some confusion about how to conceptualize, define, and measure it. Jacoby and Kyner (1973) argue that the thinking behind loyalty is much more complex, with several conditions or cognitions at work. As there is a considerable amount of existing literature about loyalty, definitions and measurement scales also abound. Several authors suggest that there can be different loyalty types that comprise affect and behavior (Jacoby and Kyner 1978; Dick and Basu 1984; Oliva, Oliver and MacMillan 1992; Oliver 1996). For instance, customers may engage in repeat purchasing, but do so with little emotional attachment. Further, some customers may be dissatisfied, yet still exhibit repeat purchasing because transaction or switching costs are high (Oliva, Oliver and MacMillan 1992). Likewise, other customers may exhibit affect, yet not demonstrate repeat purchasing behavior due to lack of resources or opportunity. This implies that the relationship between satisfaction and loyalty is nonlinear (Coyne 1989; Oliva, Oliver and MacMillan 1992) and based on situational factors. Therefore, firms in the supply chain may form different kinds of exchange relationships with supply chain members.

In the logistics discipline, it has become increasingly important to identify the values and demands of customers when assessing the importance of logistics as a source of competitive advantage (Bowersox, Mentzer and Speh 1995; Mentzer, Flint and Kent

1999; Mentzer and Williams 2001; Huiskonen and Pirttila 2002; Beinstock 2002; Cooke 1999; Stock, Speh and Shear 2002; Feraud 1998; Morash, Droge and Vickery 1996; Bowersox and Daugherty 1995; Gustin, Daugherty and Stank 1995; Busher and Tyndall 1987). Although logistics service entails both enhancing service and reducing costs, understanding logistics from the customer's perspective can enhance the service offerings and be a tool for differentiation (Mentzer, Flint and Hult 2001). In understanding customer's expectations of service, firms can focus on those elements of service that will make the greatest impact in terms of influencing future behavior.

In order to examine the loyalty phenomenon and the impact of logistics service, several theories and streams of research underlie these relationships. Relationship marketing theory is concerned with customer loyalty because of the benefits associated with retaining customers. Since loyalty can also involve thresholds based on situational factors, social exchange theory has also been related to loyalty because exchange parties evaluate the rewards of the relationship relative to some standard to determine future intentions. Because these standards are different depending on situational factors involving the available alternatives, there is a non-linear relationship between satisfaction and loyalty. Expectancy disconfirmation theory lends insight into this asymmetrical relationship, as well as how expectations affect the perceptions of logistics service. Finally, the stream of service quality literature also provides information to address the foundation of logistics service measurement.

Relationship Marketing Theory

The term relationship marketing (RM) was coined by Berry (1983) as attracting, maintaining, and enhancing customer relationships. Similarly, Morgan and Hunt (1994) define it as all the marketing activities that establish, develop, and maintain successful relational exchanges. RM has been extensively discussed in the marketing literature, and has been an area of interest for many marketing researchers (Kumara, Bohling and Laddac 2003). Loyalty is a central concept to the relationship marketing paradigm because retaining customers over their life contributes to enhanced profitability (McIlroy and Barnett 2000; Hart 1999) due to lower costs resulting from acquiring new customers.

RM theory began to emerge when there was a shift from viewing market exchange as a transactional phenomenon to viewing it as on-going relationships. Subsequently, the emphasis focused on the external relationships of a company, particularly customer relationships. Within the marketing discipline, the four traditions that have contributed most to understanding RM include business-to-business marketing, marketing channels, services marketing, and database and direct marketing (Möller and Halinen 2000). The scope of RM includes a firm's relationships within the firm, with its customers, suppliers, other stakeholders, and sometimes even competitors (Webster 1992). Constructs associated with RM include dependence (Dwyer, Schurr and Oh 1987), trust and commitment, communication, cooperation, (Morgan and Hunt 1994), and equity (Evans and Laskins 1994). Other RM inputs include understanding customer expectations, building service partnerships, total quality management, and empowering employees (Evans and Laskins 1994).

According to Evans and Laskins (1994), a firm focusing on RM can exploit the total product concept and maintain stronger advantages. To be more competitive, firms need augmented products which offer customers more than what they think is needed. However, augmenting physical products alone can be copied by competitors. Therefore, RM can provide a more intangible, yet stronger, long-term customer benefit that may be difficult to match. Because of this, marketing research has also focused on the outcomes of RM. Effective RM leads to a higher percentage of satisfied customers, increased customer loyalty, a perception on the part of a firm's customers that it is offering better quality products, and increased profits on the part of the seller (Evans and Laskins 1994).

Social Exchange Theory

Social exchange theory has been identified as a useful theoretical basis for explaining customer loyalty (Wangenheim 2003). According to social exchange theory (SET), firms maintain or exit exchange relationships depending upon expectations about costs and benefits of the relationship, weighted against the expected benefits of alternative relationships (Thibaut and Kelley 1959). Therefore, when a firm has multiple options, it will choose the most beneficial relationship, and it will remain as long as expectations regarding costs and benefits regarding the current relationship surpass a certain threshold (Wangenheim 2003). Expectations about future costs and benefits are mainly influenced by prior experiences in the relationship and depend on past experience, so satisfying experiences increase the motivation to remain in the relationship (Thibaut and Kelley 1959; Wangenheim 2003).

The basic SET assumption is that parties enter into and maintain relationships with the expectation that doing so will be rewarding (Blau 1968). After a review of the social exchange theory literature, Lambe, Wittmann and Speckman (2001) postulate that 1) exchange interactions result in economic and/or social outcomes, 2) those outcomes are compared over time to other exchange alternatives to determine dependence on the exchange relationship, 3) positive economic and social outcomes over time increase the partners' trust of each other and commitment to maintaining the exchange relationship, and 4) positive exchange interactions over time also produce relational exchange norms that govern the exchange partners' interactions. Therefore, social exchange theory assumes self-interested actors who transact with other self-interested actors to accomplish individual goals that they cannot achieve alone (Lawler and Thye 1999).

The "satisfactory-ness" of the rewards that a party gains from an exchange relationship is judged relative to some standard, which may vary from party to party. One may place more emphasis on economic rewards while another is concerned with trust in the trading partner (Lambe, Wittmann and Speckman 2001). Therefore, many common exchange relations imply that emotions both enter and pervade social exchange processes (Lawler and Thye 1999). For example, supply chain partnerships may thrive because they produce positive feelings such as confidence or pleasure. They further contend that "emotional dynamics have a more central role in social exchange than typically assumed." However, while SET accommodates the process of building affect in exchange interactions, it also incorporates the opposite process of power relations (Emerson 1962; Jancic and Zabkar 2002). For instance, an exchange partner without

other alternatives may be forced to enter into further exchanges with an asymmetrical power distribution characterized by negative exchange from the other party.

In order to conceptualize how exchange partners judge the outcomes, Thibaut and Kelly (1959) conceived comparison level (CL) and comparison level of alternatives (CLalt) to compare the rewards of an exchange relationship to that of alternative arrangements. According to them, CL is the standard that represents the quality of the outcome an exchange party expects from the relationship, based upon present and past experience with similar relationships. The outcomes are then compared against the standard to determine the attractiveness of the relationship and the degree of satisfaction the participant experiences from the relationship. CLalt is the standard that represents the average quality of outcomes that are available from the best alternative exchange relationship and is used to determine if one continues or terminates an exchange relationship. It represents the lowest level of outcomes that the exchange party may receive from the relationship and still continue with the relationship.

SET is used to explain how antecedents contribute to a business-to-business exchange governance structure characterized as relational exchanges, and then look at the outcomes of relational exchange variables (trust, commitment, dependence, communication, and relational norms) (Lambe, Wittmann and Speckman 2001). Firms who receive outcomes that meet or exceed their expectations (i.e., CL), and are equal to or superior to outcomes available from alternatives (i.e., CLalt) are likely to remain in the relationship (Thibaut and Kelly 1959). Lambe, Wittmann and Speckman's (2001) research found that satisfaction has been used in business-to-business research as an operationalization of the success of the exchange relationship. Satisfaction serves as a

measure of a firm's view of the outcomes of the relationship. While it may not capture a partner's estimation of available alternatives, it does provide insight into a relationship's overall performance. As Thibaut and Kelly (1959) stress, however, a customer may remain in a less rewarding relationship because the social, emotional, or switching costs associated with moving to the better alternatives are too high.

Confirmation/Disconfirmation Paradigm

The notion that individuals make performance judgments with a reference to a standard is not unique to any one field. It is constrained under the umbrella term *discrepancy theory,* but is more commonly called disconfirmation in the marketing field (Oliver 1997). A tremendous amount of research in marketing has focused on how customers make judgments about products and services. This stream of confirmation/disconfirmation research has been used as the theoretical basis for understanding customer satisfaction. According to Oliver (1997), although the ordinary interpretation of disconfirmation is typically negative, it can actually have a positive, negative, or zero valence. Negative disconfirmation occurs when performance is below standard, positive disconfirmation occurs when performance is above the standard, and zero disconfirmation (or just "confirmation") occurs when performance is equal to standards. Once the product is used and its performance evident, the consumer is in a position to compare actual performance with expectations, needs, or other standards, resulting in expectation-performance discrepancy. This leads to confirmation or disconfirmation.

The confirmation/disconfirmation paradigm is viewed as resulting from a type of comparison process (Woodruff, Cadotte and Jenkins 1983). Although many different types of comparison standards have been explored, the most common is predictive expectations, derived from the expectancy disconfirmation theory (Fournier and Mick 1999). Individuals compare perceived actual performance with expected performance and confirmation occurs when the two performances match (Woodruff, Cadotte and Jenkins 1983). Oliver (1997) further explains that the expectancy disconfirmation theory has been used to empirically examine its prediction of satisfaction. The evidence shows that (dis)confirmation is a direct antecedent to satisfaction. This has been an important finding for strategy development because the critical question firms must address is how to maximize satisfaction. Firms have begun to focus on instilling high expectations and then provide a product or service to exceed those expectations.

Expectations

Expectations are anticipations or predictions of future events (Oliver 1997), or the customer-defined probabilities of an occurrence of either positive or negative events when engaging in some behavior (Oliver 1981). Expectations refer to a frame of reference about how one makes a comparative judgment (Oliver 1980). Outcomes poorer than expected are rated below this reference point, whereas those better than expected are evaluated above the base, and satisfaction is the additive combination of the expectation level and the resulting disconfirmation (Oliver 1980). Helson (1959) contends that expectations are formed from 1) the product itself, 2) the context, and 3) individual characteristics.

Several authors have wrestled with alternate standards of expectations, either as predictions or ideals (Prakash 1984, Swan and Trawick 1980). Tse and Walton (1988) found empirical support for these multiple standards, including predicted and ideal expectations. Miller (1977) proposed four levels of expectations - 1) ideal or wished-for, 2) expected or predicted, 3) minimum tolerable or lowest acceptable level, and 4) deserved, which stems from what the customer thinks is appropriate. Generally, the expected level will fall between the ideal and minimally tolerable, although often customers will have no other option than to "tolerate" expected levels below the minimum tolerable.

The literature has also pointed out controversy over key relationships. The assertion is that satisfaction may not derive totally from whether performance meets or exceeds predicted performance, so there is a challenge to expectations as the baseline for comparison as research has explored other baselines that may be operative (Woodruff, Cadotte and Jenkins 1983). For instance, Johnson et al. (2001) contend that **e**xpectancy disconfirmation is one of several benchmarks that customers may use to evaluate an overall experience, and comparisons can also be made to competing products, category norms, and personal values. Similarly, Woodruff, Cadotte and Jenkins (1983) and LaTour and Peat (1979) contend that the comparison level is developed from prior experience with the salient attributes of a brand or of similar brands; therefore, experience-based norms are a baseline for comparison. Morris (1976) also looked at how satisfaction resulted from the degree to which perceived performance matches cultural norms. Spreng, MacKenzie and Olshavsky (1996) proposed that consumers compare their perceptions of the performance of the product/service to both their desires *and*

expectations. Swan and Mercer (1981) looked at social equity theory, where consumers evaluate the benefit received from a brand in relation to its cost, based on price and effort. Future research will likely continue to wrestle with expectations and other standards of comparison.

Service Quality

In marketing, the focus of service performance has been on service quality, or the evaluation of service performance. For more than a decade, the definition and measurement of service quality has occupied a prominent position in the services marketing literature. Service quality entails looking at the difference between expectations of the customer and performance of the supplier. Lewis and Booms (1983) defined it as "a measure of how well the service delivered matches customer expectations. Delivering service quality means conforming to customer expectations on a consistent basis." Through an exploratory qualitative investigation, Parasuraman, Zeithaml and Berry (1985) examined the differences of perceptions between managers and consumers about service quality. The authors developed a service quality model that showed several discrepancies between perceptions of customer service by the supplier and the customer. The five gaps, which were regarded as "hurdles" when attempting to deliver service, consistently point out that service marketers do not always understand what customers expect regarding service, and customer perceptions do not always match the service actually provided.

In an effort to empirically examine the gaps, Parasuraman, Zeithaml and Berry (1988) developed a service quality measurement instrument called SERVQUAL for

assessing customer expectations and perceptions of service quality in service and retail organizations. They defined a perceived service quality difference score based on the gaps between customer expectations of service quality and their perceptions of service quality. The SERVQUAL score subtracts the subjects' service expectations from their perceptions of the actual service with respect to specific items. The differences are averaged to produce a total score for service quality. Their 22-point scale (SERVQUAL) led to the identification of five broad dimensions of service quality: 1) reliability, which is the ability to perform the promised service dependably and accurately; 2) responsiveness, which is the willingness to help customers and to provide prompt service; 3) assurance, which is the knowledge and courtesy of employees and the ability to convey trust and confidence; 4) empathy, which is the provision of caring, individualized attention to customers; and 5) tangibles, which is the appearance of physical facilities, equipment, personnel, and communications materials . Of these five dimensions, reliability was found to be the most important to customers (Zeithaml et al. 1990; Berry and Parasuraman 1991; Parasuraman, Berry and Zeithaml 1991; Berry 1995).

Much work has been done since to replicate and generalize the scale, or to challenge its usefulness in other service settings. Multiple studies have examined the discrepancies guided by this model, and, as a consequence, the underlying premise has broadened into other areas of marketing (Beinstock, Mentzer and Bird 1997; Mentzer, Flint and Hult 2001). However, many studies have reflected that the SERVQUAL scale does not extend to other industries and other situations, particularly in the business services context. For instance, Cronin and Taylor (1992) have argued that this operationalization of service quality confounds satisfaction and attitude. This does not,

however, invalidate the usefulness of the SERVQUAL items designed to measure customer perceptions of service quality (Stank, Goldsby and Vickery 1999).

Several researchers have adapted the SERVQUAL items to develop alternate measures of service quality which overcome the problems associated with conceptualizing service quality as a difference score. Some empirical evidence suggests that the five components of service quality are not consistent when subjected to cross-sectional analysis. Specifically, some of the SERVQUAL items did not load on the same components when compared across different types of service industries (Carman 1990; Finn and Lamb 1991; Babakus and Boller 1992; Cronin and Taylor 1992). Cronin and Taylor (1992) and Brown et al. (1993) contend that it takes more than a simple adaptation of the SERVQUAL items to effectively address service quality in some environments. They advise managers to carefully assess which issues are important to service quality in their particular situations and to modify the SERVQUAL scale accordingly. This suggests that the dimensions of service quality may vary from one industry to the next or that a more generic conceptual scheme has yet to be identified (Stank, Goldsby and Vickery 1999).

Research Gaps

The research described above provides a foundation for the study of relationship marketing by linking logistics service quality to customer loyalty. However, existing research is not clear enough to understand and explain some of the phenomena that can be observed in these complex relationships. The gaps in the research, therefore, present opportunities for further study.

Relationship Marketing

In order to deliver superior value to customers, firms are looking to their supply chain partners to help them achieve stronger competitive advantage by providing higher quality products, improved services, and efficient distribution systems (Lewin and Johnston 1997). Therefore, firms offering superior logistics service can help their customers achieve a competitive advantage that extends beyond tangible product offerings, thus making it harder for competitors to mimic. Firms helping their customers achieve a competitive advantage are more likely to develop long-term relationships, thus instilling customer loyalty. However, although there have been calls for research involving relationship marketing, this has not been followed by empirical evidence concerning strategies and policies firms can use in order to enhance their customer relationships (Saren and Tzokas 1998).

Although much has been written about relationship marketing, few studies have attempted to address the *implementation* of relationship marketing in organizations, or what it entails (Morris et al. 1999). There is a call for firms to acquaint themselves with customers to build and consolidate lasting bonds with them, yet relatively little attention has been given to *how* relationships are established, maintained, and enhanced (Tzokas and Saren 1997). The RM literature is fragmented about what processes constitute RM (Hart et al. 1999), and critical research gaps still exist within the domain of relationship marketing theory (Too, Souchon and Thirkell 2001).

Customer Loyalty

There are also many unsolved issues in the loyalty literature. As Jacoby and Kyner (1973) suggest, loyalty is a complex phenomenon. The literature review in

Chapter 2 points to its complexity, as research studying the phenomenon has been fragmented and inconsistent. Existing evidence has tended to capture customer retention in terms of repeat purchase activity, rather than customer loyalty, which encompasses both emotional and behavioral aspects. Repeat buying does not necessarily imply true loyalty and should not be seen as a reason for developing a relationship; therefore, measuring repeat buying does not capture the many other reasons (besides a true intention) to create a relationship (Saren and Tzokas 1998).

Traditional thinking has been that building interdependent relationships with customers is thought to increase customer satisfaction (Berry and Parasuraman 1991), which will in turn influence customer loyalty. However, Burnham, Frels, and Mahajan (2003) found that various types of switching costs influence customers' intention to stay with the current service provider. They found empirical support that even within the industries where switching costs are low, the level and types of switching costs explain the customer's intention better than the customer's satisfaction. They further argue that apart from financial switching costs, there can be procedural switching costs also (cost of learning, set up, evaluation, and time). Kumara, Bohling and Laddac (2003) contend that customers may be forced to buy because of the switching costs, low prices, more convenience, inertia, trend, or social influences. These customers do not have any affinity or affection towards the firm, the brand, or the channel and can switch anytime if the situations are favorable to do so. However, a positive aspect about these customers is that they are very helpful in keeping the business going, as customers with transactional intention generally constitute a major volume of a firm's business.

Another gap in the literature involves the relationship between satisfaction and loyalty. Building interdependent or closer relationships with customers is thought to increase customer satisfaction (Berry and Parasuraman 1991); however, satisfaction does not automatically translate into loyalty. The literature exploring the satisfaction-loyalty relationship has inconsistent and mixed findings. One reason for the conflicting results is due to measurement issues. Both satisfaction and loyalty have been measured in various ways, depending on how each has been defined. The primary contention of this research is that the previous studies have not addressed the satisfaction-loyalty relationship with enough complexity to adequately capture the effect that each phenomenon has on the other.

Logistics Service Quality

A growing stream logistics literature has highlighted the importance of understanding logistics service from the perspective of the customer (Daugherty, Stank and Ellinger 1998; Stank, Goldsby and Vickery 1999; Stank et al. 2003; Beinstock, Mentzer and Bird 1997; Mentzer, Flint and Hult 2001). These studies used the service quality literature stream to develop measures that capture the perceptions of customers about logistics service elements. These studies also called for additional research in this area, specifically in terms of additional focus on measurement issues. Based on these previous studies, there remains a need in the logistics literature to understand the "softer" side of logistics service.

While traditionally logistics research approaches examined inventory levels, facility locations, and business logistics network designs, the discipline has evolved to explore influences from organizational behavior, marketing, and strategic management

research and practice (Dunn et al. 1994; Keller et al. 2002). However, as pointed out by Keller et al. (2002) in an extensive review of the logistics literature, less attention has been given to "soft" concepts, such as customer satisfaction and loyalty. They further contend that these represent key logistics concepts that require further development and testing.

Along these same lines, more research is needed to understand the significance of the relational component of logistics service quality. According to Croom and Watt (2000), the influence of relational capabilities is critical to supply chain success, and failure to achieve effective working relationships between supply chain partners has a direct, negative influence on a supply chain's competitive performance. They further emphasize that much of the involvement of firms at the strategic level has been to emphasize the importance and significance of developing closer ties between the supply chain entities. With few exceptions, (Stank, Goldsby and Vickery 1999; Stank et al. 2003), research in the relational component of logistics service is negligible, especially when compared to the vast amount of research directed to the operational element of service. The operationalization of relational capabilities involves inter-personal and cross-organizational collaboration (Croom and Watt 2000), yet this has not been captured in the current measures of relational logistics service.

Finally, as firms look for ways to differentiate themselves with the services offered to retain customers and promote loyalty, another focus in logistics involves segmentation issues. In decision-making about logistics service, managers need to recognize that standard logistics services may not be appropriate in some situations. Some customers may require one level of service to remain loyal, while others may not

expect or need that same level of service. Therefore, resources should be adjusted by customer, based on the value of the customer and their expectations of logistics service provided by the supplier. The "boiler plate" logistics service firms traditionally offered has begun to move to tailored logistics service to meet customer requirements. This research should lead to managerial implications that can guide strategic logistics decisions about customer segmentation issues.

Conceptual Framework

Firms are involved in a number of different customer relationships. These relationships have a multitude of different characteristics based on the interdependence, goals, and expectations of the parities involved. Depending on these characteristics, customers are likely to respond differently to supplier offerings. Understanding logistics from the customer's perspective can enhance the service offerings and be a tool for differentiation (Mentzer, Flint and Hult 2001), and firms can focus on those elements of service that will make the greatest impact on influencing future behavior. Further, it is also important for managers to understand what drives customers to stay in the relationship. The relationship characteristics differ depending on whether customers are affectively committed to the relationship or if retention stems from the costs involved in terminating it. Understanding these nuances about customer relationships can lead managers to more effective decision-making. Additionally, some customers are strategically more important than others. Closer relationships generally require more personnel, more time, more frequent communications, and ultimately more money. It

therefore becomes increasingly more critical to build strong loyalty with only the important customers (Brown 2000).

Figure 1.1 presents the conceptual model that this dissertation will justify and test. Logistics service quality is purported to consist of two separate constructs – relational LSQ and operational LSQ. These elements of LSQ drive satisfaction. The loyalty relationship consists of a causal relationship between affective commitment and purchasing behavior. The strength of this relationship is proposed to be moderated by calculative commitment, which involves the calculation of costs and benefits and the assessment of the investments made in the relationship, along with the availability of alternatives. Further, satisfaction influences the loyalty relationship differently. This research contends that satisfaction has a linear relationship to affective commitment, but its relationship to purchase behavior is nonlinear, being significant only at the extremes. As shown in the extended model in Figure 1.2, there are also loyalty consequences, including search motivation, resistance to counter persuasion, word-of-mouth, and price tolerance. Testing these consequences is beyond the scope of this dissertation and left for future research. The following section summarizes the objectives of this dissertation and the specific research questions explored.

Research Objectives and Questions

The principal objective of this dissertation is to contribute to relationship marketing theory by filling the gaps in prior research. Specifically, this research examines how logistics service quality affects customer loyalty, which is conceptualized as a causal relationship between affective commitment and purchase behavior.

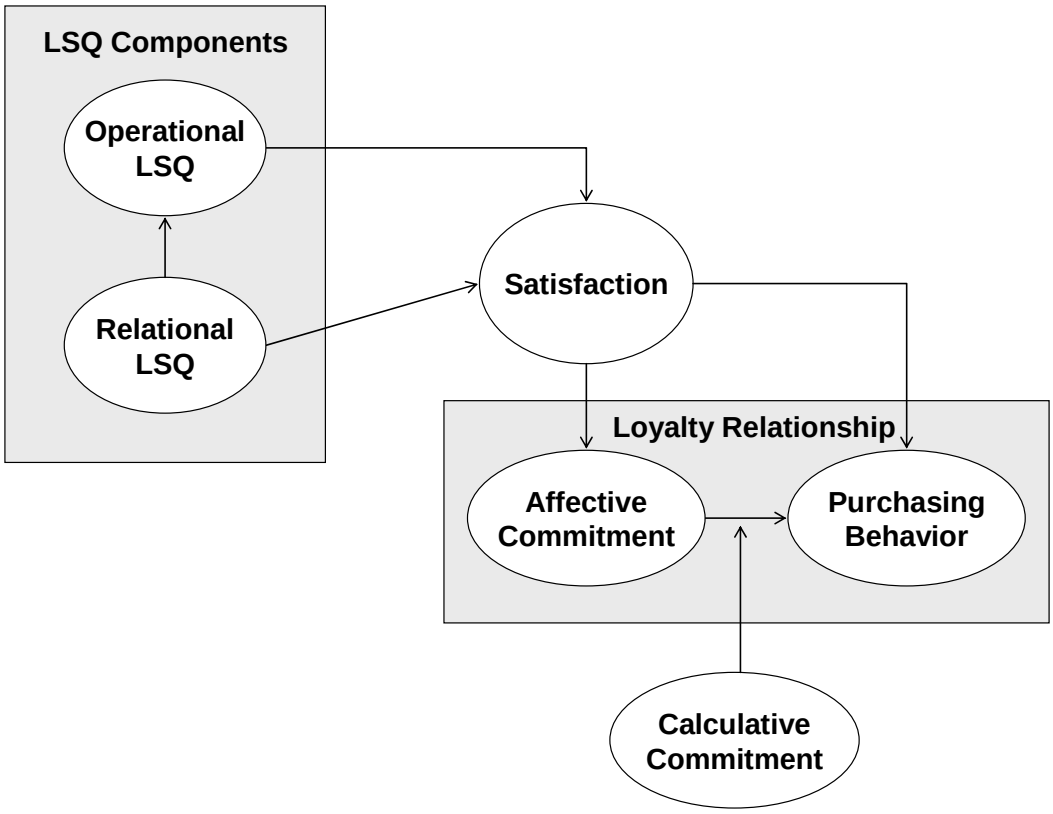


Figure 1.1: Dissertation Conceptual Model

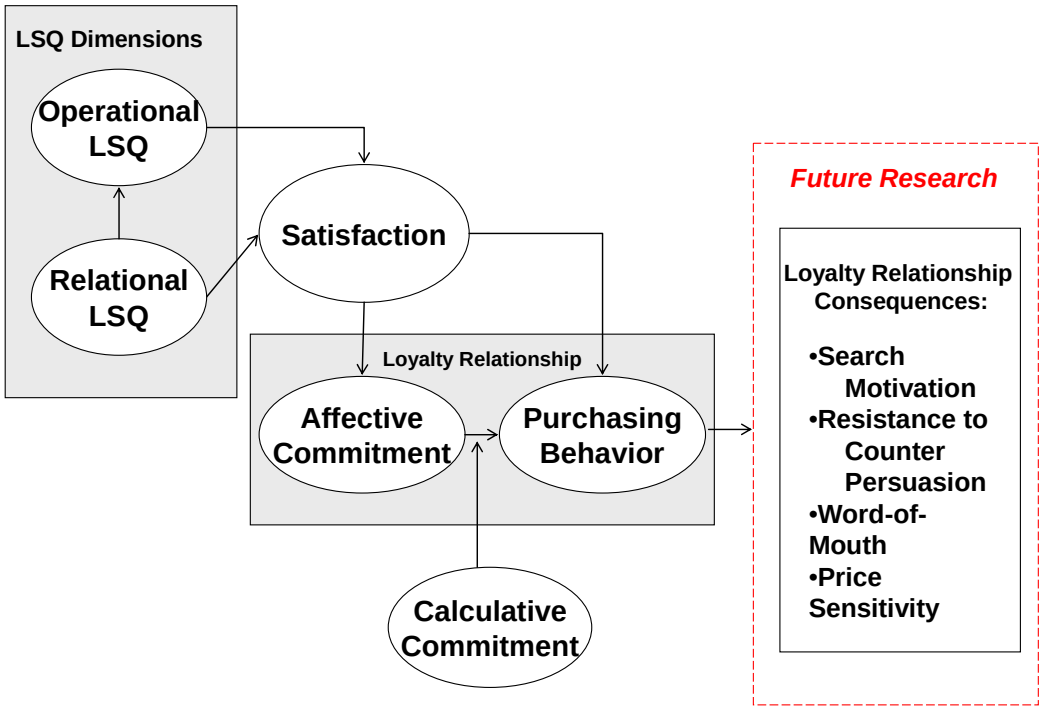


Figure 1.2: Extended Conceptual Model

The influences from satisfaction and calculative commitment are also explored. By accomplishing these objectives and answering these questions, this dissertation should contribute to both theory and practice, as discussed in the following section.

Contribution of This Research

This research was designed to extend the body of knowledge in both business-to-business marketing and logistics. It will be accomplished by extending the existing body of research on the relationship between logistics service quality, satisfaction and the loyalty phenomenon. While a few studies have already begun to look at these relationships ((Stank et al 2003; Stank, Goldsby and Vickery 1999; Daugherty, Stank and

Ellinger 1998), this research extends this knowledge by looking at these relationships with additional complexity. Logistics service quality is hypothesized to influence satisfaction. The loyalty relationship denotes the strength of the relationship between affective commitment and purchasing behavior, and it is also theorized that calculative commitment moderates this relationship. Further, satisfaction is conceptualized as having a linear relationship with affective commitment and an asymmetric relationship with purchasing behavior. Although there are existing measures for these constructs, several new measures (based on qualitative research) will be developed and tested. Results of this research should provide insight into the service quality-satisfaction-loyalty relationship.

This dissertation explores how loyalty manifests itself in supplier-customer relationships. Although traditionally loyalty has been conceptualized behaviorally as a form of repeat purchasing, there is theoretical evidence to support a more complex structure (Homburg and Giering 2001). The relationships presented in this research are more complex than what has been explored previously. Further, previous findings among the constructs represented in this research have produced contradictory findings. One possibility for the mixed results is that these complex relationships were not taken into account in the preceding studies. One expected contribution of this research is to reconcile these differing viewpoints.

This nomological model should also provide managerial insight to the proposition that there are different loyalty "types" that would have different strategic implications. Because firms cannot satisfy every customer or market segment, it is critical to assess and select where and where not to compete. Top firms recognize the differences in the needs

and desires of major customers and design offerings according to those needs (Zhao, Droge and Stank 2001). Because an important goal for firms is to grow a larger share of the profitable revenue available (Bowersox, Closs and Stank 2000), managers must realize that not all customers are the same. This research should help distinguish different customer segments based on their loyalty profiles. If the loyalty relationship can be better understood, then managers will have more clarity about how to determine what level of logistics service (as well as other services) to provide to different customer groups. Firms have limited resources and should therefore only invest those resources where it makes the most sense. Managers need to determine with which customers it makes the most sense to pursue stronger relationships, and this research should help managers develop strategies for managing a portfolio of customer relationships.

This dissertation is also expected to impact the theories generally applied to loyalty. The research uses relationship marketing theory, social exchange theory, expectancy disconfirmation theory, and the service quality literature to explain how suppliers have different kinds of customer relationships. These theories are all well received in the various disciplines that study supplier-customer relationships, and this research attempts to demonstrate that the application of several theories is needed, as each brings specific nuances to the stream of customer relationship research. Although this research will inform business-to-business theory, the results from this dissertation may be applied to the business-to-consumer realm. Lastly, this research should extend the growing body of logistics service research and also be a stepping-stone for theory building in supply chain management, an area in need of more theory development (Mentzer et al. 2001a and b).

Proposal Organization

This proposal is divided into three chapters. Chapter 1 is the introduction; Chapter 2 provides the literature review; and Chapter 3 provides the research methodology. Chapter 1 serves to introduce the impetus for studying the loyalty phenomenon and the impact of logistics service on the loyalty relationship. The chapter also provides a brief overview of the theoretical basis for the research, the research objectives, the potential contributions expected from this research, and an outline of the organization of this dissertation. Chapter 2 provides the information used to build the theory for this dissertation based an extensive literature review. The chapter also presents the research hypotheses tested as part of this dissertation. It is structured into seven major sections: 1) introduction; 2) the organizing framework; 3) logistics service quality; 4) satisfaction; 5) loyalty; 6) the alternate model; and 7) the summary of the model and the research hypotheses. Chapter 3 discusses the methodology used to test the model and associated hypotheses. Included are discussions of the research design, measurement development and purification, data collection and data analysis procedures.

CHAPTER 2 –BUILDING THE THEORY

In recent years, there has been a focus in academic research to explore supply chain relationships. Specifically, research efforts have been gauged to understand how to create customer value. Although the logistics literature traditionally focused on "hard" measures to assess customer requirements (e.g., fill rates, on-time delivery, order cycle time), firms now understand that customer requirements go beyond the hard product and service issues, and there is a need to explore some of the softer concepts such as image, relationship, and ease of doing business (Fredericks, Hurd and Salter II 2001). Recent logistics literature has moved to more behavioral research to focus on creating competencies to build lasting distinctiveness with customers. This involves firms assessing their own strengths and weaknesses relative to the needs and desires of customers (Zhao, Droge and Stank 2001) and identifying the long-term requirements, expectations, and preferences of current and/or potential customers and markets (Bowersox, Closs and Stank 1999).

Because of the power shift to retailers in the supply chain structure, firms have realized that it is no longer adequate to push products to downstream customers or to assume that intermediaries will successfully sell their products (Gassenheimer, Sterling and Robicheaux 1989). Therefore, creating "customer focused" competencies that promote closeness and commitment to processes that link them to customers can enable firms to build lasting distinctiveness with a firm's most important customers (Zhao, Droge and Stank 2001). Further, while organizations seek to gain customer loyalty,

customers seek an organization's commitment to a seamless, consistent and superior quality of service for both the present and the long-term (Kandampully 1998). Consequently, logistics literature focusing on creating customer loyalty will be increasingly important. Additionally, in an environment of increasing homogeneity among products and when buyers can select similar products from a number of suppliers, sellers may choose to differentiate themselves by the quality of their customer service and by the service processes accompanying their products (Daugherty, Stank and Ellinger 1998). Understanding how logistics service can impact building strong customer relationships should lead to creating competitive advantage.

Although there is much research on customer loyalty, it is difficult for companies to know what to do with this because much of it is ambiguous. The current stream of research usually looks at loyalty in terms of consequences instead of what it is and how to develop it (Hart and Johnson 1999). The discipline, as well as firms in the supply chain, need more clarity in understanding what loyalty means, how to measure it, and the logistics drivers that differentiate available suppliers.

This chapter provides a review of the literature from which the theoretical foundation for the logistics service loyalty (LSL) model was developed. The literature review is an integrative investigation of the logistics, marketing, psychology, and leisure science literature from which the nomological network for the model was developed. In addition, the chapter explains both the loyalty relationship and the satisfaction-loyalty relationship structure models and the research hypotheses that will be tested as part of this dissertation. This chapter is structured into seven major sections: 1) introduction; 2)

the organizing framework; 3) logistics service quality; 4) satisfaction; 5) loyalty; 6) the alternate model; and 7) the summary of the model and the research hypotheses.

Organizing Framework

The justification for the relationship structure conceptual model was developed from the integration of logistics, organizational management, marketing, psychology, and leisure science literature. Each of these literature domains was included in order to provide a comprehensive review of the extant research that supports the research questions described in Chapter 1. The primary research questions are: How does logistics service quality impact customer loyalty and how should customer loyalty be conceptualized, defined, and measured? Secondary questions include: How does calculative commitment affect the loyalty relationship, what is the relationship between satisfaction, affective commitment, and purchasing behavior, and how should the relational component of logistics service quality be measured?

The principle concepts of logistics service quality, satisfaction, loyalty, and commitment drove the literature review. Many disciplines are involved in relationship research; hence all of these different disciplines were consulted to obtain as comprehensive a picture of the concepts as possible. Logistics and marketing provide the basis for research in logistics service quality. The marketing, psychology and leisure science literature provided the foundation for developing the loyalty relationship, and organizational management also contributed to developing affective and calculative commitment. The marketing literature also provided the basis for developing the satisfaction construct.

Much of the existing research on loyalty, satisfaction, and service quality (and the relationships between them) is ambiguous and contradictory. Therefore, a comprehensive review of the previous empirical findings served as the groundwork for providing the foundational development, and the literature bases outside of marketing and logistics were consulted to provide support for the conceptual model presented in Chapter 1. Figure 2.1 demonstrates the model with the corresponding hypotheses. In this chapter, first the focal constructs that comprise logistics service quality – operational LSQ and relational LSQ - are presented. Second, satisfaction is presented, followed by hypotheses that link the LSQ constructs to satisfaction. Next, the previous loyalty research is introduced, followed by the explanation of the loyalty relationship – comprised of affective commitment and purchasing behavior. Calculative commitment is then offered as a moderating variable in the loyalty relationship. Finally, the relationship between satisfaction and loyalty is provided. The chapter concludes with a summary of the constructs and hypotheses in the relationship structure model, control variables that will be included, and justification for an alternate model is presented.

Logistics Service Quality

When buyers can select similar products from a number of suppliers, sellers may choose to differentiate themselves by the quality of their customer service and by the service processes accompanying their products (Novack, Langley and Rinehart 1995). Because of this, every industry is now potentially a "service" industry (Anderson, Fornell and Lehmann 1995). As firms progress to offering higher service levels, they must become more proactive with their customers and anticipate customer expectations (Stank,

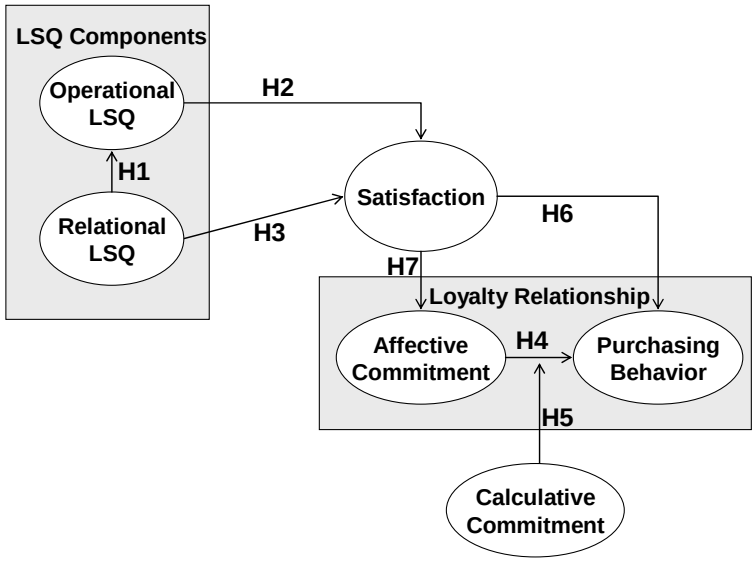


Figure 2.1: Conceptual Model

Goldsby and Vickery 1999). As logistics capabilities can raise customer service levels, firms are placing more reliance on logistics service in recent years to improve their competitive positioning (Daugherty, Stank and Ellinger 1998). Because logistics spans the boundaries between suppliers and customers, and logisticians understand that these activities constitute the very essence of their business, logistics service creates value by supporting customers' delivery requirements in a cost effective manner, and has become increasingly important to successful logistics operations (Stank et al. 2003).

Improving customer service is an ongoing focus of the logistics community. Lalonde and Zinszer (1976) note that customer service has been measured by stockout levels, order cycle elements, and system accuracy, which fall into two general categories

– 1) inventory capability (completeness, and fill rate), and 2) order cycle time (length and reliability of the order cycle). Later work also included timeliness (Mentzer, Gomes and Krapfel 1989; Mentzer, Flint and Hult 2001); however, all of these measures can be generated with little participation from the customer. According to Maltz and Maltz (1998), these quantitative measures do not completely explain customer ratings of supplier service levels. In practice, however, many firms still are not in direct contact with customers, relying on these internally generated measures of performance to infer customer opinions (Reichheld and Sasser 1990; Reichheld 1996).

Increasingly, suppliers are trying to understand what their customers want besides availability, timeliness, and reliability (Maltz and Maltz 1998). One critical element that distinguishes the most successful firms is the fact that they externally verify customer perceptions (Jones and Sasser 1995; Reichheld 1996). In the logistics literature, Stank, Goldsby and Vickery (1999) discuss the change from the mass production mentality ("doing things right"), to firms that value customer closeness and are able to provide higher levels of service effectiveness (the ability to "do the right things").

Based on the realization that customers want other service elements besides the traditional measures, logistics research began to focus on other elements of customer service. According to Maltz and Maltz (1998), customer service has two aspects. The first is basic customer service, involving cycle time, on-time delivery, and inventory availability. The second aspect of customer service is responsiveness, representing the ability to adapt to market-driven change. The dichotomy has been conceptualized in a number of ways.

- Maltz and Maltz (1998) adopted "responsiveness" to refer to customer service elements other than availability, on-time delivery, and cycle time. They emphasize the ability to respond to customer requests, market changes, and competitor tactics.
- La Londe, Cooper and Noordweier (1988) use "responsiveness" and emphasize error correction, after-sale service, and effective handling of information requests.
- Davis and Mandrodt (1992) use responsiveness for any handling of individual customer requests beyond traditional service measures.
- The MSU Research Team emphasizes flexibility, provision of emergency services, and ability to handle change.
- Bowersox and Closs (1966) suggest that basic service includes availability, performance and reliability, while value added services are customer-specific.

More recently, logistics research has applied marketing tools to evaluate logistics service using customer perceptions of provider performance rather than relying on providers' self-reported performance indicators (Stank, Goldsby and Vickery 1999). In marketing, the focus of service performance has been on service quality, or the evaluation of service performance, and the definition and measurement of service quality has occupied a prominent position in the services marketing literature. As discussed in Chapter 1, Parasuraman, Zeithhaml and Berry (1985) proposed a service quality model and for more than a decade, there has been a stream of research addressing the definition, conceptualization and measurement of service quality.

Applying the original Parasuraman, Berry, Zeithaml (1988) service quality scale in a logistics context, one study attempted to apply the scale to motor carrier transportation services; however, the predictive validity of the scale was quite low (Brensigner and Lambert 1990). Beinstock, Mentzer and Bird (1997) argued that alternative dimensions should be explored for logistics service because (1) the service provider and the service customer are physically separated and (2) the services are directed at "things" instead of people, so technical or outcome dimensions are necessary for logistics service quality measurement instruments. They developed a scale that measured perceptions of physical distribution service quality (PDSQ) based on an earlier conceptual model that included timeliness, availability and condition (Mentzer, Gomes and Krapfel 1989). In an effort to measure logistics service quality specifically, Mentzer, Flint and Hult (2001) developed a scale based upon the earlier PDSQ scale with more specific dimensions added to it. They conceptualized LSQ as a process and the scale was based on qualitative research from a large logistics service provider's customer base. The scale was then administered to those customers and found to be reliable and valid. Another study also measured logistics service using fewer and more operational measures to examine the effect of logistics service on market share (Daugherty, Stank and Ellinger 1998).

The previous discussion highlights the emergence of two critical aspects of service quality - performance relative to *operational* elements and performance relative to *relational* elements. Successful firms perform well on both elements, i.e., they understand customers' needs and expectations and have the ability to provide quality services to meet them in an efficient manner (Schlesinger and Heskett 1991). Collier

(1991) suggests that service consists of two distinct dimensions: an internal or operations-oriented dimension of service quality performance and an external or marketing-oriented dimension. Following this logic, Stank, Goldsby and Vickery (1999) and Stank et al. (2003) developed a scale to measure both the operational and relational elements of logistics service performance.

Based on the existing literature, **operational LSQ is defined as perceptions of logistics activities performed by service providers that contribute to consistent quality, productivity and efficiency.** Operational elements include physical features of the service, e.g., characteristics of delivery that define and capture form, time, and place utilities of the service. In accordance with the service quality literature and previous empirical studies (Stank et al. 2003; Stank, Goldsby and Vickery 1999), operational LSQ consists of reliability - the ability to perform the promised service dependably and accurately. Also consistent with the literature, r**elational LSQ is defined as the perceptions of logistics activities that bring the firm closer to its customers, in order to understand customers' needs and expectations and have the ability to provide quality services to meet them in an efficient manner.** It is operationalized by assurance (the knowledge and courtesy of employees and the ability to convey trust and confidence), responsiveness (the willingness to help customers and provide prompt service), and caring (the provision of considerate, individualized attention to customers).

In the Stank, Goldsby and Vickery (1999) study, operational performance and relational service performance were portrayed as co-varying constructs. They contended that although the literature provided little guidance on the relationship between operational performance and relational performance, it was reasonable to anticipate that

performance on these items will move together and firms that tend to be more progressive operationally also tend to be more aware of customer needs and wants, and vice versa. Although this covariance was supported, these authors further investigated these two constructs and found a highly significant causal path from relational performance to operational performance. They also examined the reverse causal relationship, but this path was not significant. In order to further understand this causal relationship, they conducted customer interviews, which revealed that the true benefit of establishing customer relationships comes from the insight the supplier gains regarding customer needs and wants. Then, upon learning of these needs and wants, the service provider can focus on operational means of meeting the needs and wants, and doing so in the lowest cost manner. In a later study involving 3Pl customers, Stank et al (2003) also found evidence supporting the causal relationship between relational performance and operational performance. Therefore, based on the previous discussion,

H1: Relational LSQ has a positive effect on Operational LSQ.

Satisfaction

Customer satisfaction has been studied extensively in the marketing literature, both in the areas of consumer behavior and channels research, and has considerable strategic implications and potentially offers a broad range of benefits for selling firms (Stank, Goldsby and Vickery 1999). It has been conceptualized, measured, and tested for over twenty years across a considerable number of industries and situational contexts. Early work in consumer satisfaction was conducted with predictive expectations as a standard, so as Chapter 1 suggests, the phrase "expectancy disconfirmation" has been applied to the

concept (Oliver 1997). Following is a general description of various conceptualizations of satisfaction that have developed throughout its research history:

- Satisfaction is a function of an initial standard and some perceived discrepancy from the initial reference point. Individuals make summary comparative judgments apart from and as an input to their feelings of satisfaction (Oliver 1980).
- Satisfaction is a consumer's response to the evaluation of the perceived discrepancy between prior expectations (or some other norm of performance) and the actual performance of the product as perceived after its consumption (Day 1984). We do not know the exact conceptualization of the comparison standard. It can be expected, ideal, or normative performance standards, and there has also been evidence of multiple comparisons (Tse and Wilton 1988).
- Satisfaction is the outcome of a comparison between expected and perceived performance throughout the customer relationship. Expectations regarding future costs and benefits are mainly influenced by prior experiences in the relationship (Wangenheim 2003).
- Satisfaction is the consumer's fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under-or over-fulfillment. It can only be judged with reference to a standard, and the standard serves as the basis for comparison (Oliver 1997**).**
- Satisfaction is an attitude-like judgment following a purchase act or based on a series of consumer-product interactions, where confirmed standards lead to

moderate satisfaction, disconfirmed (exceeded) standards lead to high satisfaction, and vise versa (Fournier and Mick 1999; Yi 1990).

- In a channels setting, satisfaction is an affective state resulting from the appraisal of all aspects of a firm's working relationship with another firm. It results from perceptions of past performance, autonomy, and structure (Anderson and Narus 1984; Schul, Lamn and Little 1981.)
- Satisfaction is a special form of consumer attitude. It is a global, postpurchase phenomenon reflecting how much the consumer likes or dislikes the service after experiencing it (Bearden and Teel 1983; Woodside, Frey and Daly 1989).
- Buyer satisfaction is defined as an affective state that results from appraisals concerning all aspects of a relationship (Anderson and Narus 1984).

The above conceptualizations highlight the notion that satisfaction encompasses both (dis)confirmation of expectations and an affective response. As Oliver (1980) points out, post-usage beliefs are compared with pre-purchase expectations, yielding expectancy disconfirmation that can be positive, neutral or negative. Although these traditional models implicitly assume that customer satisfaction is essentially the result of cognitive processes, new conceptual developments suggest that affective processes may also contribute to the explanation and prediction of customer satisfaction (Oliver, 1997; Westbrook, 1987). Therefore, satisfaction judgments logically (should be determined at least in part by the occurrence of the consumption-related affective responses in addition to the effects of the cognitive processes (Westbrook 1987).

Satisfaction can also be viewed as transactional or cumulative. Transactional satisfaction is the perception of the company's performance on the most recent

transaction, or an immediate postpurchase evaluative judgment (Oliver 1993). Several authors, however, have claimed that satisfaction should be viewed as a judgment based on the cumulative experience made with a certain product or service rather than a transaction-specific phenomenon (Anderson, Fornell and Lehmann, 1994). Consistent with the notion that satisfaction is an attitude, cumulative satisfaction is the more economic psychology-based general perception of the company's overall performance (Rust, Zahorik and Keiningham 1995). This approach to satisfaction has grown and gained acceptance over the last decade (Johnson et al. 2001). Thaibaut and Kelly (1959) suggest that satisfaction judgments are nothing else but the cumulated prior experiences in the relationship – a proposition that is consistent with the cumulative rather than transactional view on customer satisfaction (Wangenheim 2003). Similarly, Westbrook (1981) proposes that satisfaction is a cumulative, attitude-like construct . This conceptualization is appropriate because some researchers have found that it is cumulative satisfaction that correlates with customer retention (Fornell 1992; Reichheld and Sasser 1990).

"Cumulative" satisfaction has also been used interchangeably with "overall" satisfaction. According to Garbarino and Johnson (1999), cumulative satisfaction is an overall evaluation on the total purchase and consumption experience over time (Anderson, Fornell and Lehmann 1994). Additionally, Fornell (1992) suggests that the majority of the satisfaction literature advocates that satisfaction is an overall postpurchase evaluation. Anderson and Sullivan (1993) also agree that satisfaction is a customer's overall or global judgment regarding the extent to which product or service performance matches expectations. Although it has been measured in numerous ways, the previous

discussion highlights that there are three facets of overall, or cumulative, satisfaction, including 1) general affective satisfaction, 2) confirmation of expectations, and 3) the distance from the customer's hypothetical ideal product.

Based on this review, **customer satisfaction is defined as the result of a cognitive and affective evaluation, based on total purchase and consumption experience with the logistics service over time, where some comparison standard is compared to the actually perceived performance.** The evaluation is based on post purchase confirmation or disconfirmation of the buyer's preconceived expectations of product or service standards.

LSQ – Satisfaction Relationship

There are many definitions and descriptions of how logistics creates customer satisfaction, and most are tied to the so-called seven R's (Mentzer, Flint and Hult 2001). Logistics service is that part of a product's offering that infers a firm's ability to deliver the *right* amount of the *right* product at the *right* place at the *right* time in the *right* condition at the *right* price with the *right* information (Coyle, Bardi and Langley 1992; Stock and Lambert 2001). According to Mentzer, Flint and Hult (2001), this conceptualization implies that part of the value of a product is created by logistics service. Therefore, having all these "rights" in place should influence a customer's overall global judgment of a supplier.

Logistics studies have concluded that both operational and relational performance relative to logistics services had significant positive links to customer satisfaction (Daugherty, Stand and Ellinger 1998); however, the findings have been mixed. Stank,

Goldsby and Vickery (1999) indicated that the relationship between operational performance and customer satisfaction was statistically significant, leading them to conclude that improvements in operational performance yield higher levels of customer satisfaction. However, there was only marginal support for the relationship between relational performance and satisfaction. Alternatively, Stank et al. (2003) discerned that relational performance demonstrates a positive relationship with satisfaction, but operational performance did not have a significant relationship with satisfaction. They concluded that operational performance is an "order qualifier" and not a differentiator in the eyes of customers.

Viewing LSQ from a process perspective, Mentzer, Flint and Hult (2001) found that for different customer segments, satisfaction was positively affected by different LSQ dimensions. However, they did conclude that perceptions of the effectiveness and ease of use for ordering procedures, an operational LSQ element, had the most consistent positive effect on satisfaction. Further, they found support for the positive influence of personnel quality (similar to relational LSQ), in the largest customer segment.

Although the findings are mixed, there is evidence to believe that both operational LSQ and relational LSQ influence satisfaction. Therefore,

H2: Operational LSQ has a positive effect on satisfaction.

H3: Relational LSQ has a positive effect on satisfaction.

Loyalty

As there is a considerable amount of extant literature about loyalty. Definitions and measurement scales also abound. Table 2.1 shows the definitions found in studies

Table 2.1: Loyalty Definitions

Author	Definition
Biong, 1993	***Loyalty*** expresses the degree to which the retailers want the company as a supplier in the future. It parallels to the continuity measure and could comprise both the favorable attitude and perceived or real lack of alternatives.
Bloemer and Kasper, 1995	**Loyalty *is*** (1) the biased (i.e. non-random), (2) behavioral response (i.e. purchase), (3) expressed over time, (4) by some decision-making unit, (5) with respect to one or more alternative brands out of a set of such brands, which (6) is a function of psychological (decision making, evaluative) processes resulting in brand commitment.
Caruana, 2002	***Service loyalty*** is the degree to which a customer exhibits repeat purchasing behavior from a service provider, possesses a positive attitudinal disposition toward the provider, and considers only using this provider when a need for this service exists.
Ellinger, Daugherty and Plair, 1999; Daugherty, Stank and Ellinger, 1998,	***Loyalty*** is a long-term commitment to repurchase involving both repeated patronage (repurchase intentions) and a favorable attitude (commitment to the relationship).
Estalami, 2000; Bubb and van Rest, 1973	***Loyalty*** is the behavioral tendency of the consumer to repurchase from the firm.
Ganesh, Arnold, and Reynolds, 2000,	***Loyalty*** is a combination of both commitment to the relationship and other overt loyalty behaviors.
Hennig-Thurau, Gwinner and Gremler, 2002,	***Loyalty*** focuses on a customer's repeat purchase behavior that is triggered by a marketer's activities.
Kandampully and Suhartanto, 2000,	A ***loyal customer*** is one who repurchases from the same service provider whenever possible, and who continues to recommend or maintains a positive attitude towards the service provider.
Khatibi, Ismail and Thyagarajan, 2002,	***Loyalty*** refers to the strength of a customer's intent to purchase again goods or services from a supplier with whom they are satisfied.
Jacoby and Kyner, 1973; Maignan, Ferrell and Hult, 1999	***Loyalty*** is the nonrandom tendency displayed by a large number of customers to keep buying products from the same firm over time and to associate positive images with the firm's products.
Mittal and Lassar, 1998	***Loyalty*** is defined as the inclination not to switch.
Neal, 1999 Oliver, 1999; McMullan and Gilmore, 2003	***Loyalty*** is the proportion of times a purchaser chooses the same product or service in a specific category compared to the total number of purchases made by the purchaser in that category, under the condition that other acceptable products or services are conveniently available in that category.
Oliver 1999; McMullan and Gilmore, 2003,	***Loyalty*** is a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, *despite* situational influences and marketing efforts having the potential to cause switching behavior.

Table 2.1 Continued

Author	Definition
Olsen, 2002	***Loyalty*** is a behavioral response expressed over time.
Pritchard, Havitz and Howard, 1999,	***Loyalty (L) is*** a composite blend of brand attitude(A) and behavior(P[B]) , with indexes that measure the degree to which one favors and buys a brand repeatedly, where L = P[B]/A
Proto and Supino, 1999	***Loyalty*** is the feeling of attachment to or affection for a company's people, products, or services.
Reynolds and Arnold, 2000	***Salesperson loyalty is a*** commitment and intention to continue dealing with the particular sales associate. **S*tore loyalty*** is commitment and intention to continue dealing with the particular store.
Ruyter, Moorman, Lemmink, 2001	***Loyalty Intention*** reflects customers' motivation to continue the relationship.
Selnes and Hansen, 2001	***Loyalty*** is an assessment of expected future customer behavior. It is the motivation to continue the relationship, to talk favorably about the supplier, and to expand the relationship.
Selnes, 1993	***Loyalty*** expresses an intended behavior related to product of service, including the likelihood of future purchases or renewal of service contracts, or conversely, how likely it is that the customer will switch to another brand or service provider.
Sirdeshmukh, Singh and Sabol, 2002, *Journal of Marketing*	***Consumer loyalty*** is indicated by an intention to perform a diverse set of behaviors that signal a motivation to maintain a relationship with a focal firm, including allocating a higher share of the category wallet to the specific service provider, engaging in positive word-of-mouth and repeat purchasing.
Stank, et al, 2003	***Loyalty*** is a long-term commitment to repurchase involving both a cognitive attitude toward the selling firm and repeated patronage.
Wind, 1970	***Source loyalty*** stems from the offerings (quality, quantity, delivery, price, service), buyer's past experience with suppliers, work simplification rules, and organizational variables - pressure for cost savings, dollar value of order, number of complaints

exploring loyalty. As the table suggests, loyalty has been defined in a number of ways, with one or several underlying dimensions. Loyalty can be defined in terms of repeat purchasing, a positive attitude, long-term commitment, intention to continue the relationship, expressing positive word-of-mouth, likelihood of not switching, or any combination of these.

Passionately loyal customers do business with the type of company they can "trust to always act in their best interest – without exception" (Hart and Johnson 1999). *Polygamy loyalty* refers to customers who are loyal to more than one brand. According to Dowling and Uncles (1997), this describes consumer behavior better, because most customers do not buy only one brand. Zeithaml, Berry and Parasuraman (1996) and Dick and Basu (1994) discuss *spurious loyalty*, when service customers stay with a supplier because they perceive no other alternatives or because of low involvement or little perceived differentiation. Conversely, *ultimate loyalty* is the convergence of product, social, and personal forces with logical, personal and communal sustainers that motivates consumers to want only one particular brand and be uninfluenced by competitors' marketing efforts. (Oliver 1999). To attain this loyalty state, all three of these aspects must be obtained, and not every firm can attain this kind of loyalty.

Dick and Basu (1994) developed a loyalty typology based on degrees of behavior and attitude; the four types include spurious loyalty (high behavior and low attitude), true loyalty (high behavior and high attitude), low loyalty (low behavior and low attitude), and latent loyalty (low behavior and high attitude). Similarly, Oliva, Oliver and MacMillan (1992) also viewed loyalty in terms of brand loyalty, brand avoidance, or brand neutrality.

Loyalty Measurements

The majority of definitions focus on dimensions of loyalty, so most of the literature describes loyalty in terms of how it is measured, rather than a concrete statement to describe what it is and what it means. With all of the various definitions offered, there is a lack of unity to really explain definitively the domain of the phenomenon. As a result of these definitions, the literature also provides various loyalty measures, according to the way it is conceptualized.

There is more evidence of the contradictory nature and complexity of loyalty when the literature offers explanations for how to measure it. Table 2.2 provides a review of 56 empirical studies that have measured loyalty in some way, encompassing both consumer and business-to-business contexts. Industries varied from consumer goods, services, and supplier-manufacturer situations. The samples were numerous, consisting of undergraduate students, mall intercepts, and business executives. With the exception of one study (Maignan, Ferrell and Hult, 1999), the research captured the data from the customer's side of the dyad. The analysis included the conceptualization of loyalty, the context, and the measures. In an effort to reduce the complexity, the measures were then summarized into specific dimensions that captured the underlying premise. The components include a continuance dimension, a word-of-mouth dimension, a price sensitivity dimension, and an emotional dimension. Table 2.3 provides a summary of the possible items for each of the four dimensions. Each is reviewed below.

Table 2.2: Previous Empirical Loyalty Studies

Author	Definition	Context	Measurement Items
Baloglu, 2002, *Cornell Hotel and Restaurant Administrative Quarterly*	Developed a loyalty typology based on behavior and attitude - spurious loyalty, true loyalty, low loyalty, latent loyalty.	*Consumer context* - surveys to casino customers	**3 Behavior; 3 Emotion:** Proportion, Cooperation, WOM, Trust, Commitment, Switching
Biong, 1993, *European Journal of Marketing*	Loyalty expresses the degree to which the retailers want the company as a supplier in the future. It parallels to the continuity measure and could comprise both the favorable attitude and perceived or real lack of alternatives.	*Consumer context* - Phone interviews 20 industries within six sectors of residents in the German-speaking part of Switzerland.	**1 Behavior:** Continuance
Bloemer and Kasper, 1995, *Journal of Economic Psychology*	True loyalty and spurious loyalty to a brand.	*Consumer context* - customers buying blank cassettes and shampoo	**1 Behavior, 6 Commitment:** True loyalty calculated as the multiplication the commitment score times the score for repeat purchasing behavior
Bloemer and Ruyter, 1999, *Journal of Marketing Management*	Loyalty is defined as having a behavioral dimension, an attitudinal dimension, and a cognitive dimension.	*Consumer context* - Survey provided by customers in municipal service, railway, fast food, full service restaurant, a holiday camp, and a travel agency.	**1 Behavior; 1 Emotion:** Continuance, Commitment
Bloemer, Ruyter and Wetzels, 1999, *European Journal of Marketing,*	Service loyalty	*Consumer context* - Sample included services associated with products (supermarkets and fast food restaurants) and ``pure'' services (entertainment and health care services)	**Multi-dimensional with 4 dimensions:** Word-of-mouth, Purchase intention, Price sensitivity and Complaining behavior.
Boulding et al, 1993, *Journal of Marketing Research*	Behavioral intentions	*Consumer context* - current customers of an educational institution	**6 Behavioral:** Speak favorably, Recommend, Contribute money in the future
Boulding et al, 1993, *Journal of Marketing Research*	Behavioral intentions	*Consumer context* - current customers of an educational institution	**6 Behavioral:** Speak favorably, Recommend, Contribute money in the future

Table 2.2 Continued

Author	Definition	Context	Measurement Items
Bruhn and Grund, 2000, *Total Quality Management*	Loyalty defined as behavioral intentions	*Consumer context* - Phone interviews for a national survey with 20 industries within six sectors of residents in the German-speaking part of Switzerland.	**3 Behavior:** WOM, Continuance, Switch
Caruana, 2002, *European Journal of Marketing*	Service loyalty – The degree to which a customer exhibits repeat purchasing behavior from a service provider, possesses a positive attitudinal disposition toward the provider, and considers only this provider when a need for this service exists.	*Consumer context* - Mail survey to retail banking customers in Malta.	**5 Behavior; 7 Emotion:** WOM, Continuance, Switching, First choice
Cronin and Taylor, 1992, *Journal of Marketing*	Purchase intentions	*Consumer context* - banking, pest control, dry cleaning and fast food industries	**1 Behavior:** frequency of use
Daugherty, Stank and Ellinger, 1998, *Journal of Business Logistics*	Loyalty is a long-term commitment to repurchase involving both a cognitive attitude toward the selling firm and repeated patronage.	*B-to-B context* -A manufacturer of personal products gave access to its customer base	**3 Behavior; 4 Emotion:** Commitment, Continuance, Importance, Future purchases, WOM
De Ruyter, Wetzels, and Bloemer 1998, *International Journal of Service Industry Management*	Multi-dimensional construct consisting of the following three dimensions: preference loyalty, price indifference loyalty and dissatisfaction response.	*Consumer context* - industries included fast food, supermarkets, amusement parks, health centers (hospitals, physiotherapy and chiropractic clinics) and city theatres (including opera houses)	**Multidimensional with 3 dimensions:** Preference loyalty, Price indifference loyalty and Dissatisfaction response.
Devaraj, Matta and Conlon, 2001, *Production and Operations Management*	Customer loyalty is equated to behavioral intentions	*Consumer context* - Dealer data on actual purchases and a survey to customers.	**2 Behavior Dimensions:** Actual repurchase data, Continuance
Ellinger, Daugherty and Plair, 1999, *Transportation Research Part E*	Loyalty - a long-term commitment to repurchase involving both repeated patronage (repurchase intentions) and a favorable attitude (commitment to the relationship).	*B-to-B context* - Survey of buyers of a personal products manufacturer. - Looked at repurchase intentions and relationship commitment as separate components.	**Multidimensional with 2 dimensions:** Attitude, Behavior

Table 2.2 Continued

Estalami, 2000, *Journal of Service Research*	Loyalty – behavioral tendency of the consumer to repurchase from the firm.	*Consumer context* - started with open-ended questions about when a complaint was made and the reaction by the company. Then a survey from a mall intercept was used.	**3 Behavior:** Share of supply, Past behavior
Fornell et al 1996, *Journal of Marketing*	Behavioral loyalty	*Consumer context* - consumers in the 7 major economic sectors	**3 Behavior:** Continuance, Price sensitivity
Fornell, 1992, *Journal of Marketing*	Loyalty is caused by a combination of satisfaction and switching barriers.	*Consumer context* - Customers in Sweden of the largest companies in 28 industries	**2 Behavior:** Continuance, Price Sensitivity
Ganesh, Arnold, and Reynolds, 2000, *Journal of Marketing*	Loyalty is a combination of both commitment to the relationship and other overt loyalty behaviors.	*Consumer context* - Telephone survey on bank customers	**2 Behavior:** Active loyalty, Passive loyalty
Garbarino and Johnson, 1999, *Journal of Marketing*	Future intentions	*Consumer context* - Survey of customers of a professional nonprofit repertory theater company	**3 Behavior:** Continuance
Gassenheimer and Robicheaux, 1989, *International Journal of Physical Distribution & Materials Management*	Intentions to continue the relationship	*B-to-B Context*- questionnaire was mailed to 939 dealers located throughout the USA. The office systems and furniture industry was the setting for this study.	n/a
Guenzi and Pelloni, 2004, *International Journal of Service Industry Management*	Behavioral loyalty (usage frequency) and (loyalty intention (intention to repurchase and recommend)	*Consumer context* - fitness center customers in Italy	**Multidimensional with 2 dimensions: B**ehavioral loyalty, Loyalty intention
Hallowell, 1996, *International Journal of Service Industry Management*	Loyalty defined by the behavioral component.	*Consumer context* - Retail bank data about and surveys from bank customers	**2 Behavior:** Actual data on length of relationship and depth of relationship
Hennig-Thurau, Gwinner and Gremler, 2002, *Journal of Service Research*	Loyalty focuses on a customer's repeat purchase behavior that is triggered by a marketer's activities.	*Consumer context* - Survey with students as data collectors - each student participated and then collected four more from four age ranges.	**2 Behavior:** Strength of relationship, Switching

Table 2.2 Continued

Author	Definition	Context	Measurement Items
Hewett, Money and Sharma, 2002, *Journal of the Academy of Marketing Science*	Repurchase intentions	*B-to-B context* - Industrial - survey marketing executives in manufacturing firms *(Surveyed suppliers)*	**2 Behavior:** Continuance
Homburg and Giering, 2001, *Psychology & Marketing*	Three dimensions - intention to repurchase, willingness to recommend and intention to repurchase the product from the same distributor.	*Consumer context* - customers of a German car manufacturer who had bought a new car 2 years ago.	**3 Behavior:** Recommendations, Repurchase, Repurchase from same distributor
Innis and La Londe, 1994, *Journal of Business Logistics*	Repurchase intentions	*B-to-B Context* -Mail surveys to retail firms in the auto glass aftermarket.	**4 Behavior:** Continuance, WOM
Johnson et al, 2001, *Journal of Economic Psychology*	Loyalty is a customer's psychological disposition to repurchase a particular product or service.	*Consumer context* - the airlines, bank, bus transportation, train transportation, and service station industries	**3 Behavior: L**oyalty measured by repurchase, Speak favorably, Recommend.
Jones, Mothersbaugh and Beatty, 2002, *Journal of Business Research*	Repurchase intentions	*Consumer context* - survey to consumers about hairstylists/barbers and banks	n/a
Kandampully and Suhartanto, 2000, *International Journal of Contemporary Hospitality Management*	Loyal customer is one who repurchases from the same service provider whenever possible, and who continues to recommend or maintains a positive attitude towards the service provider.	*Consumer context* - survey to guests of five different hotel chains in New Zealand	n/a
Khatibi, Ismail and Thyagarajan, 2002, *Journal of Targeting, Measurement and Analysis for Marketing*	Loyalty refers to the strength of a customer's intent to purchase again goods or services from a supplier with whom they are satisfied.	*B-to-B Context* - Surveys of business customers of a telecom company in Malaysia	n/a
Maignan, Ferrell and Hult, 1999, *Journal of the Academy of Marketing Science*	Loyalty is the nonrandom tendency displayed by a large number of customers to keep buying products from the same firm over time and to associate positive images with the firm's products.	*B-to-B Context* - Sample 1 - Survey to marketing executives that are AMA members - looked at it from the supplier's perspective; Sample 2 - executive MBA students	**6 Supplier measures: P**erceptions of their customers' loyalty

Table 2.2 Continued

Author	Definition	Context	Measurement Items
Mattila, 2004, *International Journal of Service Industry Management*	Loyalty is comprised of both attitude and behavior	*Consumer context* - undergraduate students evaluating casual dining restaurants	**5 Behavior:** WOM, First choice, Continuance
Matilla, 2001, *Journal of Service Research*	Behavioral intentions	*Consumer context* - Experimental design (3x2) with undergrad students across three relationship types in the context of service failures. Surveys were then administered to measure behavioral intentions.	**5 Behavior:** WOM, First choice, Continuance
McMullan and Gilmore, 2003, *Journal of Targeting, Measurement and Analysis for Marketing*	Loyalty is a deeply held commitment to rebuy or repatronize a preferred product of service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior	*Consumer context* - Survey from members of a dining club.	**Loyalty phases measures:** 6 cognitive phase, 7 affective phase, 9 conative phase, and 6 action phase
Mittal and Lassar, 1998, *Journal of Service Research*	Loyalty defined as inclination not to switch.	*Consumer context* - Surveys from consumers in the health care and car repair industries (high vs low interpersonal contact opportunity)	**1 Behavior:** Switching
Mittal, Ross and Baldasare, 1998, *Journal of Marketing*	Repurchase intentions	*Consumer context* - 3 studies - patients of a primary care physician HMO, and two studies in the automotive industry	**1 Behavior:** Switching intention
Oliva, Oliver and MacMillan, 1992, *Journal of Marketing*	Viewed loyalty in terms of brand loyalty, brand avoidance, or brand neutrality	*B-to-B Context* - Used a GE Supply industrial survey of service quality among its customers	**I Emotion:** First choice
Oliver and Swan, 1989, *Journal of Marketing*	Intention	*Consumer context* - car buyers	**4 Behavior:** Continuance
Olsen, 2002, *Journal of the Academy of Marketing Science*	Loyalty is a behavioral response expressed over time.	*Consumer context* - Surveys to households in Norway	**1 Behavior:** Past behavior

Table 2.2 Continued

Author	Definition	Context	Measurement Items
Pritchard, Havitz and Howard, 1999, *Journal of the Academy of Marketing Science*	Loyalty (L) - a composite blend of brand attitude(A) and behavior(P[B]) , with indexes that measure the degree to which one favors and buys a brand repeatedly, where L = P[B]/A	*Consumer context* - Survey of airline and hotel patrons	**2 Behavior; 4 Emotion:** Best choice, Past behavior
Reynolds and Arnold, 2000, *Journal of Personal Selling and Sales Management*	Salesperson loyalty - commitment and intention to continue dealing with the particular sales associate; Store loyalty - commitment and intention to continue dealing with the particular store.	*Consumer context* - Survey of customers of two large, regional department stores - one men's specialty store and one women's specialty store	**Multidimensional with 2 dimensions:** Salesperson loyalty and Store loyalty
Ruyter and Bloemer, 1999, *International Journal of Service Industry Management*	Behavioral loyalty	*Consumer context* - Survey of sample of participants from evening classes of five different public institutes in Limburg, Belgium.	**4 Behavioral:** WOM, First choice, Continuance
Ruyter, Moorman, Lemmink, 2001, *Industrial Marketing Management*	Loyalty Intention - reflects customers' motivation to continue the relationship	*B-to-B context* - Business customers for a copier machine in the Netherlands	**3 Behavioral:** Continuance
Selnes and Gonhaug, 2000, *Journal of Business Research*	Behavioral intentions- the motivation to be loyal to the supplier	*B-to-B Context* - telephone survey of business customers of a telecommunication company	**4 Behavior:** Share of supply, Continuance, WOM
Selnes and Hansen, 2001, *Journal of Services Research*	Loyalty is an assessment of expected future customer behavior. It is the motivation to continue the relationship, to talk favorably about the supplier, and to expand the relationship.	*Consumer context* - Telephone survey on bank customers	**3 Behavior:** WOM, Continuance

Table 2.2 Continued

Author	Definition	Context	Measurement Items
Selnes, 1993; *European Journal of Marketing*	Loyalty expresses an intended behavior related to product of service, including the likelihood of future purchases or renewal of service contracts, or conversely, how likely it is that the customer will switch to another brand or service provider.	*Consumer context* - surveys to four different companies' customers - life insurance, telephone, college, salmon feed supplier	**2 Behavior:** Continuance, WOM
Sirdeshmukh, Singh and Sabol, 2002, *Journal of Marketing*	Consumer loyalty is indicated by an intention to perform a diverse set of behaviors that signal a motivation to maintain a relationship with a focal firm, including allocating a higher share of the category wallet to the specific service provider, engaging in positive word-of-mouth and repeat purchasing.	*Consumer context* - Mail questionnaires to households in the Midwest in an airline context and a retail context.	**4 Behavior:** Continuance, WOM, Share of supply
Stank, Goldsby, Vickery and Savitskie, 2003, *Journal of Business Logistics*	Loyalty is a long-term commitment to repurchase involving both a cognitive attitude toward the selling firm and repeated patronage.	*B-to-B Context* - Web surveys to 3PL executives and then to customers	**4 Behavior, 2 Emotion:** Commitment, Continuance, Importance, WOM
Stank, Goldsby and Vickery, 1999, *Journal of Operations Management*	Customer loyalty is a long-term commitment to repurchase involving both a favorable cognitive attitude toward the selling firm and repeated patronage.	*B-to-B context* – restaurant customers in the six largest fast food restaurant chains in the United States.	**4 Behavior, 2 Emotion:** Commitment, Continuance, Importance, WOM
Taylor and Baker, 1994, *Journal of Research*	Purchase intentions	*Consumer context* - communications, travel, health services and recreation industries	**3 Behavior**: Past behavior, Continuance
Too, Souchon and Thirkell, 2001, *Journal of Marketing Management*	Loyalty is defined as having both behavioral and attitudinal dimensions.	*Consumer context* - Survey to both retail managers and customers for a dyadic study	**3 Behavior, 7 Emotion:** Commitment, Switching, WOM, First choice, Price sensitivity, Continuance, Past behavior, Purchase behavior

Table 2.2 Continued

Author	Definition	Context	Measurement Items
Verhoef, Franses and Hoekstra, 2002, *Journal of the Academy of Marketing Science*	Looked at customer referrals as an outcome of trust, commitment, satisfaction, and payment equity	*Consumer context* - Telephone survey from customers of an insurance company in the Netherlands	**3 Behavior:** WOM
Wangenheim, 2003, *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*	Purchase intentions	*B-to-B context* - large database of German companies market for industrial energy	**4 Behavior:** WOM, Continuance, Price Sensitivity
Wetzels, Ruyter and van Birgelen, 1998, *Jouurnal of Business and Industrial Marketing*	Intention to stay is the manifestation of the temporal dimension of commitment.	*B-to-B Context* - Mail survey of customers from a major Dutch office equipment	**3 Behavior:** Continuance
Wind, 1970, *Journal of Marketing Research*	Source loyalty stems from the offerings, buyer's past experience with suppliers, work simplification rules, and organizational variables	*B-to-B Context* - purchase history, cost saving memo, and attitude survey	n/a
Woodside, Frey and Daly, 1989, *Journal of Healthcare Marketing*	Behavioral intentions	*Consumer context* - Previous hospital patients	**1 Behavior:** Continuance
Zeithaml, Berry and Parasuraman, 1996, *Journal of Marketing*	Behavioral intentions are defined as likelihood of paying a price premium, intent to do more business in the future, and complaint intentions.	*Consumer context* - Mail survey to three industries - retail chain, automobile insurer, and life insurer	**Multidimensional with 5 dimensions:** Loyalty, Switch, Pay more, External response, Internal response

Table 2.3: Summary of Measurement Items

Continuance	Emotion	WOM	Price Sensitivity
PAST: 1. How often purchases made from the provider.	1. Really enjoy doing business with this provider.	1. Say positive things	1. If current provider were to raise the price, I would still continue to be a customer.
2. Measure frequency of purchase.	2. We are committed to this relationship.	2. Complain to others if you experience a problem	2. I am prepared to pay more for higher quality products/services.
3. How many times - on average - during the last year have you used this provider?	3. I really care about the fate of this provider.	3. Complain to employees if you experience a problem	3. Continue to do business if prices increase somewhat.
4. Estimate how many times in the last twelve months you have flown with 1) XYZ, and 2) you have used this kind of provider in general.	4. I am willing to put in extra effort to buy from this provider.	4. Encourage friends and relatives to use.	4. Pay a higher price than competitors charge for the benefits received.
5. I have used this provider for a number of years.	5. The relationship deserves our maximum effort.	5. Recommend that my successor continue using this vendor.	5. If a competing company were to offer a better rate or discount, I would switch.
6. Actual repurchase data or purchase history.	6. Maintaining the relationship is important.	6. Recommend to others	
PRESENT: 7. I buy this brand on a regular basis.	7. Try to use every time.		
8. Share of supply for this provider.	8. Consider it my primary bank.		
9. Have more than 50% of your business for this product/service with this provider.	9. It is my first choice.		
FUTURE: 10. To which degree do you want to continue doing business with this provider?	10. Does a better job than my other suppliers in meeting my needs.		
11. We intend to maintain the relationship indefinitely.	11. This provider is the best alternative.		
12. We are likely to increase purchases from this vendor in the next year.	12. Clearly the best to do business with.		
13. We intend to buy more from this provider.			
14. Likelihood of making a purchase in 1) the next month, 2) the next year, 3) the next three years, 4) etc.			
15. Will do more business in the next few years.			
16. We expect our relationship with our supplier to last long.			

Continuance Dimension

The continuance dimension encompasses a behavioral loyalty aspect and has been operationalized in numerous ways. It reflects a temporal aspect that assesses past, present, or future behavior. Continuance can reflect past behavior or history based on perceptions from the customers' perspective, with either general statements about past use (Estalami, 2000; Olsen, 2002; Pritchard, Havitz and Howard, 1999; Too, Souchon and Thirkell, 2001), or specific past experience, with indicators about how much has been purchased in the past. The measures can also be actual repurchase data retrieved from a database or purchase history (Devaraj, Matta and Conlon, 2001; Hallowell, 1996; Wind, 1970).

Continuance can also be an assessment of current use or share of supply. For instance, Sirdeshmukh, Singh and Sabol (2002), in an airlines study, asked whether customers took more than 50% of their flights on a certain airline, and Baloglu (2002) looked at the proportion of a given visit spent in a casino. Likewise, in a business-to-business context, Selnes and Gonhaug (2000) asked respondents to indicate their share of supply with a supplier. Current use can also be an indication about buying on a regular basis (Too, Souchon and Thirkell 2001).

Most of the measures indicating the continuance dimension comprise future intentions. Specifics include basic objectives to continue doing business in the future (Biong 1993, Bloemer and Ruyter 1999; Devaraj, Matta and Conlon 2001; Caruana, 2002; Garbarino and Johnson 1999; Matilla 2001; Ruyter and Bloemer 1999; Ruyter, Moorman, Lemmink 2001; Selnes and Gonhaug 2000; Selnes 1993; Sirdeshmukh, Singh and Sabol 2002; Wetzels, Ruyter and van Birgelen 1998), to maintain the relationship for

the indefinite future (Ellinger, Daugherty and Plair, 1999; Daugherty, Stank and Ellinger 1998; Stank, Goldsby, Vickery and Savitskie, 2003), or to increase the scope or amount of business in the future (Daugherty, Stank and Ellinger 1998; Ellinger, Daugherty and Plair 1999; Ganesh, Arnold, and Reynolds 2000; Zeithaml, Berry and Parasuraman 1996). Other more specific future intentions include the likelihood of making a purchase in a particular time frame (i.e., over the next year or next three years) (Hewett, Money and Sharma, 2002; Innis and La Londe, 1994).

Another way to investigate continuance is to inquire about switching behavior. Mittal and Lassar (1998) defined loyalty as the inclination not to switch. Measures had items for switching costs (Baloglu, 2002) and the tendency to consider switching (Caruana, 2002; Hennig-Thurau, Gwinner and Gremler, 2002). Other items directed participants to respond to likelihood to buy from a different store (Too, Souchon and Thirkell, 2001) or to take some business to a competitor (Zeithaml, Berry and Parasuraman, 1996).

Word-Of-Mouth Dimension

Another dimension of loyalty considers how people "advertise" for the company. The argument is that a loyal customer "will actually recommend your company to someone else – it is someone who becomes an unpaid advocate of your business, and word-of-mouth is the most effective, least-expensive form of marketing" (Hart and Johnson 1999). Measures use general recommendation statements (Bruhn and Grund, 2000; Sirdeshmukh, Singh and Sabol, 2002; Selnes, 1993; Too, Souchon and Thirkell 2001; Verhoef, Franses and Hoekstra, 2002; Zeithaml, Berry and Parasuraman, 1996), statements about saying positive things (Caruana, 2002; Matilla, 2001; Ruyter and

Bloemer, 1999; Verhoef, Franses and Hoekstra, 2002; Zeithaml, Berry and Parasuraman, 1996), or to encourage friends and relatives (Caruana, 2002; Ganesh, Arnold, and Reynolds, 2000; Matilla, 2001; Ruyter and Bloemer, 1999; Selnes and Hansen, 2001; Verhoef, Franses and Hoekstra, 2002; Zeithaml, Berry and Parasuraman, 1996). In a business-to-business context, participants ask about recommending that the next successor continue using the vendor (Daugherty, Stank and Ellinger, 1998; Ellinger, Daugherty and Plair, 1999; Innis and La Londe, 1994; Stank, Vickery and Savitskie, 2003).

Price Sensitivity Dimension

Some measures of behavioral loyalty address a respondent's reaction to potential price increases. Measures include items about paying a higher price than competitors charge for the benefits currently received (Zeithaml, Berry and Parasuraman 1996) and being prepared to pay more for higher quality products or services (Too, Souchon and Thirkell 2001, Verhoef, Franses and Hoekstra 2002). Some combine a continuity perspective and ask about continuing to do business if prices increase somewhat (Zeithaml, Berry and Parasuraman 1996) and others measure tendencies to switch to another provider if prices were lower (Ganesh, Arnold and Reynolds 2000).

Emotional Dimension

Because several conceptualizations include the feeling of attachment, many of the studies include an emotional dimension. The items describe a commitment to the relationship (Bloemer and Ruyter, 1999, Baloglu, 2002; Daugherty, Stank and Ellinger, 1998; Ellinger, Daugherty and Plair, 1999; Reynolds and Arnold, 2000; Stank, Goldsby, Vickery and Savitskie, 2003), first choice or best choice (Caruana, 2002 Matilla, 2001

Oliva, Oliver and MacMillan, 1992 Pritchard, Havitz and Howard, 1999, Ruyter and Bloemer, 1999) importance of the relationship (Daugherty, Stank and Ellinger, 1998, Ellinger, Daugherty and Plair, 1999; Stank, Goldsby, Vickery and Savitskie, 2003), or making an effort (Daugherty, Stank and Ellinger, 1998, Ellinger, Daugherty and Plair, 1999; Too, Souchon and Thirkell, 2001, Stank, Goldsby, Vickery and Savitskie, 2003). Similar to importance, relationship strength is also an emotional dimension item (Hennig-Thurau, Gwinner and Gremler 2002).

Defining Loyalty

Although the definitions and measurement scales broadly range in explaining loyalty, the phenomenon seems to manifest itself in two distinct ways – loyalty comprises loyalty intentions and loyalty attitudes (Reynolds and Arnold 2000). What this means, then, is that loyalty encompasses behavior and emotion. Loyalty as behavior has traditionally focused on a customer's repeat purchase behavior that is triggered by a marketer's activities (Hennig-Thurau, Gwinner and Gremier 2002). However, the reasoning behind emotional loyalty is the argument that repeat purchases alone do not necessarily indicate true loyalty (Jacoby and Kyner 1973; Dick and Basu 1994; Baloglu 2002). Kandampully (1998) proposes that true, loyal relationships between firms and customers are created by the organization's ability to connect emotionally and forge long-term bonds with customers.

Although the literature points to loyalty as encompassing behavior and emotion, there are several potential problems that should be considered because of the way loyalty is measured. While the measures have distinct dimensions, there remains some confusion

about what measures represent emotional loyalty and which ones constitute behavioral loyalty. For instance, while the majority of the time word-of-mouth is considered a behavior, Too, Souchon and Thirkell (2001) consider it an attitude rather than a behavior. Most studies also considered switching behavior as a behavior; however, Baloglu (2002) measured it as an attitudinal variable. Likewise, while future intentions are generally considered a behavior, maintaining the relationship indefinitely (Ellinger, Daugherty and Plair, 1999; Daugherty, Stank and Ellinger 1998; Stank, Goldsby, Vickery and Savitskie, 2003) is a part of the measures that they considered "relationship commitment."

Another point to consider entails the number of items used to measure loyalty. Five of the studies used only one item, ranging from continuance (Khatibi, Ismail and Thyagarajan, 2002, Biong, 1993), switching (Mittal and Lassar, 1998), first choice (Oliva, Oliver and MacMillan, 1992), and past behavior (Olsen, 2002). On the other end of the spectrum, McMullan and Gilmore (2003) used 28 items to explore several loyalty phases. Between the two ends, there was also much variance in the number of items used to tap the construct.

A final measurement comment involves the way that loyalty has been measured as a global construct. In exploring several behavioral outcomes to service quality, Zeithaml, Berry and Parasuraman (1996) used factor analysis with 13 items and found five separate dimensions, one of which was what they considered a "loyalty" dimension. With few exceptions (Ellinger, Daugherty and Plair, 1999; Wangenheim 2003; Ganesh, Arnold, and Reynolds 2000; Bloemer and Kasper 1995; Guenzi and Pelloni 2004; de Ruyter, Wetzels and Bloemer1998; Bloemer, de Ruyter and Wetzels 1999; Reynolds and Arnold 2000; Zeithaml, Berry and Parasuraman 1996), the studies conducted have used a

first-order scale, even when including an attitudinal and behavioral dimension. While behavior and emotion may be necessary to constitute loyalty (Jacoby and Kyner 1973), a first-order scale likely does not capture the significance of either component individually. For instance, Bloemer (1989) contends that consumers may appear to be brand loyal because they purchase and repurchase a particular brand. However, their underlying motives or antecedents of behavior may be quite different. In some cases, purchasing behavior is the result of actual brand loyalty by deliberately selecting a particular brand because of specific, positive reasons to like that brand. In other cases, purchasing behavior is "spurious," and takes place because it is more convenient not to make purchase decisions over and over again (Bloemer, 1988). Therefore, there is a significant difference between "spurious loyalty" as opposed to "true loyalty."

Because of the definitional and measurement issues surrounding the loyalty phenomenon, one purpose of this dissertation is to propose and test a loyalty model to alleviate the previous issues. Dick and Basu (1994) conceptualized loyalty as "the strength of the relationship between a customer's relative attitude and repeat patronage." The model demonstrates a causal relationship from relative attitude to repurchase intentions. They look at loyalty as a relationship for several reasons. First, defining it as a single construct runs the risk of capturing variance from other situational factors. Thus, high purchase intention could result from other factors besides loyalty attitude. This would lead to a spuriously loyal customer versus a truly loyal customer, but even a multidimensional construct would not capture the difference. Second, viewing it as an affect-behavior relationship allows investigation of the phenomenon from a causal perspective, which leads to greater understanding of the antecedents and consequences of

the relationship. They further contend that this moves theory development to researching *when* contingent factors enhance/decrease loyalty, *how* other underlying processes influence loyalty, and "*so what"* issues addressing the consequences of loyalty. Thus, other previously measured dimensions of loyalty such as word-of-mouth and price sensitivity are viewed as the outcomes of this relationship. They also include search behavior and resistance to counter-persuasion as loyalty outcomes.

The Dick and Basu (1994) framework proposes that loyalty attitude stems from three categories of antecedents; namely, cognitive, affective, and conative antecedents. Studying this entire framework with all its antecedents would be too complex and lengthy for one research endeavor. Therefore, for the purposes of this dissertation, the theoretical model has been adapted to focus on the affective and behavioral dimensions of loyalty.

To provide a greater understanding of the affective dimension of loyalty, the commitment literature provides a strong base and rationale to study the loyalty relationship. Researchers have discussed the importance of commitment in distinguishing the difference between loyal behavior and just repeat purchasing (Jacoby and Kyner 1973; Reynolds and Arnold 2000). Day (1969) contends that true loyalty exists only when there is commitment to a brand or product. Repeat purchasing as the only indicator of loyalty does not capture the strength of commitment (Pritchard, Havitz and Howard 1999), and commitment exists only when the relationship is considered important (Ellinger, Daugherty and Plair 1999).

From the loyalty literature base that conceptualizes loyalty as entailing both behavior and emotion, as well as Dick as Basu's (1994) causal conceptualization, **loyalty is defined as the strength of the relationship between a customer's affective**

commitment toward the seller and the repeat purchasing behavior with the seller. The rationale for the two constructs in the loyalty relationship, namely affective commitment and purchasing behavior, are discussed in the subsequent sections.

Commitment

A topic that has been widely researched in the relationship literature is commitment. "Commitment… is of extreme importance in the relational exchange paradigm" (Kim and Oh 2002). The notion of commitment has been an important aspect of studies on customer relationships (e.g., Gundiach, Achrol and Mentzer 1995). Like loyalty, it has been conceptualized in numerous ways with various measures. The most generalizable of these definitions, however, is proposed by Meyer and Herscovitch (2001). On the basis of a review of existing definitions, they suggest that commitment can be defined as "a force [mind set] that binds an individual to a course of action of relevance to one or more targets." They argue that the "core essence" of commitment should be the same regardless of the target of that commitment. Following Meyer and Allen (1991), they assert that this force, or mind-set, can have different sources: desire (affective commitment), perceived cost (continuance commitment), or obligation (normative commitment).

Much of the research on commitment in marketing exchanges draws from the organizational behavior literature base, largely based on the work of Meyer and Allen (1991). Organizational commitment deals with people's attitudes toward their organizations (Malhotra and Mukherjee 2003). It has been conceived as the psychological attachment felt by the person for the organization, reflects the degree to which the individual internalizes or adopts characteristics or perspectives of the

organization (O'Reilly III and Chatman 1986), and is defined as a psychological state, or mind-set, that increases the likelihood that an employee will maintain membership in an organization (Allen & Meyer 1990).

Meyer and Allen (1991) identified three distinct themes in their definition of commitment - affective, normative, and continuance commitment. *Affective commitment* is an attachment to the organization, and employees with strong affective commitment remain with the organization because they want to. Employees whose experiences within the organization are consistent with their expectations and satisfy their basic needs tend to develop a stronger affective attachment to the organization than who have less satisfying experiences. Employees that remain because they feel an obligation reflects *normative commitment*. Finally, *continuance commitment* reflects the need to remain because of a perceived cost associated with leaving the organization, and presumably develops as employees recognize that they have accumulated investments or "side bets" (Becker, 1960) that would be lost if they were to leave the organization, or as they recognize that the availability of comparable alternatives is limited.

In the relationship marketing literature, although there are many conceptualizations, affective and calculative commitment seem to be the most relevant for researching interorganizational relationships (Geyskens et al 1996). In this stream of literature, commitment entails an affective dimension that refers to the degree to which there is a favorable psychological bond (Gruen et al 2000), and a calculative dimension that is associated with costs and current and future benefits (Gilliland and Bello 2002). Both commitment types draw from the organizational behavior literature. Specifically, affective commitment represents the psychological attachment, and calculative

commitment stems from the continuance dimension, whereby exchange parties are driven to remain in the relationship because of the costs associated with leaving it. According to Geyskens et al (1996), both are relatively stable states but arise from different motivations for maintaining the relationship.

Affective Commitment. In the marketing channels literature, affective commitment expresses the extent to which channel members *like* to maintain their relationship with specific partners (Geyskens et al 1996; Mattila 2004). It represents an attitudinal affective orientation towards and a general positive feeling toward an exchange partner that is apart from its purely instrumental worth (Ruyter and Wetzels 1999). Based on a sense of liking and emotional attachment to the partnership (Wetzels, Ruyter, Birgelen 1998), affective commitment serves as a psychological barrier to switching (Johnson et al 2001). In the case of measurement, affective commitment captures the affective strength of the relationship that customers have with a brand or company (Johnson et al 2001).

Calculative commitment. Becker (1960) looked at organizational commitment using side-bet theory and focused on the accumulated investments an individual stands to lose is he/she leaves the organization. From this theoretical base, calculative commitment results from more rational and economical aspects (Johnson et al 2001), including a "cold" calculation of costs and benefits, and an assessment of the investments made in the relationship and the availability of alternatives to replace or make up for the foregone investments (Geyskens et al 1996). This form stems from a cognitive evaluation of the instrumental worth of a continued relationship with the organization (Wetzels, Ruyter and Birgelen 1998). It is the product of a lack of alternatives or

investments made by a customer that make switching costs high and is the instrumental reason for the evaluation of the costs and benefits (Ruyter and Wetzels 1999). It measures the degree to which channel members experience the need to maintain a relationship (Geyskens et al 1996) and includes the degree to which customers are "held hostage" to a particular company (Johnson et al 2001).

Research suggests that of these two forms of commitment, affective commitment is the most effective for developing and maintaining mutually beneficial relationships between partners (Kumar, Hibbard and Stern 1994). For the purposes of this dissertation, **affective commitment is defined as the strength of emotional attachment and positive feelings that a customer has for a supplier**. Conversely, calculative commitment reflects a rather negative motivation for continuing the relationship (Geyskens et al 1996). **Calculative commitment is defined as the extent to which a customer perceives the need to maintain a relationship due to costs associated with leaving.**

Purchasing Behavior

Purchasing behavior, specifically repeat patronage, is critical to suppliers because it can be more expensive to obtain a new customer than to retain one, an organization's long-term success in a market is essentially determined by its ability to expand and maintain a large and loyal customer base (Kandampully 1998), and building and maintaining relationships with customers leads to long-term customer retention (Mattila 2001). Increased repurchase behavior from loyal customers has been positively linked to improvements in financial indicators such as profitability and market share (Anderson, Fornell and Lehman 1994). Repeat customers may also be less price sensitive and less

prone to defections, as well as being more likely to purchase a greater volume and variety of products in any given transaction (Stank, Goldsby and Vickery 1999). Reichheld and Sasser (1990) estimate that companies that retain just 5% more of their customers can boost profits by nearly 100%.

Loyalty is demonstrated by the purchasing pattern over time (Dick and Basu 1994). Therefore, purchasing behavior is an essential component of loyalty. It refers to the continuance dimension presented in Table 2.3 and involves the likelihood of using a supplier again in the future (Jones, Mothersbaugh and Beatty 2003). As suggested in the table, this aspect of loyalty can refer to how long the customer has been using the supplier, what the share of supply is and will be compared to other suppliers, and the likelihood of making purchases in the future. The majority of early loyalty studies conceptualized loyalty behaviorally, as a form of repeat purchasing of a particular product or service over time (Homburg and Annette Giering 2001). Even now, researchers conceptualize loyalty behaviorally. For instance, Neal (1999) defines loyalty as the proportion of times a purchaser chooses the same product or service in a specific category compared to the total number of purchases made in that category. Based on this discussion, **purchasing behavior is defined as the likelihood of using a supplier's products or services again in the future.**

The Loyalty Relationship

A number of researchers have argued that the affective dimension of commitment best describes the emotional component of loyalty (Mahoney, Madrigal and Howard 2000). As Figure 2.1 suggests, loyalty is conceptualized as a causal relationship between

affective commitment and purchasing behavior. Aside from the rationale given in the Dick and Basu (1994) model, several literature bases speak to this relationship. Jacoby and Chestnut (1978) say that commitment provides the essential basis for distinguishing between brand loyalty and other forms of purchasing behavior, and this causal relationship differentiates those customers.

Iwasaki and Havitz (1998) suggested that research on loyalty should move from a focus on conceptualizing the topic to better understanding how loyalty develops and what influences such development. In their behavior, consumers may appear to be brand loyal because they purchase and repurchase a particular brand. However, their underlying motives or antecedents of behavior may be quite different (Bloemer 1988). Along this line, it is important to be able to measure customers' strength of attachment to a product or service in order to separate the highly loyal from the spuriously loyal customer to distinguish genuine loyalty to habitual behavior (Mahoney, Madrigal and Howard 2000). Jones and Sasser (1995) presented the topic of "false loyalty" (e.g., spurious loyalty), which can be misinterpreted by marketers as genuine loyalty or be mistaken for loyalty due to customers high level of repeat patronage despite a low relative attitude toward the marketer. This causal loyalty relationship allows for separating the differences between these customers.

The leisure science literature base also makes this causal connection by researching loyalty to sports teams, sports, and recreational places and activities. Some researchers contend that loyalty is reflected in commitment and behavioral consistency (Pritchard et al 1992; James 2001). In empirical studies that studied customer loyalty in a leisure involvement context, Iwasaki and Havitz (1998; 2004) found a positive

relationship between commitment and behavioral intentions. Additionally, distinguishing the differences between customers has been more extensively studied empirically in the leisure science literature. Mahoney, Madrigal and Howard (2000) developed a scale to use in segmenting sports customers for differentiating consumers into discreet segments based on the strength of their overall loyalty. Baloglu (2002) also used casino customers to do a cluster analysis for segmentation of "loyalty types"- true, spurious, latent, and low loyalty customers. Likewise, Backman and Crompton (1991b) looked at golf and tennis customers and measured loyalty with attachment and behavior as two individual components and found these loyalty types. Their contribution was to demonstrate that traditional all-or-none portrayal of loyalty as a simple dichotomy between loyal and non-loyal consumers is too narrow.

In the organizational behavior literature, there is also a connection between an employee's commitment to the organization and the intention to stay. Employees' affective commitment has been considered an important determinant of dedication and loyalty (Rhoades, Eisenberger and Armeli 2001). Affectively committed employees are seen as having a sense of belonging and identification that increases their desire to remain with the organization (Meyer & Allen, 1991; Mowday, Porter, & Steers, 1982). O'Reilly and Chatman (1986) also found that in a university setting, affectively committed employees have stronger tenure intentions. Further, in the financial industry, Malhotra and Mukherjee (2003) found that affectively committed employees show greater levels of service performance.

Marketing literature has also empirically examined the relationship between commitment and loyalty. Several empirical studies have measured conceptualizations of

commitment and loyalty together in both a business relationship context and a consumer context. In studies with business samples, two studies found that affective commitment and trust in benevolence strongly influence the intention to continue the relationship (Wetzels, Ruyter and van Birgelen 1998; Ruyter, Moorman and Lemmink 2001). Hewett, Money and Sharma (2002) examined relationship quality, which is a second order construct comprised of trust and commitment, and determined a link to repurchase intentions. In a consumer setting, Garbarino and Johnson (1999) concluded that commitment plays different roles in the prediction of the future intentions for high and low relational customers. Verhoef, Franses and Hoekstra (2002) established a link between affective commitment and word-of-mouth. Johnson et al (2001) used the Norwegian Customer Satisfaction Barometer (NCSB) to conclude that affective commitment has a large positive effect on behavioral loyalty.

Hansen and Hetn (2004) summarize this relationship by explaining that if a customer's affective commitment is high, this should bring about a wish and motivation to continue the relationship. Since this type of commitment does not include any instrumental cost-benefit evaluations, it is derived from the emotional pleasure associated with the relationship partner, and the feelings of fondness developed within the relationship. As such, affective committed parties are inclined to maintain the relationship and exhibit repeat purchasing behavior. Therefore, based on the previous discussion, this research offers the following proposition:

H4: Affective commitment has a positive effect on purchasing behavior.

It is important to be able to measure consumers' strength of attachment to a product or service in order to separate the highly loyal from the spuriously loyal customer

(Mahoney, Madrigal and Howard 2000). In explaining this difference, however, it is crucial to understand what factors influence this loyalty relationship. Specifically, when looking at the difference between "true" loyalty and spurious loyalty, what would make customers continue to purchase without having an emotional attachment? Thus, this dissertation addresses the question: "What influences the strength of the relationship between affective commitment and purchasing behavior?" Another reason to look at the strength of the relationship is because from a methodological perspective, causal relationships can be used to analyze moderator effects, and previous research has largely neglected moderators (Homburg and Giering 2001).

Social exchange theory provides a theoretical basis for understanding the affective commitment-purchasing behavior relationship. SET postulates that exchange interaction results in economic and social outcomes, and these outcomes are compared over time to other exchange alternatives to determine dependence on the exchange relationship (Lambe, Wittmann and Speckman 2001). Therefore, the theory explains two fundamental processes in the loyalty relationship – the process of building attachments and the opposite process of power relations (Jancic and Zabkar 2002). Commitment is demonstrated because many exchange interactions suggest that emotions are encompassed in the relationship processes (Lawler and Thye 1999). current behaviors and social cues can help customers build trust in future rewards by showing one's trustworthiness and commitment to the exchange (Luo 2002).

Alternately, the comparison level of alternatives (CLalt) is the standard used to determine if one continues or terminates an exchange relationship. It is the overall benefit available from the best possible alternate exchange relationship and represents the

lowest level of outcomes the exchange party is willing to accept and still remain in the relationship (Thibaut and Kelly 1959). However, when without other alternatives, a customer may be forced to enter into further relationships characterized by negative exchange from the supplier (Blau 1989). A customer may also choose to remain in a less rewarding relationship because the social, emotional, or legal costs associated with moving to the better alternatives are too high (Thibaut and Kelly 1959). This component of exchange relationships is important because many of these situations are common for marketing management (Jancic and Zabkar 2002).

Affective commitment is a state of attachment to a partner and the tie to the organization is not simply based on economic motivations (Gilliland and Bello 2002). It is logical to assume that customers with a large degree of affective commitment will continue to purchase from a supplier. However, there is also evidence that a customer may remain loyal (behaviorally) even when dissatisfied (Oliva, Oliver and MacMillan 1992). Customers may be held economically hostage to particular service providers or locations even when satisfaction is low (Johnson et al. 2001). Therefore, repeat buying does not necessarily imply true loyalty and customers can have many other reasons for this behavior besides a true intention to build a relationship (Kumara, Bohling and Laddac 2003). Some repeat buyers do not have any affinity or affection towards the organization. However, a positive aspect about these customers is that they are very helpful in keeping the business going and generally constitute a major volume of any business (Kumara, Bohling and Laddac 2003).

To address this issue, this research contends that *calculative commitment* can influence the loyalty relationship. Specifically, as illustrated in Figure 2.1, calculative

commitment is a moderating variable between affective commitment and purchasing behavior. Similar but more broad than power or dependence, calculative commitment occurs when a customer perceives the need to maintain a relationship given termination or switching costs associated with leaving (Geyskens et al 1996; Verhoef, Franses and Hoekstra 2002). It entails the rational component that weighs the benefits associated with continuing the relationship and the costs associated with leaving it, with no real relational norms or other pro-social behaviors (Gilliland and Bello 2002).

Customers may maintain the relationship because of the benefits derived (Andaleeb 1996), or if the firm cannot easily replace the current supplier or obtain the same resources or outcomes (Ruyter, Moorman and Lemmink 2001). Burnham, Frels, and Mahajan (2003) also contend that various types of switching costs influence consumers' intention to stay with the current service provider. They further argue that apart from financial switching costs, there can be procedural switching costs, which includes the cost of learning, set up, evaluation, and time. Customers may also buy because of more convenience, inertia, or the perceived difficulty in switching. The rationale and often the measurement items view calculative commitment as the desire to continue the relationship because it takes too much time, energy, or expense to find another seller (Wetzels, Ruyter and van Birgelen 1998). The contention here is that when the level of calculative commitment is high, there is a weaker relationship between affective commitment and purchasing behavior, and when calculative commitment is low, affective commitment has a stronger influence on purchasing behavior.

To illustrate the moderating effect of calculative commitment on the affective commitment-repeat purchasing relationship, consider a supplier that sells office supplies

to a manufacturing firm. Being a non-strategic supplier, the buying firm likely would not have a close relationship based on cooperation or collaboration. Also because of the non-strategic nature, the buyer would not want to exhaust the time or effort or administrative expense to "shop" every time new supplies are needed. As long as the price seems to be competitive and the office supplies orders are filled, the benefits of searching for new suppliers are outweighed by the costs of keeping the current one, and it would take a drastic case of dissatisfaction or repeated incidences to encourage a change.

In another situation, a buyer may stay with a supplier because he or she perceives there are no better alternatives. Buyers also might stay because of transaction specific investments made in the exchange. For instance, technology has been an enabler for buyers and sellers to become more efficient. These advancements do not necessarily engender attachments, but they are often costly to implement. Because of the investment made, it would be hard for a customer to leave the relationship due to the economic ramifications.

All of these illustrations signify the impact of calculative commitment on the loyalty relationship. As the literature suggests, calculative commitment includes transaction costs, termination costs, or the lack of alternatives. When one or more of these become a factor in exchange relationships, they moderate the relationship between affective commitment and purchasing behavior. In other words, the greater the calculative commitment, the less influence affective commitment has on purchasing behavior. Likewise, when calculative commitment is low, the relationship between affective commitment and purchasing behavior is stronger. Therefore:

H5: Calculative commitment moderates the relationship between affective commitment and purchasing behavior. The greater the transaction costs, termination costs, or the lack of alternatives, the less the influence affective commitment has on purchasing behavior.

Satisfaction-Loyalty Relationship

The final relationship that this dissertation proposes to explore is the satisfaction-loyalty relationship. For many years, companies measured customer satisfaction, assuming that satisfaction led to loyalty. Companies gauged performance with customer satisfaction surveys. However, implementation of the satisfaction-loyalty link has been problematic for firms (Anderson and Mittal 2000). Changes in overall satisfaction scores have not always led to increased retention. Neal (1999) contends that satisfaction measurement is good for monitoring process and product performance, but has little to do with loyalty. This stems from the idea that loyalty captures long-term relationship elements that satisfaction measures can miss, and there has been a gap between how most firms think about and measure satisfaction and what their most satisfied customers actually feel (Hart and Johnson 1999).

Although much of the academic literature concurs that satisfaction is a mediating variable to loyalty, recent mounting evidence has contradicted this long-standing principle (Seymour and Rifkin 1998; Oliver 1999; Fredericks, Hurd and Salter 2001), and substantial research now rejects the idea that satisfaction leads directly to loyalty (Brown 2000; Neal 1999). Many popular press articles argue that just satisfying customers is doing the very least that customers expect, and customers can be satisfied and still defect

(Fredericks, Hurd and Salter 2001; Gould 1995; McIlroy & Barnett 2000; Reichheld 1996), and that customer satisfaction alone is not sufficient for the fruition of a loyal relationship (Kandampully 1998). Brown (2000) suggests that satisfaction is not a good predictive measure of loyalty because it is not always correlated with buying behavior. Neal (1999) also agrees that satisfaction only keeps the product or service in the purchaser's consideration set, and increasing levels of satisfaction beyond an acceptable level does not result in a proportionate increase in loyalty.

The literature pertaining to the relationship between customer satisfaction and loyalty can be organized in three categories (Homburg and Giering 2001). The first category, mostly previous research using fairly simple conceptualizations (Ganesh, Arnold, and Reynolds 2000), provides empirical evidence of a positive relationship between customer satisfaction and loyalty without further elaboration. These studies have typically been based on the explicit or implicit assumption of a linear relationship. Table 2.4 demonstrates 34 that measured satisfaction as an antecedent to loyalty. Sixteen of the studies listed support the positive relationship between satisfaction and loyalty, and the contexts varied in both business and consumer contexts (Gassenheimer, Sterling and Robicheaux 1989; Fornell et al 1996; Oliver and Swan 1989; Woodside, Frey and Daly 1989; Caruana 2002; Daugherty, Stank and Ellinger 1998; Hallowell 1996; Kandampully and Suhartanto 2000; Hennig-Thurau, Gwinner and Gremler 2002; Stank, Goldsby, Vickery and Savitskie 2003; Selnes and Gonhaug 2000; Biong 1993; Wangenheim 2003; Homburg and Giering 2001; Johnson et al 2001; Taylor and Baker, 1994). Other variations of this direct relationship have produced interesting findings, including the following:

Table 2.4: Satisfaction and Loyalty Empirical Studies

Authors	Context	Loyalty Concept	Satisfaction Concept	Findings
Biong, 1993, *European Journal of Marketing*	*Consumer context* - Phone interviews with 20 industries within six sectors in the German-speaking part of Switzerland.	Continuance	Overall	Satisfaction influences loyalty.
Bloemer and Kasper, 1995, *Journal of Economic Psychology*	*Consumer context* - blank cassettes and shampoo	True loyalty vs. spurious loyalty	Manifest satisfaction; Latent satisfaction	Manifest satisfaction has a stronger effect on true loyalty than latent satisfaction
Bloemer and Ruyter, 1999, *Journal of Marketing Management*	*Consumer context* - Customers in municipal service, railway, fast food, full service restaurant, a holiday camp, and a travel agency.	Behavioral, attitudinal and cognitive dimensions	Overall	Satisfaction influences loyalty; in the case of high involvement decisions, positive mood moderates the relationship between satisfaction and loyalty. The relationship between satisfaction and loyalty is stronger when positive moods are experienced.
Bruhn and Grund, 2000, *Total Quality Management*	*Consumer context* - National survey with 20 industries within six sectors of residents in the German-speaking part of Switzerland.	Behavioral intentions	Overall, Compared to expectations, Compared to ideals	In airline, furniture dealers and telecommunication, satisfaction is strongly related to loyalty. However, in other industries, satisfaction does not influence loyalty as strongly as other variables (i.e., customer dialogue).
Caruana, 2002, *European Journal of Marketing*	*Consumer context* - Mail survey to retail banking customers in Malta.	Repeat purchasing, positive attitudinal disposition, and only choice	Overall, Compared to others	Satisfaction mediates the relationship between service quality and loyalty. Fit statistics were lower with a direct effect from service quality to loyalty.
Cronin and Taylor, 1992, *Journal of Marketing*	*Consumer context* - banking, pest control, dry cleaning and fast food industries	Purchase intentions	Overall	Looked at causal relationship between service quality and satisfaction; found that service quality is antecedent to satisfaction. Also, satisfaction has an effect on intentions, but service quality did not in any of the industries.

Table 2.4 Continued

Authors	Context	Loyalty Concept	Satisfaction Concept	Findings
Daugherty, Stank and Ellinger, 1998, *Journal of Business Logistics*	*B-to-B context* - A manufacturer of personal products gave access to its customer base	Cognitive attitude and repeated patronage.	Overall, Compared to others, Pleasure	Satisfaction influences loyalty.
Devaraj, Matta and Conlon, 2001, *Production and Operations Management*	*Consumer context* - Dealer data on actual purchases and a survey to customers.	Behavioral intentions	Overall, Positive experience	Satisfaction influences self-report measures, but not the actual repurchase data.
Fornell, 1992, *Journal of Marketing*	*Consumer context* - Customers in Sweden of the largest companies in 28 industries	Behavioral intentions	Overall, Expectations, Ideals	
Fornell et al 1996, *Journal of Marketing*	*Consumer context* - consumers in the 7 major economic sectors	Behavioral intentions	Overall, Expectations, Ideals	Satisfaction has a positive effect on loyalty in all of the sectors.
Garbarino and Johnson, 1999, *Journal of Marketing*	*Consumer context* - Survey of customers of a professional nonprofit repertory theater company	Future intentions	Overall, Compared to others	Satisfaction, trust and commitment play different roles in the prediction of the future intentions for high and low relational customers. For consistent subscribers, future intentions are determined by trust and commitment, not satisfaction. For occasional and individual ticket buyers, satisfaction does lead to future intentions.
Gassenheimer and Robicheaux, 1989, *International Journal of Physical Distribution & Materials Management*	*B-to-B context* - office systems and furniture dealers located throughout the USA.	Intentions to continue the relationship	Overall	Dealer's future intentions were found to be positively and significantly related to their satisfaction with their trading partner relationships.

Table 2.4 Continued

Authors	Context	Loyalty Concept	Satisfaction Concept	Findings
Guenzi and Pelloni, 2004, *International Journal of Service Industry Management*	*Consumer context* - fitness center in Italy	Usage frequency, recommendation and repurchase intentions	Overall	Satisfaction is related to loyalty intentions but not behavioral loyalty.
Hallowell, 1996, *International Journal of Service Industry Management*	*Consumer context* - Retail bank data about and surveys from bank customers	Behavioral intentions	Overall, Service, Price	Satisfaction has a strong influences on loyalty.
Hennig-Thurau, Gwinner and Gremler, 2002, *Journal of Service Research*	*Consumer context* - students participated and then collected four more from four age ranges.	Repeat purchase behavior	Good choice, Pleasure, Overall	Loyalty is influenced by satisfaction, commitment, confidence, benefits/trust and social benefits. WOM is influenced by satisfaction and commitment.
Homburg and Giering 2001, *Psychology & Marketing*	*Consumer context* - customers of a German car manufacturer	Intention to repurchase and recommend	Satisfaction with product, Sales process, and After sales service	Found main effects of satisfaction on loyalty, with effects of satisfaction with the product on recommendation behavior and product repurchase.
Johnson et al. 2001, *Journal of Economic Psychology*	*Consumer context* - customers from airlines, bank, bus and train transportation, and service stations.	Psychological disposition to repurchase	Overall, Expectations, Ideals	Satisfaction influences loyalty, but affective commitment has a larger effect on loyalty than did satisfaction.
Kandampully and Suhartanto, 2000, *International Journal of Contemporary Hospitality Management*	*Consumer context* - survey to guests of five different hotel chains in New Zealand	Repurchase whenever possible, positive attitude and recommend	n/a	Image and satisfaction influences loyalty.
Khatibi, Ismail and Thyagarajan, 2002, *Journal of Targeting, Measurement and Analysis for Marketing*	*B-to-B Context* - Surveys of business customers of a telecom company in Malaysia	Intent to repurchase	n/a	Service quality influences satisfaction and loyalty, but satisfaction does not influence loyalty.

Table 2.4 Continued

Authors	Context	Loyalty Concept	Satisfaction Concept	Findings
Mittal and Lassar, 1998, *Journal of Service Research*	*Consumer context* - customers in the health care and car repair industries (high vs low interpersonal contact opportunity)	Inclination not to switch.	Overall	A high degree of satisfaction did not translate into loyalty. With a "4" rating in satisfaction, 58% in healthcare and 79% in car repair would switch. With a 5, 20% in healthcare and 32% in car repair would still switch. If dissatisfied, however, 100% would switch.
Mittal, Ross and Baldasare, 1998, *Journal of Marketing*	*Consumer context* - 3 studies - patients of a primary care physician HMO, and two studies in the automotive industry	Repurchase intentions	Overall	Dissatisfaction has a stronger impact on future intentions than satisfaction - evidence of an asymmetric relationship between satisfaction and loyalty.
Oliva, Oliver and MacMillan, 1992, *Journal of Marketing*	*B-to-B Context* - Used a GE Supply industrial survey of service quality among its customers	First choice	Service satisfaction	Satisfaction is related to loyalty depending on transaction costs-- if transaction costs are low, then low brand loyalty; if transaction costs are moderate, then responses are more wide ranging; if transaction costs are high, customers will be either brand loyal or avoid the brand, even if the satisfaction level is moderate. Customers remain loyal even under moderate dissatisfaction.
Oliver and Swan, 1989, *Journal of Marketing*	*Consumer context* – car buyers	Intention to repurchase	Overall	Strong mediating effect of satisfaction on future intentions
Olsen, 2002, *Journal of the Academy of Marketing Science*	*Consumer context* - Surveys to households in Norway	Past purchases	Overall	The quality-satisfaction-loyalty relationship is stronger when using comparative measures. Evidence supports that using a comparative approach provides the better fit with behavioral measures across all products. i.e. - quality performance and satisfaction should be measured as comparative or relative attitudes toward products and services that are functionally substitutable.

Table 2.4 Continued

Authors	Context	Loyalty Concept	Satisfaction Concept	Findings
Ruyter and Bloemer, 1999, *International Journal of Service Industry Management*	*Consumer context* - Survey of sample of participants from evening classes of five different public institutes in Limburg, Belgium.	Behavioral intentions	Overall, Compared to expectations, Compared to ideal	Satisfaction should not be the only indicator of loyalty - also look at value attainment and mood. When satisfaction is low, high positive mood and value attainment can still ensure a certain level of loyalty is achieved.
Selnes and Gonhaug, 2000, *Journal of Business Research*	*B-to-B Context* - telephone survey of business customers of a telecommunication company	Behavioral intentions	Overall, Compared to expectations, Compared to ideal	Looked at how positive and negative affect influence satisfaction and loyalty. Found that satisfaction influences loyalty, but positive affect is more influential.
Selnes, 1993; *European Journal of Marketing*	*Consumer context* - surveys to four different companies' customers - life insurance, telephone, college, salmon feed supplier	Likelihood of future purchases and switching behavior	Overall, Compared to ideal	Satisfaction has a direct effect on loyalty when customers are able to evaluate product quality through their experience with the product/service. Ambiguity in intrinsic cues of experienced performance will moderate effect of satisfaction on loyalty when brand reputation was controlled.
Stank, Goldsby and Vickery, 1999, *Journal of Operations Management*			Pleasure, Compared to others	Satisfaction influences loyalty
Stank, Goldsby, Vickery and Savitskie, 2003, *Journal of Business Logistics*	*B-to-B Context* - Web surveys to 3PL executives and then to customers	Cognitive attitude and repeated patronage.	Pleasure, Compared to others	Satisfaction influences loyalty
Stank, Goldsby, Vickery and Savitskie, 2003, *Journal of Business Logistics*	*B-to-B Context* - Web surveys to 3PL executives and then to customers	Cognitive attitude and repeated patronage.	Pleasure, Compared to others	Satisfaction influences loyalty

Table 2.4 Continued

Authors	Context	Loyalty Concept	Satisfaction Concept	Findings
Taylor and Baker, 1994, *Journal of Research*	consumer context - communications, travel, health services and recreation industries	Purchase intentions	Overall	Results show that satisfaction moderates the relationship between service quality and purchase intentions. (i.e., the highest level of purchase intentions appear when both service quality perceptions and satisfaction judgments are high).
Verhoef, Franses and Hoekstra, 2002, *Journal of the Academy of Marketing Science*	*Consumer context* - Telephone survey from customers of an insurance company in the Netherlands	Customer referrals	Service satisfaction	Satisfaction influences customer referrals
Wangenheim, 2003, *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*	B2B - large database of German companies market for industrial energy	Commitment to repurchase	Expectations, Pleased with relationship	Satisfaction has a significant influence on both active and passive loyalty. The effect of satisfaction is much stronger on active than on passive loyalty.
Wetzels, Ruyter and van Birgelen, 1998, *Jouurnal of Business and Industrial Marketing*	*B-to-B Context* - Mail survey of customers from a major Dutch office equipment	Intention to stay	Overall	Satisfaction did not influence the intention to stay, but indirectly did through affective commitment.
Woodside, Frey and Daly, 1989, *Journal of Healthcare Marketing*	Previous hospital patients	Behavioral intentions	Overall	Satisfaction has a positive effect on behavioral intentions.

- Guenzi and Pelloni (2004) – Consumer satisfaction is related to loyalty intention (intention to repurchase and recommend) but not behavioral loyalty (usage frequency).
- Devaraj, Matta and Conlon (2001) - Satisfaction influenced self-report measures, but not the actual repurchase data.
- Bruhn and Grund (2000) - The more comparable and similar the core products and services, customer dialogue influences loyalty rather than satisfaction.
- Selnes (1993) - A direct effect exists only when customers are able to evaluate product quality through their experience with the product/service; otherwise, brand reputation is most influential.
- Garbarino and Johnson (1999) - For highly relational customers, overall satisfaction does not influence future intentions; however, for transactional customers, overall satisfaction does influence future intentions.

Other studies examining this relationship, however, have found no empirical support for the relationship between satisfaction and loyalty. For instance, in a consumer context, Mittal and Lassar (1998) found that even with a high degree of satisfaction, this did not translate into loyalty. In a business-to-business context, Khatibi, Ismail and Thyagarajan, (2002) found that service quality, not satisfaction, influenced loyalty, and Wetzels, Ruyter and van Birgelen (1998) also found that satisfaction did not directly influence the intention to stay, but rather indirectly did through affective commitment.

The second category of research examines effects of moderator variables on the relationship between the two constructs (Homburg and Giering 2001). There has been a call for more research to include these moderating variables (Anderson and Mittal 2000;

Homburg and Giering 2001). Homberg and Giering (2001) show that the strength of the relationship between customer satisfaction and loyalty is strongly influenced by customer characteristics, specifically, variety seeking, age, and income. Elaboration upon the relationship between satisfaction and loyalty has also been empirically supported (Bloemer and Kasper 1995). Other moderating effects include perceived product importance, purchase uncertainty, switching costs and relationship duration (Wangenheim 2003). Oliva, Oliver and MacMillan (1992) found that satisfaction is related to loyalty, depending on transaction costs. If transaction costs are low, then there is low brand loyalty, but if transaction costs are high, customers will be either brand loyal or avoid the brand. Correspondingly, Fornell (1992) examined the satisfaction-loyalty relationship in 28 different industries and confirmed that satisfaction is much more important in industries where the switching barriers are low. Ruyter and Bloemer (1999) found that when satisfaction is low, high positive mood and value attainment can still ensure loyalty. Selnes (1993) analyzed circumstances of limited ability to evaluate product quality and established support for the ambiguity in intrinsic cues of experienced performance as a moderator. Similarly, Bloemer and Ruyter (1999) also found that in the case of high involvement decisions, positive mood moderates the relationship between satisfaction and loyalty.

The final category of studies investigate the functional form of the relationship between customer satisfaction and loyalty, whereby there is theoretical and empirical evidence to support more complex (i.e., nonlinear) structures (Homburg and Giering 2001). The general view is that satisfied customers may not repurchase, but dissatisfied ones will most likely not (McIllroy and Barnett 2000), and increasing levels of

satisfaction beyond some acceptable level does not result in a proportionate increase in share of choice (Neal 1999). In a consumer context, Mittal, Ross and Baldasare (1998) provided empirical support of an asymmetric relationship by finding that dissatisfaction has a stronger impact on future intentions than satisfaction. They further called into question the previous models that assume that repurchase intentions are mediated by satisfaction. Similarly in a consumer context, Mittal and Lassar (1998) found that a high degree of satisfaction did not translate into loyalty (defined as the inclination not to switch); however, dissatisfied customers would switch. Fornell (1992) also contended that the satisfaction-loyalty link is nonlinear because the impact of satisfaction on repurchase intentions is greater at the extremes. There is also some conceptual evidence for this relationship (Homburg and Giering 2001).

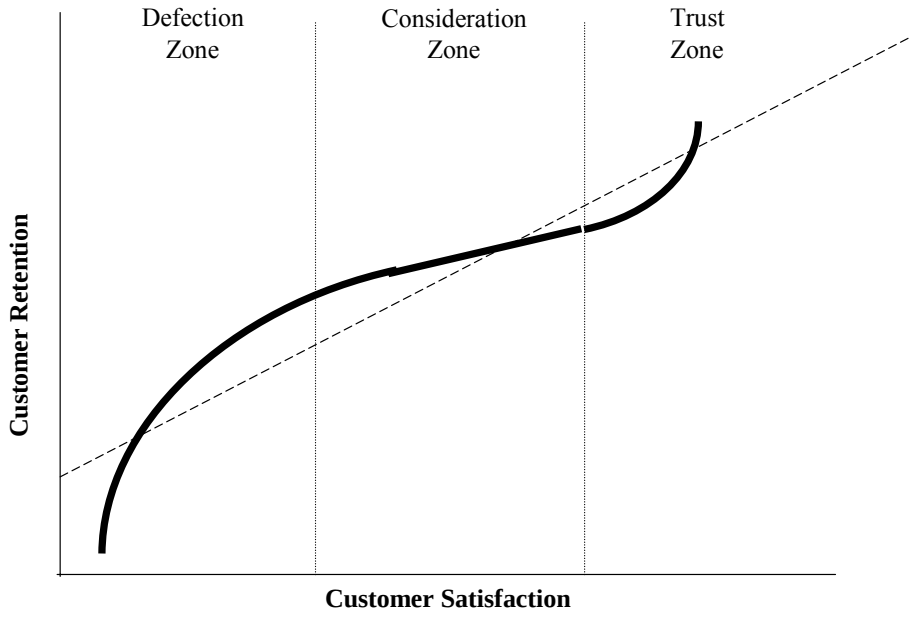
- Heskett, Jones, Loveman, Sasser, and Schlesinger (1994) provide conceptual support for a convex structure of the relationship, implying increasing marginal returns.
- Woodruff, Cadotte, and Jenkins (1983) also suggest a saddle curve shape of the relationship, implying that low or high satisfaction levels should increase a customer's likelihood of reaction and at some medium satisfaction level, customers experience a "zone of indifference," where satisfaction has only a small impact on purchase intentions.
- Using a catastrophe model, Oliva, Oliver and MacMillan (1992) also indicate the relation between customer satisfaction and loyalty can be both linear and nonlinear.

- Coyne (1989) proposes the relationship between satisfaction and behavior is nonlinear, involving two critical thresholds. When satisfaction rises above a certain threshold, loyalty should climb rapidly. Likewise, when satisfaction falls below the lower threshold, loyalty declines rapidly. Between thresholds, loyalty is flat. This implies that satisfaction has to be high enough to encourage loyalty, but also has to be low enough to diminish loyalty.
- Anderson and Mittal (2000) emphasize that successful implementation means understanding the asymmetric and non-linear relationship between satisfaction and loyalty. Failing to account for this may lead to inconclusive and contradictory empirical findings.

The previously mentioned research about this asymmetrical relationship, however, views loyalty from a behavioral, not emotional, perspective. Thus, the relationship refers to the purchasing behavior element of the loyalty relationship. Figure 2.2 demonstrates this nonlinear relationship between satisfaction and purchase behavior as a diatonic one. In the defection zone, customer retention declines rapidly, and in the trust zone, customer retention climbs rapidly. In the consideration zone, however, customer retention is flat.

H6: The relationship between satisfaction and purchasing behavior is diatonic, where the relationship is more positive in the Trust Zone and the Defection Zone than in the Consideration Zone.

While satisfaction has a nonlinear effect on purchase behavior, the relationship between satisfaction and affective commitment is a linear one. Several studies have



Adopted from: Anderson and Mittal (2000), "*Strengthening the Satisfaction-Profit-Chain*," Journal of Service Research, Vol.3, (November), pp. 107-120.

Figure 2.2: Purchase Behavior - Satisfaction Relationship

explored this direct and positive relationship. Wetzels, Ruyter, Birgelen (1998) found a significant positive relationship between satisfaction and affective commitment and comment that more satisfied customers will be more affectively committed to the supplier. Johnson et al (2001) also concur with an empirical study, noting that satisfaction affects repurchase intentions largely through the ability to build strong relationships between companies and customers. Similar to the contentions in this paper, Bloemer and Kasper (1995) also found a positive relationship and suggest that affective commitment differentiates between true loyalty and spurious loyalty. The most important difference between the two concepts is that true brand loyalty is based on affective

commitment and spurious brand loyalty is not based on any commitment at all. They measured true loyalty as the multiplication of the score for commitment times the score for repeat purchasing behavior, and found a difference in commitment between spurious and true loyalty. Based on the above rationale, the following hypothesis is offered:

H7: There is a positive relationship between satisfaction and affective commitment.

Control Variables

Because it is important to rule out any rival hypotheses that may explain the hypothesized relationships, control variables are also tested. For this theoretical model, two control variables are considered important. According to Sivakumar (1995), firms competing in industrial markets need to regularly measure the price sensitivity of their customers. The most basic economic concept for understanding customer price behavior is elasticity of demand, which measures the percentage change in a product's unit sales resulting from a one percent change in its price. The concern is with how total sales revenue is affected by a given change in price. As such, elasticity is a measure of sensitivity. Empirical evidence demonstrates that a loyal customer exhibits less price sensitivity (Krishnamurthi and Raj 1991), and purchasing behavior has been shown to moderate price sensitivity (Sivakumar 1995).

Related to price sensitivity, the second control variable for the model is product criticality. Ostrum and Iacobucci (1995) report that customers' repurchase as well as postpurchase evaluations are impacted by perceived importance or criticality. It is a function of the magnitude of the consequences, and price should become less important

as the criticality increases (Sundaram and Webster 1998). Further, when a product is more important or critical to a customer, he or she is likely to evaluate different properties than when the product is less critical (Douglas and Kelly 2000). Because there may be a relationship between price sensitivity and product criticality to purchase behavior, it is important to see if the model fit and the hypothesized relationships change when customers are high (low) on price sensitivity and the products are more (less) critical.

Alternate Model

The stream of service quality literature also addresses satisfaction and loyalty; however, there have also been mixed findings in various empirical studies. Although a considerable number of authors have argued that service quality is an important determinant of loyalty, it has remained unclear whether or not there is a direct relationship between service quality and loyalty (Bloemer, Ruyter and Wetzels 1999), or if satisfaction is a mediating variable between the two. For instance, Cronin and Taylor (1992) and Bloemer, Ruyter and Wetzels (1999) looked at causal relationship between service quality, satisfaction, and purchase intentions. Both studies found that service quality was antecedent to satisfaction; also, satisfaction had an effect on intentions but service quality did not have a significant (positive) effect on intentions. Similarly, Devaraj, Matta and Conlon (2001) reported that service quality influenced satisfaction, and satisfaction influenced future intentions. Also, Woodside, Frey and Daly (1989) reported that satisfaction had a positive effect on behavioral intentions, and that certain elements of service quality have a greater effect on overall satisfaction than others.

Alternately, other studies have found a direct relationship between service quality and loyalty. Boulding et al. (1993) found positive relationships between service quality and repurchase intentions. Zeithaml, Berry and Parasuraman (1996) also reported a positive relationship between service quality and several loyalty dimensions. De Ruyter, Wetzels and Bloemer (1998) also looked at multiple loyalty dimensions as well as multiple industries, and the influence of service quality on loyalty dimensions generally varies per industry and the findings from one industry could not be generalized to other industries. Furthermore, they established that in industries characterized by relatively low switching costs, customers will be less loyal as compared to service industries with relatively high switching costs. These studies, however, did not measure satisfaction. On the other hand, Khatibi, Ismail and Thyagarajan (2002) found that service quality does influence loyalty as well as satisfaction, but satisfaction does not influence loyalty. In another conceptualization, Taylor and Baker's (1994) results show that satisfaction moderates the relationship between service quality and purchase intentions (i.e., the highest level of purchase intentions appear when both service quality perceptions and satisfaction judgments are high).

Because of all the competing theoretical and empirical justification for the service quality-satisfaction-loyalty relationship, the proposed model may be only one way to look at the relationships. Since there is justification for a direct link between service quality and loyalty, an alternate model is presented in Figure 2.3. This conceptualization eliminates the satisfaction construct and provides a direct link between the two logistics service dimensions and affective commitment and purchasing behavior in the loyalty relationship. This study will test both models and see which one has the better fit.

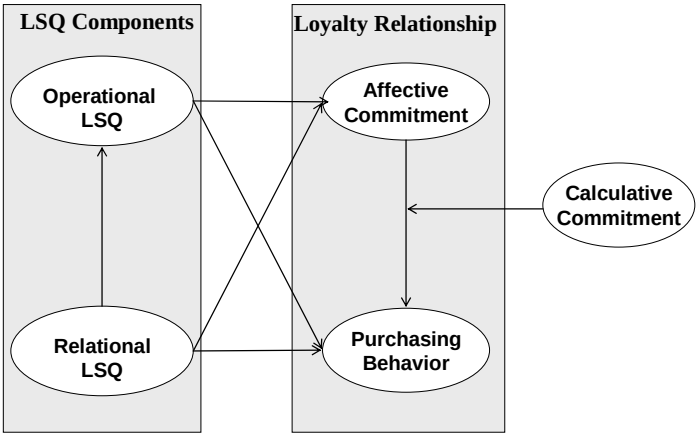


Figure 2.3: Dissertation Alternate Model

Summary

This chapter provided the theoretical justification from which the relationship structure model was deduced. The theoretical justification was based on a review of business-to-business relationships, service quality, satisfaction, and loyalty literature from various disciplines. The literature review in Chapters 1 and 2 provide antecedent justification for each of the constructs and their associated relationships that comprised the loyalty model. The constructs that comprise the loyalty model are: perceptions of LSQ operational components, perceptions of LSQ relational components, satisfaction, affective commitment, purchasing behavior, and calculative commitment. Table 2.5 provides a summary of the constructs, definitions, and operationalizations. Seven

Table 2.5: Summary of Construct Definitions and Operationalizations

Construct	Definition	Operationalization
Operational LSQ	Activities performed by service providers that contribute to consistent quality, productivity and efficiency	Perceptions of reliability: the ability to perform the promised service dependably and accurately
Relational LSQ	Logistics activities that bring the firm closer to its customers, in order to understand customers' needs and expectations and have the ability to provide quality services to meet them in an efficient manner	Perceptions of: 1) assurance: the knowledge and courtesy of employees and the ability to convey trust and confidence 2) responsiveness: the willingness to help customers and provide prompt service 3) caring: the provision of considerate, individualized attention to customers
Satisfaction	The cumulative evaluation and overall global judgment based on total purchase and consumption experience with the logistics service over time.	Perceptions of overall logistics service, meets expectations, ideal, differentiation.
Loyalty	The strength of the customer's affective commitment toward the seller and the frequency of repeat patronage with the seller.	Affective commitment and repeat patronage constructs
Affective Commitment	The strength of emotional attachment and positive feelings that a customer has for a supplier.	Perceptions of attachment, importance, and degree of effort
Calculative Commitment	The extent to which a customer perceives the need to maintain a relationship due to costs associated with leaving.	Perceptions of transaction costs, termination costs, and the number of alternatives
Purchasing Behavior	The likelihood of using a supplier's products or services again in the future.	Share of supply, future intentions, present usage

research hypotheses that represent the relationships between the model constructs were presented and are summarized below:

H1: Relational LSQ has a positive effect on Operational LSQ.

H2: Operational LSQ has a positive effect on satisfaction

H3: Relational LSQ has a positive effect on satisfaction

H4: Affective commitment has a positive effect on purchasing behavior.

H5: Calculative commitment moderates the relationship between affective commitment and purchasing behavior. The greater the transaction costs, termination costs, or the lack of alternatives, the less the influence affective commitment has on purchasing behavior.

H6: The relationship between satisfaction and purchasing behavior is diatonic, where the relationship is more positive in the Trust Zone and the Defection Zone than in the Consideration Zone.

H7: There is a positive relationship between satisfaction and affective commitment.

CHAPTER 3 – TESTING THE THEORY

The purpose of this chapter is to explain the research methodology for testing the theory developed in this dissertation. One goal of the research was to create and test new measures for the logistics service quality constructs in the theory. Another was to test the hypotheses that were generated based on the research questions concerning the interrelationships among the variables that comprise the logistics service loyalty model. This test of the hypotheses, and therefore the theoretical structure, was to determine the nomological validity of the model and each of its component parts.

Because of the covariate nature of the relationship structure model, structural equation modeling (SEM) was considered an appropriate technique to evaluate the research hypotheses (Loehlin 1998). SEM offers many advantages over other statistical techniques such as accounting for measurement error in latent variables when estimating path relationships between latent variables. In addition, SEM is ideal for comparing rival theoretical models (Garver and Mentzer 1999), such as those presented in Chapter 2.

This chapter is organized into five sections. Following this introduction, the theoretical model is presented again as a structural equation model consisting only of latent variables that will be measured as part of this research. The third section describes the research design, including the sample. The development of measures is discussed in the fourth section, including measures that have been adapted from existing scales, and the procedures for developing new measures for operational and relational LSQ. This

section also outlines the procedures for purification of the measures for the final survey. Finally, results of the pre-test are discussed.

Structural Equation Model

This section provides the theoretical relationship structure model presented in Chapter 2 in the form of a structural equation model. The nomological network for the logistics service loyalty model is represented by the directional paths shown in the figure and the seven research hypotheses presented in Chapter 2. These hypotheses are summarized below:

H1: Relational LSQ has a positive effect on Operational LSQ.

H2: Operational LSQ has a positive effect on satisfaction.

H3: Relational LSQ has a positive effect on satisfaction.

H4: Affective commitment has a positive effect on purchasing behavior.

H5: Calculative commitment moderates the relationship between affective commitment and purchasing behavior. The greater the transaction costs, termination costs, or the lack of alternatives, the less the influence affective commitment has on purchasing behavior.

H6: The relationship between satisfaction and purchasing behavior is diatonic, where the relationship is more positive in the Trust Zone and the Defection Zone than in the Consideration Zone.

H7: There is a positive relationship between satisfaction and affective commitment.

Research Design

This dissertation used a nonexperimental email survey methodology to gather the data necessary to test the model and its hypotheses. Email was chosen as the appropriate

methodology because the participating manufacturer provided a list of customers, and most of them contained email addresses. These customers are accustomed to sending and receiving emails from the manufacturer, so we felt that an email survey would be more receptive than the traditional mail survey. Kerlinger and Lee (2000) contend that a survey research design is considered appropriate for the following reasons: 1) survey research has an advantage when collecting perceptual data from a large population; 2) survey data are easily quantifiable (and thus amenable to SEM); and 3) survey research allows the use of existing measures developed in previous survey research.

The unit of analysis was the respondent's perception of the logistics service provided and the degree of loyalty a customer has to a manufacturer. The targeted respondents were those individuals directly involved with the maintenance of the relationship with the manufacturer and who would be able to respond to questions regarding elements of logistics service. All of the variables of interest were assessed through the respondents' perceptual evaluations. The subsequent sections detail the survey sample and instrument.

Sample

The sample for the survey was taken from a participating manufacturer's customer base (retailers). A manufacturer was chosen (versus a pure logistics service provider) because as products become more commoditized, firms are differentiating themselves by using logistics service as a competitive advantage (Fuller, O'Connor and Rawlinson 1993). Logistics service is part of the augmented product (Armstrong and Kotler 2003) and this study is designed to capture whether this "augmented" part of the

product influences customer loyalty. For instance, does a retailer keep a product in stock because the manufacturer is easy to do business with, or does the retailer keep a product in stock because it will lose consumers if that particular brand is not in the store? Because one element of the model is calculative commitment, it is important to capture a sample where some customers may do business with the manufacturer because of the product, but still be very unhappy with the service provided. Using a pure logistics service provider would not capture this dynamic, especially since logistics service providers can be switched or terminated without notice as long as there is no interruption in service to the end customer.

Although this sample limits the generalizability of the findings to one industry, the study called for this kind of sample in order to provide insight into the proposition that a firm has different customer loyalty "types," and also to distinguish different customer segments based on their loyalty profiles. Another important aspect of the sample that can be captured by using one firm's customer base is the access to a wide variety of customers. Some may be considered core customers that call for specialized kinds of logistics service, while others are smaller customers that make irregular orders and do not receive "special" treatment. Manufacturers therefore manage a portfolio of various relationships with their customers. Thus, the constructs of interest were all present in varying degrees.

Measure Development

In accordance with the mail survey methodology (Dillman 2000), appropriate measures were necessary to tap latent variables. Some of the theoretical constructs used

existing measures adapted for this research context. New measures were developed for others. The overall methodology for new scale development followed the procedures recommended by Anderson and Gerbing (1991) and Mentzer and Flint (1997). Existing and modified scales followed this procedure as well. The scale development process is outlined below, and this chapter details how it was accomplished.

1. Define the variable using the extant literature and in-depth interviews.
2. Develop items that tap the definition of each variable.
3. Gather data to pretest the scale.
4. Purify the scale (reliability and validity).
5. Collect data.
6. Assess reliability and validity.

Variable definitions were created or refined based on an iterative process consisting of experience and reviews of existing literature and existing scales. The definitions were provided in Table 2.5. The constructs consist of 3-5 items in order to effectively tap the dimensions of the construct and analyze them using structural equation modeling (Anderson and Gerbing 1988). Therefore, 5-7 initial items were developed in anticipation of dropping those that did not contribute to convergent and discriminant validity. The scales used in this study were empirically tested largely using a seven point scale from strongly disagree (1) to strongly agree (7) on the survey.

All of the constructs in the theory have existing measures; however, the literature has called for more research regarding scales for LSQ (Flint, Mentzer and Hult 2003). Therefore, new scales were developed to tap operational LSQ and relational LSQ using data from in-depth interviews. Measures for satisfaction, purchasing behavior, affective

commitment, and calculative commitment were developed from current scales and adapted for this research context. The following sections outline how the existing measures were developed and also how the new measures will be developed.

Existing Measures

Commitment, purchasing behavior, and satisfaction have been widely studied in the literature. Therefore, adapting scales from the current literature was appropriate for this research. Appendix A includes the survey instrument with the measures that have been adapted from existing scales. The final survey instrument will be completed after completing qualitative interviews to create new scales, which is discussed in the next section. In order to increase face validity and determine how well the constructs represent the underlying theory, the initial items were reviewed by 6 subject matter experts (SMEs). SMEs are frequently used by researchers because a review of the measures often provides empirical results that agree with the results that are obtained from a larger sample of field respondents (Maurer and Tross 2000). In addition, SMEs often expose the researcher to new ideas and procedures that would not have been known otherwise (Lee and Mehlenbacher 2000). Based on existing scales and SME feedback, the following sections describe how the constructs will be measured.

Affective Commitment

Loyalty is defined as the strength of the customer's affective commitment toward the seller and the frequency of repeat patronage with the seller. Therefore, this conceptualization manifests itself through the measurement of two constructs, affective

commitment and purchasing behavior. Affective commitment is the strength of emotional attachment and positive feelings that a customer has for a supplier. As firms become increasingly dependent and reliant on each other, they knowingly or unknowingly become increasingly susceptible to strong emotion triggered by partner behaviors (Berscheid, 1983). Further, according to Dick and Basu (1984), it is important to create measures for the affective component of loyalty that are "relative" to other firms. Because loyalty can exist with several firms, it is important to know how the focal firm compares to others. Six questions involved using the Likert scale, and three more used semantic differential scales. The items were adapted from several existing scales, and most of the changes came from making the statements a comparison to other manufacturers. The original scales are identified after each of the statements.

Compared to the logistics service of other firms in the "Y" industry, please indicate your opinion about Manufacturer X.

- Manufacturer X is a more important ally of our firm than other manufacturers *(Kim and Frazier1997).*
- We have developed a closer business relationship with Manufacturer X than other manufacturers *(Kim and Frazier 1997).*
- I really like doing business with Manufacturer X better than other providers *(Caruana 2002).*
- I am willing to put more effort to purchase products from Manufacturer X than other manufacturers *(Daugherty, Stank and Ellinger 1998).*
- Of all the firms in the industry that my firm does business with, maintaining the business with Manufacturer X is more important than it is with the other providers *(Stank et al. 2003).*
- We want to remain a member of the supplier's network because we enjoy our relationship with them *(Kumar et al. 1994).*

How would you characterize your relationship with Manufacturer X compared to other manufacturers? *(Kumar et al .1994).*

- Very low sense of unity 1 2 3 4 5 Very high sense of unity
- Very weak social bond 1 2 3 4 5 Very strong social bond
- Very low commitment 1 2 3 4 5 Very high commitment

Calculative Commitment

Calculative commitment is the extent to which a customer perceives the need to maintain a relationship due to costs associated with leaving. It reflects a rather negative motivation for continuing the relationship (Geyskens et al. 1996) and occurs when a customer perceives the need to maintain a relationship given termination or switching costs associated with leaving (Geyskens et al. 1996; Verhoef, Franses and Hoekstra 2002). It entails the rational component that weighs the benefits associated with continuing the relationship and consists of transaction costs, termination costs, and the number of alternatives. The first five items were adapted from the Kumar et al. (1994) scale, and the last two items were developed from the SME feedback.

Which of the following would discourage you from switching your business from Manufacturer X to another manufacturer?

- The total cost to change suppliers would be too high.
- There is too much effort/difficulty in changing to another supplier.
- Switching to another supplier requires too much time and energy.
- We have too many resources invested in doing business with Manufacturer X.
- There are not enough good alternative providers.

- We would lose too many customers without Manufacturer X products.
- The operating systems are too integrated with Manufacturer X.

Purchasing Behavior

Loyalty is demonstrated by the purchasing pattern over time (Dick and Basu 1994); therefore, purchasing behavior is an essential component of loyalty. It is defined as the likelihood of using a supplier's products or services again in the future and refers to how long the customer has been using the supplier, what the share of supply is and will be compared to other suppliers, and the likelihood of making purchases in the future. Two measures are based on Likert scales, two are semantic differential, and one asks the respondents to estimate what the share of supply is for the manufacturer. These items were also adapted from several existing scales and are identified after each statement.

When evaluating your purchases from Manufacturer X compared to other suppliers in the "Y" industry …

- I consistently purchase Manufacturer X products *(Too, Souchon and Thirkell 2001).*
- I intend to continue doing business with Manufacturer X for the foreseeable future *(Matilla, 2001).*

In estimating the amount of business your firm gives to all manufacturers in the industry, business for the next 3 years will likely*… (Hewett, Money and Sharma, 2002).*

_____ Increase significantly _____ decrease slightly

_____ Increase slightly _____ decrease significantly

_____ not change

In estimating the total amount of business your firm gives to Manufacturer X, business with them for the next 3 years will likely… (*Hewett, Money and Sharma 2002).*

_____ Increase significantly _____ decrease slightly

_____ Increase slightly _____ decrease significantly

_____ not change

In the amount of business that your firm gave to manufacturers in the industry last year, estimate what percent of the business went to Manufacturer X *(Selnes and Gonhaug 2000).*

_____ less than 10% _____ 26 – 50%

_____ 11- 25% _____ more than 50%

Satisfaction

Satisfaction is defined as the cumulative evaluation and overall global judgment based on total purchase and consumption experience with the logistics service over time. The three facets of overall, or cumulative, satisfaction include 1) general affective satisfaction, 2) confirmation of expectations, and 3) the distance from the customer's hypothetical ideal product (Fornell 1992). The first three items were adapted from Leuthesser and Kohli (1995), the next three were adapted from Selnes and Gonhaug (2000), and the last two come from (Garbarino and Johnson 1999).

- We are happy when we get the logistics service promised by Manufacturer X.
- We are delighted with the overall logistics service from Manufacturer X.
- We dislike it when Manufacturer X does not meet our service expectations.

In my evaluation, Manufacturer X…

- Fully provides the logistics services that I expect from them.
- Comes very close to giving my firm "perfect" logistics service.

- Offers no more than the "basic" logistics services.
- Sets itself apart from other manufacturers in the industry because of its superior logistics service.
- Overall, I am very satisfied with Manufacturer X's logistics service.

New Measure Development Procedures

The first step to develop new measures for operational and relational LSQ was to conduct a literature review in order to define the constructs, as Chapter 2 demonstrated. *Operational LSQ* is defined as those activities performed by service providers that contribute to consistent quality, productivity and efficiency, and *relational LSQ* is defined as the activities that bring the firm closer to its customers, in order to understand customers' needs and expectations and have the ability to provide quality services to meet them in an efficient manner. After defining the constructs, the next step was to generate a sample of items that capture their domain. In order to generate such measures, qualitative interviews were conducted with a variety of people, with the goals of developing insight into what the differences are between operational LSQ and relational LSQ, and specifically what kind of relational behaviors are associated with logistics service. To accomplish this, in-depth qualitative interviews were conducted with several of the participating manufacturer's management team, including those in the marketing, supply chain, and sales divisions. The final items to tap the two LSQ constructs are as follows:

Operational LSQ: ***Compared to the logistics service of your other home appliance manufacturers, please indicate your opinion about Whirlpool's logistics activities.***

- Ordering procedures (efficiency and effectiveness of procedures followed by supplier).

- Order lead time (the time from order placement to product delivery).
- Special order lead time (special orders are non-regular orders).
- Order lead time variation (consistency of meeting promised delivery dates).
- Timeliness (product is delivered on or before the requested delivery date).
- Order release quantities (availability and ability to obtain order quantities desired).
- Order accuracy (how closely shipments match customer's orders upon arrival-right order, right number, not substitutions).
- Order condition (lack of damage to orders).
- Order discrepancy handling (how well supplier addresses any discrepancies in orders after the orders arrive).

Relational LSQ: ***Compared to your other home appliance manufacturers, please rate Whirlpool's ability to understand your needs regarding logistics service.***

- Proactively communicates supply issues that may delay your order.
- Cooperates with you to help you make order processing more efficient.
- Makes recommendations for continuous improvement on an ongoing basis.
- Knows your needs well.
- Works to develop relationships with you and your staff.

- Provides customer personnel who are…….
    - Knowledgeable about your business
    - Empathetic to your situation
    - Responsive to problems that arise

Survey Pretest

The next step was to conduct a pre-test of the survey in order to purify the items. The pre-test was conducted with a small random set of the manufacturer's customers. From the customer list that was provided, a random sample of 450 customers were first sent a fax from the participating manufacturer to inform them that they would be receiving an email from a researcher at the University of Tennessee. The fax explained that there would be a request to participate in an online survey, and it also explained the importance of the survey. Approximately 24 to 48 hours after the fax was sent, an email was then sent to these customers asking them to participate in the survey. A link was provided that took the customer directly to the online survey, and the customer would then have the option to take the survey immediately or be sent another email within 24 hours with another link to the survey. If the customers agreed to participate in the survey, they were asked to supply their email addresses so the research team could keep track of which customers participated in the study. Following the Dillman (2000) approach, those that participated were taken off the list, and the other customers were sent two follow up emails asking for participation. Of the 450 emails that were sent, 104 that were returned as "undeliverable." After the second wave of follow-up emails, there were 108 completed surveys. This was an adequate response rate, at 31.2%, so we determined that this same method would be applied in the final study.

The next step in the pre-test was to use confirmatory factor analysis (CFA) to determine how well the scale items represented the constructs. Scale purification included tests for unidimensionality, internal consistency, reliability, and construct validity consisting of convergent validity and discriminant validity following the

procedures described by Garver and Mentzer (1999). The overall fit statistics for the model were also fairly low, with the model initially having a CFI of .735 (over .90 is acceptable) and a RMSEA of .101 (.05 to .08 is in the acceptable range). The analysis also uncovered three items that were highly kurtotic. Three of the purchase behavior items (L37, L38, and L39) all had kurtosis statistics of over 2, which indicates that the respondents were all answering those answering those questions the same way, so there was little variance in the answers.

The next step in CFA was to look at the maximum likelihood estimates, where critical ratios over 1.95 have a P-value of less than .05 and critical ratios greater than 2.58 have a P-value of less than .01. According to the analysis, L23 and L18 (satisfaction) have a critical ratio of -2.196 and 2.490, respectively, which is minimally acceptable. There is one item, L20 (Satisfaction) that has an unacceptable critical ratio of -1.827. Looking at the standardized regression weights, there were some low regression weights in the analysis, also indicating bad items. The items that had regression weights less than .5 were L8 (Operational LSQ), L18, L20, l23 (Satisfaction), and L38 (Purchase behavior). Modification indices also demonstrated problems with item crossloadings. The most significant crossloading problems were L38, L39, L35 (purchase behavior), L18, L20 (satisfaction), L31, L32, L3 (affective commitment) and L16 and L17 (Relational LSQ).

At the end of the pre-test analysis, we realized the survey needed to be revised in order to produce good fit in the final study. The main problem was the purchase behavior construct, so we extensively revised those questions in order to address the kurtosis and crossloading problem. By talking to several customers and also the Whirlpool

management team, we also concluded that using the term "logistics service" might be unfamiliar to these small retailers, so we revised the final survey and called it "order fulfillment service." Table 3.1 demonstrates the scale items for the final survey instrument.

Table 3.1: Dissertation Scale Items

SCALE	ITEM
Operational LSQ	***Compared to the order fulfillment service of your other home appliance manufacturers, please indicate your opinion about Manufacturer X's order fulfillment service to you.***
OP1	Ordering procedures (efficiency and effectiveness of Whirlpool to allow you to ***place*** orders).
OP2	Order discrepancy handling (how well Whirlpool addresses any discrepancies in orders ***after*** the orders arrive).
OP3	Order lead time (the time from order ***placement*** to product ***delivery***).
OP4	Special order lead time (special orders are non-regular orders).
OP5	Order lead time variation (consistency of meeting promised delivery dates).
OP6	Timeliness (product is delivered on or before the requested delivery date).
OP7	Order release quantities (availability and ability to obtain order quantities desired).
OP8	Order accuracy (how closely shipments match your orders upon arrival- right order, right number, not substitutions).
OP9	Order condition (how well Whirlpool delivers the products undamaged).
Relational LSQ	***Compared to your other home appliance manufacturers, Manufacturer X provides customer personnel who……..***
RL1	Try to understand your individual situation.
RL2	Are responsive to problems that arise.
RL3	Work with you to help you make the order fulfillment process more efficient.
RL4	Make recommendations for continuous improvement on an ongoing basis.
RL5	Let you know ***ahead of time*** if your order is going to be delayed.
RL6	Cooperate with you to help you make order processing more efficient.
RL7	Know your needs well.
Satisfaction	***When compared to what I expect…***
SAT1	Fully provides the services that I want from them.
SAT2	Comes close to giving me "perfect" service.
SAT3	Offers service that is barely acceptable.
SAT4	Sets itself apart from other home appliance manufacturers in the industry because of its superior service.
	Typically, whenever I think about Whirlpool Corporation, I feel..
SAT5	Content doing business with Whirlpool.
SAT6	That my decision to do business with Whirlpool was a good one.
SAT7	That being a Whirlpool customer is a wise decision.
SAT8	Very satisfied with Whirlpool's service.
SAT9	Which word best describes your feelings toward Whirlpool?
Affective Commitment	***Compared to the order fulfillment service of your other manufacturers in the home appliance industry, please indicate your opinion about Manufacturer X.***
AC1	I have developed a closer business relationship with Manufacturer X than other home appliance manufacturers.
AC2	I really like doing business with Manufacturer X, better than other home appliance manufacturers.
AC3	I am willing to put in more effort to purchase products from Manufacturer X than other home appliance suppliers.
AC4	Of all the firms in the home appliance industry that my firm does business with, maintaining the business with Whirlpool is ***most important.***
AC5	I want to remain a customer of Manufacturer X more than other home appliance manufacturers because we enjoy our relationship with them.

Table 3.1: Continued

SCALE	ITEM
Affective Commitment	***Compared to your other home appliance manufacturers, how would you characterize the relationship between you and Manufacturer X?***
AC6	Much lower level of cooperation 1 2 3 4 5 6 7 Much higher level of cooperation
AC7	Very weak level of trust 1 2 3 4 5 6 7 Very strong level of trust
AC8	Much lower level of commitment 1 2 3 4 5 6 7 Much higher level of commitment
Purchase Behavior	***When evaluating how much you purchase from Manufacturer X compared to other manufacturers in the home appliance industry …***
PB1	I consistently purchase Whirlpool products ***more regularly*** than other home appliance manufacturers
PB2	I am ***more likely to continue*** doing business with Whirlpool than other home appliance manufacturers.
PB3	I have purchased more Manufacturer X products over the last several years than other home appliance manufacturers' products.
PB4	I consider Manufacturer X my primary home appliance manufacturer.
PB5	Manufacturer X has been my primary manufacturer for the past few years.
PB6	I expect Manufacturer X to be my primary home appliance manufacturer in the future.

CHAPTER 4 – LOGISTICS SERVICE DRIVEN LOYALTY: AN EMPIRICAL APPROACH

This chapter is a lightly revised version of a paper by the same name that will be submitted to the *Journal of Business Logistics*. The authors in this article are Beth R. Davis, John T. Mentzer, and Theodore P. Stank.

My use of "we" in this chapter refers to my co-authors and myself. My primary contributions to this paper include (1) selection of the topic and the development of the preliminary theoretical framework, (2) all of the gathering and interpretation of the relevant literature, (3) all of the data collection, (4) the data analysis, and (5) most of the writing.

Introduction

The business environment has seen significant change since the onslaught of global competition. With increasing homogeneity among products, buyers can select similar products from a number of suppliers. Sellers now may have to differentiate themselves by the quality of their customer service and by the service processes accompanying their products (Daugherty, Stank and Ellinger 1998). For this reason, more firms recognize the strategic importance of logistics capabilities in creating top-line revenue. In order to increase and *maintain* top-line revenue, firms have recognized the significance of creating a loyal customer base. Attaining loyalty from a firm's most profitable customers, however, is becoming increasingly difficult, and firms are still struggling with how to capture it.

Although the strategic significance of loyalty is recognized in academic research and in the popular business press, there remains substantial confusion about how to conceptualize, define, measure, and manage it. Currently, most research measures

loyalty as a global construct that has both emotional and repeat purchasing measurement items, and a small number of studies measure loyalty as a multidimensional, second-order construct. There are several potential problems that should be considered. A first-order scale likely does not capture the significance of either component individually, and there is also a risk of capturing variance from other situational factors. Thus, high purchase intention could result from other factors besides emotion (Dick and Basu 1994). In a second-order construct, all dimensions are given equal weight and treated as if they occur simultaneously. These operationalizations ignore any temporal ordering of the dimensions being tested. Some components are not just correlated with, but dependent on, other components (Mentzer, Flint and Hult 2001). The first objective of this research, therefore, is to extend previous theory by taking a more realistic (and, thus, more complex) view of the loyalty phenomenon, and defining it as the *relationship* between affective commitment (the emotional component) and purchase behavior (the behavioral component).

One loyalty driver for customers is a supplier's commitment to seamless, consistent, and superior quality of service for both the present and the long-term (Kandampully 1998). Using logistics processes to create "customer focused" service quality can enable firms to build lasting distinctiveness with a firm's most important customers (Zhao, Droge and Stank 2001), thereby creating a competitive advantage. Consequently, logistics literature focusing on the ability of firms to build logistics service capabilities to create customer loyalty will be increasingly important. A stream of logistics research has applied marketing tools to explore customers' perceptions of logistics service in order to impact customer satisfaction and retention (Daugherty, Stank

and Ellinger 1998; Stank, Goldsby and Vickery 1999; Stank et al. 2003; Mentzer, Flint and Hult 2001; Mentzer, Kent and Flint 1999).

The results of these studies substantiate the importance of further exploring the impact of logistics service capabilities on customer loyalty, and refining logistics service quality scales and measurement. The second objective of this research, consequently, is to broaden the stream of literature that explores the impact of logistics service on customer loyalty. Unlike the previous research, in this paper we examine the logistics service quality (LSQ)-loyalty phenomenon in a manufacturer-retailer context. Extending the generalizability of the previous findings will further support the relevance of using logistics as a strategic tool to create a competitive advantage.

The final relationship that this research explores is between satisfaction and loyalty. This relationship has been empirically tested for more than 20 years, and the findings have been contradictory and mixed. Most previous research has used fairly simple conceptualizations, examining a positive, linear relationship without further elaboration (Ganesh, Arnold, and Reynolds 2000). There is a stream of research, however, that posits an asymmetric and nonlinear relationship between satisfaction and loyalty, and failing to account for it may lead to inconclusive and contradictory empirical findings (Anderson and Mittal 2000). The final objective of this research is to examine the possibility of this nonlinear connection between satisfaction and the behavioral component of loyalty.

Background and Literature Review

In the review that follows, key aspects of LSQ are identified from the perspectives of the marketing, operations, and logistics. The customer loyalty literature in marketing and leisure sciences is examined, in order to support the rationale for conceptualizing loyalty as a causal relationship between affective commitment and purchase behavior. Finally, the conceptual model and hypotheses are presented.

Logistics Service Quality

Improving customer service is an ongoing focus of logistics research and practice. Lalonde and Zinszer (1976) noted that customer service has been measured by stockout levels, order cycle elements, and system accuracy, which fall into two general categories: inventory capability (completeness, and fill rate), and order cycle time (length and reliability of the order cycle). Later work also included timeliness (Mentzer, Gomes and Krapfel 1989); however, all of these measures can be generated with little participation from the customer. According to Maltz and Maltz (1998), these quantitative measures do not completely explain customer ratings of supplier service levels. In practice, however, many firms are not in direct contact with customers, relying on these internally generated measures of performance to infer customer opinions (Reichheld and Sasser 1990; Reichheld 1996).

While traditional logistics service research focused on "hard" measures to assess customer requirements (e.g., fill rates, on-time delivery, order cycle time), developing "customer focused" logistics service quality (LSQ) means understanding service from *the customer's perspective,* which can enhance service offerings and be a tool for

differentiation (Mentzer, Flint and Hult 2001). Increasingly, suppliers are now trying to understand what their customers want besides availability, timeliness, and reliability (Maltz and Maltz 1998). One critical element that distinguishes the most successful firms is the fact that they externally verify customer perceptions (Jones and Sasser 1995; Reichheld 1996). In the logistics literature, Stank, Goldsby and Vickery (1999) discuss the change from the mass production mentality ("doing things right"), to firms that value customer closeness and are able to provide higher levels of service effectiveness (the ability to "do the right things"). Logistics research has applied marketing tools, specifically those in the service quality literature, to evaluate logistics service using customer perceptions of provider performance rather than relying on providers' self-reported performance indicators (Stank, Goldsby and Vickery 1999).

In marketing, the focus of service performance has been on service quality, or the evaluation of service performance. The definition and measurement of service quality has occupied a prominent position in the services marketing literature. The service quality paradigm started with a qualitative study, where the differences in perceptions of service between managers and consumers were examined (Pararasuraman, Zeithaml and Berry 1985). The authors developed a service quality model that showed several discrepancies ("gaps") between perceptions of customer service by the supplier and the customer. In an effort to empirically examine the gaps, Parasuraman, Zeithaml and Berry (1988) developed a service quality measurement instrument called SERVQUAL for assessing customer expectations and perceptions of service quality in service and retail organizations. For more than two decades, there has been a stream of research addressing the definition, conceptualization and measurement of service quality.

As the logistics discipline evolved to gauge customer perceptions, research began to apply the Parasuraman, Berry, Zeithaml (1988) SERVQUAL scale in a logistics context. One study attempted to apply the scale to motor carrier transportation services; however, the predictive validity of the scale was very low (Brensigner and Lambert 1990). Beinstock, Mentzer and Bird (1997) argued that alternative dimensions should be explored for logistics service because the service provider and the service customer are physically separated and the services are directed at "things" instead of people, so technical or outcome dimensions are necessary for logistics service quality measurement instruments. Subsequent marketing research has also shown that SERVQUAL items must be customized to the specific service environment (Carman, 1990; Finn and Lamb, 1991), and that it takes more than a simple adaptation of the SERVQUAL items to effectively address service quality in different industry contexts (Brown et al.1993).

More recent logistics research has "borrowed" the service quality literature but adapted scales to fit the individual context. For instance, Mentzer, Flint and Hult (2001) developed a LSQ scale with specific logistics service dimensions. They conceptualized LSQ as a process and the scale was based on qualitative research from a large logistics service provider's customer base. According to Maltz and Maltz (1998), logistics service has two aspects. The first is basic logistics service, involving cycle time, on-time delivery, and inventory availability. The second aspect is responsiveness, representing the ability to adapt to market-driven change. Collier (1991) suggests that service consists of two distinct dimensions: an internal or operations-oriented dimension of service quality performance and an external or marketing-oriented dimension. Following this

logic, Stank, Goldsby and Vickery (1999) and Stank et al. (2003) developed a scale to measure both the operational and relational elements of logistics service performance.

Based on the existing literature, the current research also considers LSQ as comprising two components. *Operational LSQ* is defined as **perceptions of logistics activities performed by service providers that contribute to consistent quality, productivity and efficiency.** Also consistent with the literature, *relational LSQ* is defined as the **perceptions of logistics activities that bring the firm closer to its customers, in order to understand customers' needs and expectations and have the ability to provide quality services to meet them in an efficient manner.** In understanding customer's expectations of both the operational and relational elements of logistics service, firms can focus on those elements of service that will make the greatest impact in terms of influencing future behavior.

Customer Loyalty

Because of the growing intensity of competition, marketing strategies have changed from focusing on attracting new customers to focusing on securing and improving customer loyalty (Bruhn and Grund 2000). From a supply chain perspective, there is an increasing emphasis to form collaborative relationships with select trading partners (Bowersox and Daugherty1995), so an important strategic outcome for suppliers in the supply chain is the attainment of customer loyalty. Although there is much research on customer loyalty, it is difficult for companies to implement it because much of it is ambiguous and contradictory. Table 4.1 shows 24 different definitions found in studies exploring loyalty. As the table suggests, loyalty has been defined in terms of

Table 4.1: Definitions of Loyalty

Author	Definition
Biong, 1993	***Loyalty*** expresses the degree to which the retailers want the company as a supplier in the future. It parallels to the continuity measure and could comprise both the favorable attitude and perceived or real lack of alternatives.
Bloemer and Kasper, 1995	**Loyalty *is*** (1) the biased (i.e. non-random), (2) behavioral response (i.e. purchase), (3) expressed over time, (4) by some decision-making unit, (5) with respect to one or more alternative brands out of a set of such brands, which (6) is a function of psychological (decision making, evaluative) processes resulting in brand commitment.
Caruana, 2002	***Service loyalty*** is the degree to which a customer exhibits repeat purchasing behavior from a service provider, possesses a positive attitudinal disposition toward the provider, and considers only using this provider when a need for this service exists.
Dick and Basu (1994)	***Loyalty*** is the strength of the relationship between a customer's relative attitude and repeat patronage.
Ellinger, Daugherty and Plair, 1999; Daugherty, Stank and Ellinger, 1998,	***Loyalty*** is a long-term commitment to repurchase involving both repeated patronage (repurchase intentions) and a favorable attitude (commitment to the relationship).
Estalami, 2000; Bubb and van Rest, 1973	***Loyalty*** is the behavioral tendency of the consumer to repurchase from the firm.
Ganesh, Arnold, and Reynolds, 2000,	***Loyalty*** is a combination of both commitment to the relationship and other overt loyalty behaviors.
Hennig-Thurau, Gwinner and Gremler, 2002,	***Loyalty*** focuses on a customer's repeat purchase behavior that is triggered by a marketer's activities.
Kandampully and Suhartanto, 2000,	A ***loyal customer*** is one who repurchases from the same service provider whenever possible, and who continues to recommend or maintains a positive attitude towards the service provider.
Khatibi, Ismail and Thyagarajan, 2002,	***Loyalty*** refers to the strength of a customer's intent to purchase again goods or services from a supplier with whom they are satisfied.
Jacoby and Kyner, 1973; Maignan, Ferrell and Hult, 1999	***Loyalty*** is the nonrandom tendency displayed by a large number of customers to keep buying products from the same firm over time and to associate positive images with the firm's products.
Mittal and Lassar, 1998	***Loyalty*** is defined as the inclination not to switch.
Neal, 1999 Oliver, 1999; McMullan and Gilmore, 2003	***Loyalty*** is the proportion of times a purchaser chooses the same product or service in a specific category compared to the total number of purchases made by the purchaser in that category, under the condition that other acceptable products or services are conveniently available in that category.

repeat purchasing, a positive attitude, long-term commitment, intention to continue the relationship, expressing positive word-of-mouth, likelihood of not switching, or any combination of these.

While the definitions and measurement scales broadly vary in explaining loyalty, the phenomenon seems to manifest itself in two distinct ways: loyalty intentions and loyalty attitudes (Reynolds and Arnold 2000). What this means, then, is that loyalty encompasses both behavior and emotion. Loyalty as behavior has traditionally focused on a customer's repeat purchase behavior that is triggered by marketing activities (Hennig-Thurau, Gwinner and Gremier 2002). However, the reasoning behind emotional loyalty is that repeat purchases alone do not necessarily indicate true loyalty (Jacoby and Kyner 1973; Dick and Basu 1994; Baloglu 2002). Kandampully (1998) proposes that true, loyal relationships between firms and customers are created by the organization's ability to connect emotionally and forge long-term bonds with customers.

The majority of loyalty research measures the phenomenon as a global construct. Examining loyalty as a single construct, even by including both behavioral and emotional measurement items, however, diminishes the complexity of loyalty in most supply chain relationships. For instance, customers may engage in repeat purchasing, but do so with little emotional attachment. Further, some customers may even be dissatisfied, yet still exhibit repeat purchasing because transaction or switching costs are high (Oliva, Oliver and MacMillan 1992). Likewise, other customers may exhibit emotional attachment, yet do not demonstrate repeat purchasing behavior due to lack of resources or opportunity. The current stream of loyalty literature in logistics does not differentiate between the emotional and behavioral components of loyalty.

Dick and Basu (1994) contend that loyalty is a causal relationship between emotion and behavior. Viewing loyalty as an emotion-behavior relationship allows investigation of the phenomenon from a causal perspective, which leads to greater understanding of the antecedents and consequences of the relationship. This causal relationship allows exploration of *when* contingent factors enhance/decrease loyalty, *how* other underlying processes influence loyalty, and "*so what"* issues addressing the consequences of loyalty (Dick and Basu 1994). Thus, other previously measured dimensions of loyalty such as word-of-mouth and price sensitivity are viewed as outcomes of the loyalty relationship. From the loyalty literature base that conceptualizes loyalty as entailing both behavior and emotion, as well as Dick and Basu's (1994) causal conceptualization, loyalty is defined as **the strength of the relationship between a customer's affective commitment toward the seller and the repeat purchase behavior with the seller.**

Conceptual Model and Hypotheses

Previous research - using third party provider-customer (Stank et. al 2003), distributor-retailer (Stank, Goldsby and Vickery 1999), and manufacturer-distributor (Daugherty, Stank and Ellinger 1998) contexts – all found that logistics service quality impacted customer loyalty. The current model was tested in a manufacturer-retailer context in the consumer durables industry, and the dataset was developed using a segment of the manufacturer's customer base. In this research, the manufacturer's products carry significant brand equity, so if logistics service is significant in creating

loyalty outside of just the brand name, this makes an important statement about the relevance of providing superior logistics service.

The conceptual model is presented in Figure 4.1. The theoretical foundations for the relationships presented are based on the prior review of the literature and are summarized below.

Figure 4.1 portrays Relational LSQ as an antecedent to Operational LSQ. Relational LSQ concerns the customer's perceptions of the supplier's logistics contact personnel. Operational elements include physical features of the service, and consist of the supplier's ability to perform the promised service dependably and accurately (Stank et al. 2003; Stank, Goldsby and Vickery 1999). In Mentzer, Flint and Hult (2001),

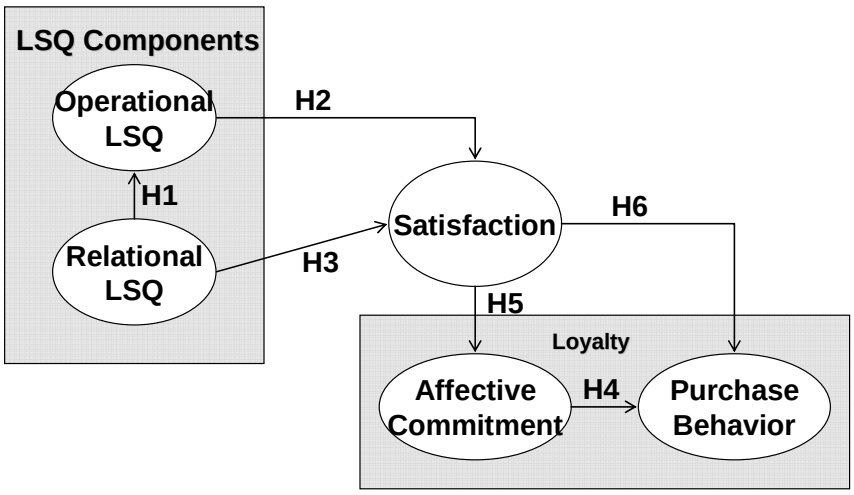


Figure 4.1: Conceptual Model and Hypotheses

the relational component of LSQ was conceptualized as personnel contact quality, which referred to the customer orientation of the supplier's customer service contact people. This included whether the customers perceived the supplier's personnel as knowledgeable, empathized with their situation, and helped them resolve problems. These authors found evidence that personnel contact quality positively affected several of the operational LSQ elements (e.g., timeliness, order accuracy, order condition). This is because there is a significant benefit to establishing customer relationships, allowing the supplier to gain insight about what the customer needs and wants. Then, upon learning of these needs and wants, the supplier can focus on the operational means of meeting them (Stank, Goldsby and Vickery 1999; Stank et al 2003).

H1: Relational LSQ has a positive effect on Operational LSQ.

Figure 4.1 also depicts that operational and relational LSQ positively affect satisfaction. There are many definitions and descriptions of how logistics creates customer satisfaction, and most are tied to the "seven R's" (Mentzer, Flint and Hult 2001) - a firm's ability to deliver the *right* amount of the *right* product at the *right* place at the *right* time in the *right* condition at the *right* price with the *right* information (Coyle, Bardi and Langley 1992; Stock and Lambert 2001). This conceptualization implies that part of the value of a product is created by logistics service, and having all these "rights" in place should influence a customer's overall global judgment of a supplier (Mentzer, Flint and Hult 2001).

The majority of the satisfaction literature advocates that satisfaction is an overall postpurchase evaluation (Fornell 1992), and includes a customer's overall or global judgment regarding the extent to which product or service performance matches

expectations (Anderson and Sullivan 1993). Although it has been measured in numerous ways, there are three facets of overall, or cumulative, satisfaction, including 1) general overall satisfaction, 2) confirmation of expectations, and 3) the distance from the customer's hypothetical ideal product.

Logistics studies have concluded that both operational and relational performance relative to logistics services have significant positive links to customer satisfaction (Daugherty, Stank and Ellinger 1998); however, the findings have been mixed. Stank, Goldsby and Vickery (1999) indicated that the relationship between operational performance and customer satisfaction was statistically significant, leading them to conclude that improvements in operational performance yield higher levels of customer satisfaction. There was only marginal support for the relationship between relational performance and satisfaction. Alternatively, Stank et al. (2003) found that relational performance demonstrates a positive relationship with satisfaction, but operational performance did not have a significant relationship with satisfaction. They concluded that operational performance is an "order qualifier" and not a differentiator in the eyes of customers. Viewing LSQ from a process perspective, Mentzer, Flint and Hult (2001) also found that for different customer segments satisfaction was positively affected by different LSQ dimensions.

Although the findings are mixed, there is evidence to believe that both operational LSQ and relational LSQ influence satisfaction. Therefore,

H2: Operational LSQ has a positive effect on satisfaction.

H3: Relational LSQ has a positive effect on satisfaction.

The next relationship demonstrated in the model is loyalty, already defined as the causal relationship between affective commitment and purchase behavior. A number of researchers have argued that affective commitment best describes the emotional component of loyalty (Mahoney, Madrigal and Howard 2000). In the marketing channels literature, affective commitment expresses the extent to which channel members *like* to maintain their relationship with specific partners (Geyskens et al 1996; Mattila 2004). It represents an attitudinal affective orientation and a general positive feeling toward an exchange partner that is apart from its purely instrumental worth (Ruyter and Wetzels 1999). Research suggests affective commitment is effective for developing and maintaining mutually beneficial relationships between partners (Kumar, Hibbard and Stern 1994). For this research, *affective commitment* is defined as **the strength of emotional attachment and positive feelings that a customer has for a supplier.**

Loyalty is also demonstrated by the purchasing pattern over time (Dick and Basu 1994). It involves the likelihood of using a supplier again in the future (Jones, Mothersbaugh and Beatty 2003), and refers to how long the customer has been using the supplier, what the share of supply is currently and will be in the future compared to other suppliers, and the likelihood of making purchases in the future. Therefore, *purchase behavior* is defined as **the likelihood of using a supplier's products or services again in the future.**

Hansen and Hetn (2004) summarize loyalty by explaining that if a customer's affective commitment is high, it should bring about a wish and motivation to continue the relationship. Since this type of commitment does not include any instrumental cost-benefit evaluations, it is derived from the emotional pleasure associated with the

relationship partner, and the feelings of fondness developed within the relationship. As such, affective committed parties are inclined to maintain the relationship and exhibit repeat purchasing behavior.

H4: Affective commitment has a positive effect on purchasing behavior.

The final part of the conceptual model specifies the relationship between satisfaction and loyalty. Several studies have examined the relationship between satisfaction and affective commitment. Wetzels, Ruyter, Birgelen (1998) found a significant positive relationship between satisfaction and affective commitment and commented that more satisfied customers are more affectively committed to the supplier. Johnson et al (2001) concur, noting that satisfaction affects repurchase intentions largely through the ability to build strong relationships between companies and customers. Bloemer and Kasper (1995) also found a positive relationship and suggest that affective commitment differentiates between true loyalty and spurious loyalty. The most important difference between the two concepts is that true loyalty is based on affective commitment and spurious loyalty is not based on any commitment at all (but may be purchase behavior based upon a lack of alternatives).

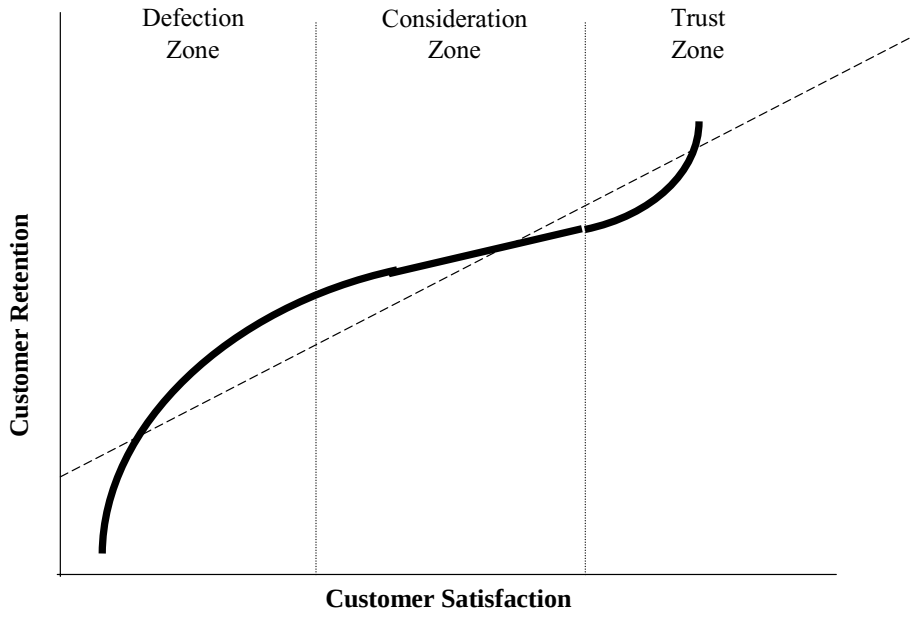
H5: There is a positive relationship between satisfaction and affective commitment.

The final relationship explored in this research is between satisfaction and purchase behavior. The literature pertaining to the relationship between customer satisfaction and the behavioral element of loyalty can be organized in three categories (Homburg and Giering 2001). The first category involves a linear relationship, and this is the most common relationship in most research. Some authors contend, however, that

satisfaction is not a good predictive measure because it is not always correlated with buying behavior (Brown 2000), and that satisfaction only keeps the product or service in the purchaser's consideration set (Neal 1999).

The second category of research examines effects of moderator variables on the relationship between the two constructs (Homburg and Giering 2001). Several studies have explored moderating variables in the satisfaction-purchase behavior relationship, such as customer characteristics (Homberg and Giering 2001), perceived product importance, purchase uncertainty, switching costs, relationship duration (Wangenheim 2003), mood, and value attainment (Ruyter and Bloemer 1999). Oliva, Oliver and MacMillan (1992) found that satisfaction is related to purchase behavior, depending on transaction costs. Correspondingly, Fornell (1992) examined the satisfaction-purchase behavior relationship in 28 different industries and confirmed that satisfaction is much more important in industries where the switching barriers are low.

The final category is studies that support more complex (i.e., nonlinear) structures (Homburg and Giering 2001). Fornell (1992) found an asymmetric relationship and contends that the satisfaction-purchase behavior link is nonlinear because the impact of satisfaction on repurchase intentions is greater at the extremes. Coyne (1989) proposes the relationship between satisfaction and behavior is nonlinear, involving two critical thresholds. As Figure 4.2 demonstrates, when satisfaction rises above a certain threshold, or the trust zone, purchase behavior climbs rapidly. When satisfaction falls below the lower threshold, or the defection zone, purchase behavior declines rapidly. Between thresholds, or the consideration zone, purchase behavior is flat. This implies satisfaction has to be high enough to encourage behavioral loyalty, or low enough to diminish it, and



Adopted from: Anderson and Mittal (2000), "*Strengthening the Satisfaction-Profit-Chain*," Journal of Service Research, Vol.3, (November), pp. 107-120.

Figure 4.2: The Relationship between Satisfaction and Purchase Behavior

failing to account for asymmetric and non-linear relationships may lead to inconclusive and contradictory empirical findings (Anderson and Mittal 2000).

H6: The relationship between satisfaction and purchasing behavior is diatonic, where the relationship is more positive in the Trust Zone and the Defection Zone than in the Consideration Zone.

Research Method

In the sections that follow, the procedures and analyses used to develop and test the scales, the sample design, and the measurement analysis of the model constructs are described.

Scale Development

Development of the measurement scales for each construct in the model proceeded through a series of steps. A review of the relevant literature was first conducted to identify available measures. Since the sampling frame came from a consumer durable manufacturer's customer base, it was critical to adapt the measures to fit the industry context. Based on the measures derived from the literature, interviews with the manufacturer's managers in sales, marketing, and supply chain groups were then used to develop a complete customer survey instrument. The interviews were particularly useful in adapting meaningful measures of operational and relational LSQ to the consumer durables industry context.

Measures for operational and relational LSQ were constructed first in accordance with the existing scales from Stank et al. (2003), Stank, Goldsby and Vickery (1999), and Mentzer, Flint and Hult (2001). These scales were reviewed by the manufacturer's representatives and then adapted to fit the industry context. According to Dick and Basu (1994), it is important to create measures that gauge perceptions "relative" to other firms. Because perceptions are generally anchored to some kind of "standard," this gives the respondents a common point of reference. Therefore, the items were adapted to reflect a comparison to other manufacturers in the consumer durables industry.

Loyalty was conceptualized as the relationship between affective commitment and purchase behavior. Affective commitment has several measurement scales in the literature, and items were adapted from scales from Kim and Frazier (1997), Caruana (2002), Stank et al. (2003), and Kumar et al. (1994). These items consisted of both Likert and semantic differential scales, and were also adapted to comparison statements. The

other component of loyalty, purchase behavior, was also adapted to have comparative items. The measures were gauged to infer whether customers consistently purchased the manufacturer's products, planned to continue making purchases, and considered the manufacturer the customer's "primary" vendor for consumer durables. The measures used for this construct were adapted from Too, Souchon and Thirkell (2001), Matilla (2001) and Caruana (2002).

The only construct that did not have comparative measures to other manufacturers was satisfaction. This construct was considered an overall and cumulative measurement of the customers' perceptions of service. The comparison standard for this construct was how well the manufacturer performed relative to expectations. The items for this scale were adapted from Selnes and Gonhaug (2000) and Garbarino and Johnson (1999).

After adapting the measures, a survey instrument was created and subjected to a pre-test. A random sample of 450 customers from the list supplied by the manufacturer was initially contacted by email to complete the survey. Of the 450 customers, 102 of the emails were undeliverable, and 108 surveys were completed (a response rate of 31%). Analysis of the pre-test resulted in some minor revisions to a few of the items to enhance readability. Another lesson learned in the pre-test was that some customers were exclusive dealers for this manufacturer. Because the exclusive dealers had different customer characteristics, we realized that those "exclusive" customers would have to be removed from the sampling frame in order to diminish any bias in the results.

Before hypothesis testing, we also engaged in scale purification. Following basic descriptive analyses, including examination for coding errors, normality, skewness, kurtosis, means, and standard deviations, we subjected the purification data set to

confirmatory factor analyses (CFA) by means of AMOS 6.0. In these analyses, items were grouped into *a priori* conceptualized scales. Modification indices (i.e., initially any greater than 10), standardized residuals (i.e., greater than 4), and fit statistics (i.e., comparative fit index [CFI], RMSEA, and χ^2 with corresponding degrees of freedom [d.f.] were used to flag potentially problematic items (Anderson and Gerbing 1988; MacCullum 1986).

We then examined these items within the theoretical context of each scale and deleted items on substantive and statistical grounds, if appropriate (Anderson and Gerbing 1988; MacCullum 1986) (described in more detail for the sample included in the "Measurement Analysis" section). Eliminating those items from the initial pool resulted in 25 items to tap the five constructs scales. The refined scales are provided in Table 4.2.

Sample Design

To examine the model, we collected data from the independent retail segment within the consumer durable manufacturer's customer base. Independent retailers are segmented by this manufacturer as having sales with this manufacturer of under $5 million dollars annually, and these customers represent close to 20% of the firm's annual revenues. This segment of the customer base was chosen for two reasons. First, the purpose of this research was to draw perceptions at the retail level, so it was important that someone in the store to have authority over the purchase decisions. Many of the "big-box" and larger national retailers have centralized purchasing, so managers at the store level receive allocation of products, but have no direct authority in the purchasing decisions from the manufacturer. A second reason for choosing this segment

Table 4.2: Scale Items

SCALE	ITEM
Operational LSQ	***Compared to the order fulfillment service of your other home appliance manufacturers, please indicate your opinion about Manufacturer X's order fulfillment service to you.***
OP1	Special order lead time (special orders are non-regular orders).
OP2	Order lead time variation (consistency of meeting promised delivery dates).
OP3	Timeliness (product is delivered on or before the requested delivery date).
OP4	Order release quantities (availability and ability to obtain order quantities desired).
OP5	Order accuracy (how closely shipments match your orders upon arrival- right order, right number, not substitutions).
OP6	Order discrepancy handling (how well Manufacturer X addresses any discrepancies in orders after the orders arrive).
Relational LSQ	***Compared to your other home appliance manufacturers, Manufacturer X provides customer personnel who……..***
RL1	Proactively communicate supply issues that may delay your order.
RL2	Cooperate with you to help you make order processing more efficient.
RL3	Make recommendations for continuous improvement on an ongoing basis.
RL4	Know your needs well.
RL5	Are responsive to problems that arise.
Satisfaction	***When compared to what I expect…***
SAT1	Overall, I am very satisfied with Manufacturer X's service.
SAT2	Fully provides the services that I want from them.
SAT3	Comes close to giving me "perfect" service.
SAT4	Offers service that is barely acceptable.
SAT5	Sets itself apart from other home appliance manufacturers in the industry because of its superior service.
Affective Commitment	***Compared to the order fulfillment service of your other manufacturers in the home appliance industry, please indicate your opinion about Manufacturer X.***
AC1	I have developed a closer business relationship with Manufacturer X than other home appliance manufacturers.
AC2	I really like doing business with Manufacturer X, better than other home appliance manufacturers.
AC3	I am willing to put in more effort to purchase products from Manufacturer X than other home appliance suppliers.
AC4	I want to remain a customer of Manufacturer X more than other home appliance manufacturers because we enjoy our relationship with them.
AC5	***Compared to your other home appliance manufacturers, how would you characterize the relationship between you and Manufacturer X?*** Very weak level of trust 1 2 3 4 5 6 7 Very strong level of trust
Purchase Behavior	***When evaluating how much you purchase from Manufacturer X compared to other manufacturers in the home appliance industry …***
PB1	I have purchased more Manufacturer X products over the last several years than other home appliance manufacturers' products.
PB2	I consider Manufacturer X my primary home appliance manufacturer.
PB3	Manufacturer X has been my primary manufacturer for the past few years.
PB4	I expect Manufacturer X to be my primary home appliance manufacturer in the future.

was because the smaller individual "mom and pop" retail stores are a forgotten segment in most supply chain research. These small retailers are struggling to compete against the corporate giants of today, so they can provide a unique perspective that is often ignored.

The participating manufacturer provided a customer list of 2,502 independent retail accounts. Of these customers, 1,944 had email addresses. Because of the large percentage of email addresses that were available, we chose to develop a web-based survey instead of a mail survey. The remaining 558 customers were contacted via phone and were asked to participate in the survey. Of those we were able to contact by phone, 250 supplied their email addresses and agreed to participate. We received 160 completed surveys from those contacted via phone (response rate = 64%). After accounting for the sample of 450 used in the pre-test, the remaining 1,494 customers were sent an email for the final survey. From the email list, 326 of the emails were returned as undeliverable, and 465 completed surveys were returned (response rate = 39.8%). The customers were asked if they were an exclusive dealer, and those that answered "yes" were removed from this study. The final sample consisted of 396 responses, with 100 from an initial phone contact and the other 296 reached via email, with a response rate of 33.3%. We assessed nonresponse bias by contacting a random sample of 30 nonrespondents from the sample by telephone and asking them to answer five non-demographic questions (Mentzer and Flint 1997). The t-tests of group means revealed no significant differences between respondents and nonrespondents on any of the questions. Thus, nonresponse bias was not considered a problem.

The target respondent in each retail store was the individual that made the purchases from the manufacturer for the store, and who dealt with the manufacturer's

contact personnel directly. The email addresses provided by the manufacturer gave us that information. For those customers that were contacted by phone, we asked to speak to the person that dealt directly with the manufacturer. Table 4.3 demonstrates how the data were segmented by the duration of the relationship, the customers' annual revenues, the percentage of the business that went to this manufacturer, and the respondent contact method.

Measurement Analysis

To confirm construct unidmensionality, validity, and reliability, we evaluated the psychometric properties of the five constructs by using CFA by means of AMOS. Within this analysis, we incorporated both theoretical and statistical consideration in developing

Table 4.3: Sample Demographics

Annual Revenue	
Under $500,000	19.2%
$500,001 - $1 million	28.5%
$1.1 to $2 million	21.8%
$2.1 to $3 million	9.8%
Greater than $3 million	20.7%
Relationship Length	
1 to 5 years	8%
6 to 10 years	14.4%
11 to 15 years	12.1%
16 to 20 years	16.5%
more than 20 years	49.1%
Percentage of Business	
Less than 20%	8.2%
21 – 30%	18.5%
31 – 40%	14.1%
41 - 50%	10.8%
51 – 60%	14.9%
61 – 70%	13.9%
Over 70%	19.5%
Respondent contact method	
Email	74.7% (n=296)
Phone	25.3% (n=100)

the scales (Anderson and Gerbing 1988). As such, our goal was to achieve a high level of scale reliability and validity and ensure that we had measured each theoretical facet of the intended construct. We evaluated the model using the DELTA2 index, RMSEA, and the CFI. These have been shown to be the most stable fit indices by Gerbing and Anderson (1992). The χ^2 statistics with corresponding degrees of freedom are included for comparison purposes (Joreskog and Sorbom 1996). Using these criteria, the analysis resulted in acceptable fit of the data (Table 4.4).

Next, we assessed the reliability of the measures. Within the CFA setting, construct reliability is calculated using the procedures outlined by Gerbing and Anderson (1988). The formula specifies that $(\Sigma\lambda)^2/ [(\Sigma\lambda)^2 + \Sigma(1-\lambda_j^2)]$, where the numerator equals the standardized parameter estimates (λ) between a latent variable and its indicators summed, then the summation is squared. The denominator equals the numerator plus the summed measurement error ($1-\lambda_j^2$) for each indicator. The measurement error is 1 minus the square of the indicator's standardized parameter estimate (Garver and Mentzer 1999). This estimate is very close to coefficient alpha, and acceptable reliability value is .70 or greater. A complementary measure of construct reliability is the average variance extracted measure, where $\Sigma\lambda^2/[\Sigma\lambda^2 + \Sigma(1-\lambda_j^2)]$. This measures the total amount of

Table 4.4: Analysis of Fit Statistics

	Measurement Model	**Structural Model**
CFI	.952	.948
DELTA 2	.953	.948
RMSEA	.066	.069
χ^2	727.3	772.092
d.f.	265	269

variance in the indicators accounted for by the latent variable. An acceptable reliability value for variance extraction is .50 or greater (Garver and Mentzer 1999). As shown in Table 4.5, the five constructs demonstrate sound internal consistency. To assess convergent validity, the research team assessed the overall fit of the measurement model, and the magnitude, direction, and statistical significance of the estimated parameters between latent variables and their indicators (Anderson and Gerbing 1988). We assessed the factor loadings (lambdas) to make sure the items loaded significantly on their designated latent variables (Anderson 1987). The standardized lambda estimates in Table 4.5 present ample evidence for this component of construct validity. The lowest value among the items is .435 (item OP6); however, this item was kept in the analysis for nomological and face validity reasons.

Finally, we estimated discriminant validity in order to verify that items from one scale did not load or converge too closely with items from a different scale (Dabholkar, Thorpe and Rentz 1997). This was particularly critical because several of the constructs were highly correlated. Fornell and Larcker (1981) suggest that a stringent test for discriminant validity is to examine whether the average variance extracted for each construct is greater than the square of the correlation between the constructs. Table 4.6 displays this procedure and provides evidence of discriminate validity between the constructs. As an additional test to ensure the items did discriminate, we used the nested model approach, where comparisons are made between the original measurement model and successive models with correlations (phis) among latent variables fixed to 1. As long as the alternate measurement models fail to demonstrate significantly better fit than the original model, discriminant validity exists (Bagozzi and Yi 1998).

Table 4.5: Results of the Measurement Model Analyses

Construct	Item Loading	Construct Reliability	Variance Extracted
Operational LSQ		0.895683735	0.599028167
OP1	.810		
OP2	.751		
OP3	.877		
OP4	.899		
OP5	.785		
OP6	.435		
Relational LSQ		0.921919049	0.7057356
RL1	.905		
RL2	.927		
RL3	.893		
RL4	.814		
RL5	.633		
Satisfaction		0.91774726	0.6942564
SAT1	.898		
SAT2	.875		
SAT3	.524		
SAT4	.887		
SAT5	.867		
Affective Commitment		0.930502748	0.7290462
AC1	.893		
AC2	.937		
AC3	.843		
AC4	.826		
AC5	.763		
Purchase Behavior		0.968298447	0.88434725
PB1	.919		
PB2	.976		
PB3	.970		
PB4	.886		

Table 4.6: Discriminant Validity Analysis

	Operational LSQ	Relational LSQ	Satisfaction	Affective Commitment	Purchase Behavior
Operational LSQ	**0.5990**				
Relational LSQ	0.25	**0.7057**			
Satisfaction	0.5329	0.5776	**0.6943**		
Affective Commitment	0.2601	0.4761	0.5929	**0.7290**	
Purchase Behavior	0.1444	0.1024	0.2401	0.4761	**0.8843**

**** Fornell and Larker (1981)**

We evaluated one pair of factors at a time, as suggested by Anderson and Gerbing (1988), and found that each alternate model did not demonstrate better fit. Given the overall sound assessment of the measurement model, attention was then directed to the structural model and the hypothesized relationships.

Results and Discussion

The six hypotheses illustrated in Figure 4.1 were tested simultaneously in a structural equation model using AMOS 6.0. The fit statistics offered in Table 4.4 are comparable to those of the measurement model, and demonstrate sound model fit (CFI=.948, DELTA2=.948 and RMSEA=.069). Examination of the hypotheses can proceed given an overall sound assessment of model fit, and the results of the hypothesis tests are provided in Figure 4.3.

The first hypothesis examines the direct influence that relational LSQ has on operational LSQ. The model results indicate a strong confirmation for Hypothesis 1, supporting the contention that as the manufacturer's customer personnel develop working relationships with customers, the manufacturer can learn more about the customers' operational needs, and therefore align processes to meet those needs.

Hypotheses 2 and 3 suggest that both operational and relational LSQ have a positive influence on satisfaction. Although two other studies examined this relationship and found conflicting results (Stank et al. (2003) found support for the relational component and no support for the operational component, and Stank, Goldsby and Vickery (1999) found strong support for the operational component and marginal support for the relational component), this analysis found strong support for the influence of both

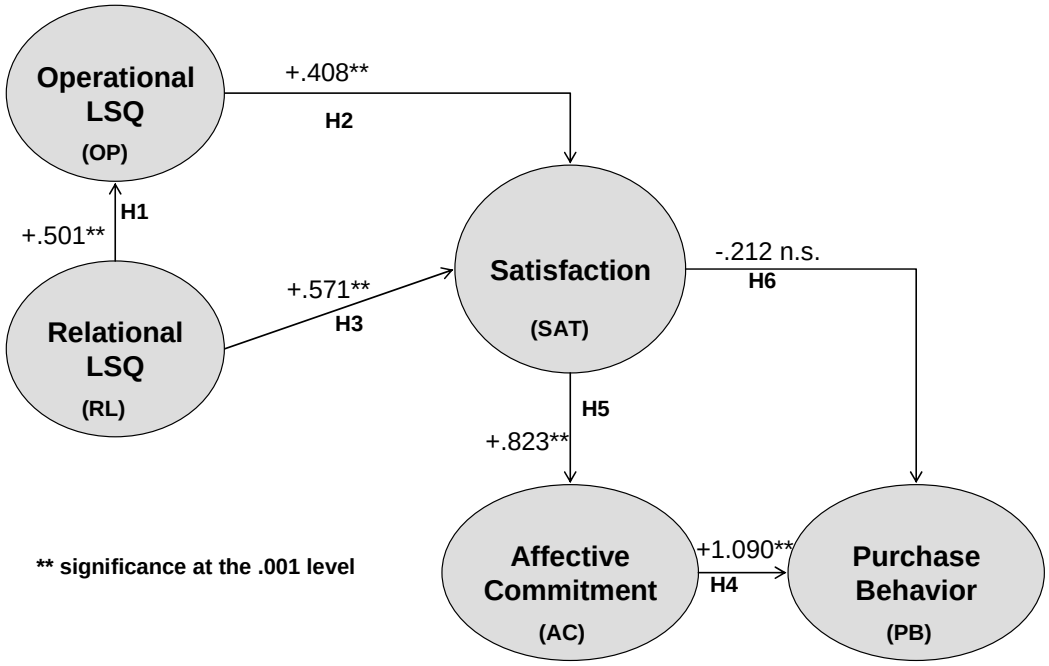


Figure 4.3: Results of Hypotheses Test

relational and operational LSQ on satisfaction. As Stank et al. (2003) suggest, we believe the reason for this result is the industry context. In the interviews with some of the customers and the manufacturer's representatives, respondents explained that both LSQ components are critical to the retailers. These small retailers usually only carry floor models, and when a sale is made to consumers, the retailer gives them a delivery date for the appliance they bought. The retailer then relies on consistent and dependable delivery from the manufacturer in order to keep the final consumer satisfied, making Operational LSQ crucial, but the manufacturer's customer personnel also play a key role for retailers

in terms of receiving orders, communicating delays, and helping with any problems that may arise.

Hypothesis 4 proposes that affective commitment has a positive influence on purchase behavior, and this constitutes loyalty. There was strong support for this hypothesis, so we maintain that loyalty is indeed the strength of the relationship between affective commitment and purchase behavior. This is a significant finding that previous research has not addressed, as this view of loyalty "unbundles" the emotional and behavioral components of loyalty. Additionally, unlike the few studies that look at loyalty multi-dimensionally, this conceptualization infers causation and temporal ordering. This supports the contention that building emotional connections and trust has a significant effect on the customer's future buying behavior.

The last two hypotheses explored the satisfaction-loyalty relationship. We found support for Hypothesis 5, which indicates that satisfaction does have a significant influence on affective commitment. Greater levels of satisfaction engender a stronger emotional attachment to the relationship with the manufacturer. Interestingly, the parameter estimate for this relationship is greater than 1, which normally indicates a problem. However, in this model, this is an over-inflated estimate because of suppression, which will be explained further with the next hypothesis.

The last hypothesis, which predicted a diatonic relationship between satisfaction and purchase behavior, also gave rise to an interesting result. In order to test this relationship, we used structural equation modeling to simultaneously test all of the hypotheses in order to get the R-square value for the satisfaction-purchase behavior relationship. AMOS cannot test a diatonic nonlinear relationship, so we used a

polynomial regression formula in order to add the “curves” in the line demonstrated in Figure 4.2, estimated by $CS^*=\beta 1CS + \beta 2CS^2 + \beta 3CS^3 + \beta 0$. The hypothesis would be supported if the R-square value was significantly higher using this regression formula than with the linear relationship tested in AMOS.

As Figure 4.2 suggests, the results produced a *negative* regression weight estimate (.-.212) in AMOS. Likewise, we also found a non-significant nonlinear relationship when we applied the polynomial regression formula. This surprising finding indicates suppression in the model in the relationship between satisfaction and purchase behavior. Suppression indicates the relationship between two variables (satisfaction and purchase behavior) is hiding the real relationship with another variable (affective commitment and purchase behavior) (Cohen and Cohen 1983). Satisfaction and purchase behavior are positively correlated, but there is a negative path weight between the two. This occurs because this path is “suppressing” another over-inflated path – the "real" relationship is from satisfaction to affective commitment to purchase behavior. To provide further support, we constrained the relationship between satisfaction and purchase behavior, and the constrained model produced better parsimonious fit. Therefore, this is a totally mediated model, and satisfaction affects purchase behavior *through* affective commitment. In other words, satisfaction leads to affective commitment, and this emotional attachment is what influences a customer’s subsequent behavior.

After a review of the literature, we found evidence of a similar relationship in other studies. In a consumer context across several industries in Norway, analysis showed that although satisfaction did influence repurchase behavior, affective commitment had a much more significant influence (Johnson et al. 2001). For business

customers of a telecommunications company, the research results also indicated that while satisfaction influences behavioral intentions, positive affect (positive experiences) is more influential (Selnes and Gonhaug 2000). Finally, in a business-to-business context with customers from a major Dutch office equipment firm, the results were similar to our findings – Wetzels, Ruyter and van Birgelen (1998) ascertained that satisfaction did not directly influence the customers' intention to stay, but did so indirectly through affective commitment, indicating that affective commitment is a mediating variable. The significance of this finding again points to the need to "unbundle" the loyalty components in order to better understand a customer's relationship with a supplier.

Implications and Conclusions

The purpose of this research was to extend the discipline's understanding about how logistics service quality impacts customer loyalty. The results of the empirical test lead to several significant insights. The impact of logistics service performance in creating a competitive advantage through building customer loyalty has not only been supported, but extended to a new context. This new manufacturer-retailer context is now included among a stream of research studies that provides empirical evidence of the strategic role logistics can play in a firm's value-added activities for customers. This research also found a significant and unexpected finding that adds more understanding to the stream of satisfaction-loyalty research. While previous research contended that satisfying customers led to customer loyalty, there is now evidence that supports the existence of a more complex, mediating relationship. Just satisfying customers may not be enough to influence future behavior, but forging emotional bonds and trust in the

relationship stems from first satisfying customers and consequently, positively influences purchase behavior. Finally, this research also extends the discipline's knowledge about how customer loyalty manifests itself in supply chain relationships. These results justify the importance of looking at the emotional and behavioral components of loyalty not only as distinctly different constructs, but as a causal relationship between affective commitment and purchase behavior.

The research implications of this research mainly involve further extension of empirically testing loyalty. Since the research was done in a one industry context with one segment of a manufacturer's customer base, it is important to test the generalizability of these findings to other areas of the supply chain and across other industries. It would also be advantageous to look at other customer types. These customers were small retailers, and the supply chain dynamics are likely very different than other "big box" retailers. It would be interesting to see how the model changes for these bigger, more powerful retailers. For instance, is the importance of building emotional connections with manufacturers as important in a setting where the focus shifts to meeting quarterly earning estimates that drive stock price? It would also be beneficial to build on this research to further explore other factors that may drive both perceptions of logistics service and customer loyalty. For instance, what happens when product criticality differs among customers? How does a customer's price sensitivity affect loyalty? Is there a difference in the model when dependence on the supplier is a factor? Looking at these situations in different contexts will advance our understanding of both the relational and behavioral components that drive supplier-customer relationships in this supply chain era.

This research also highlights the managerial significance of creating logistics capabilities in order to maintain a loyal customer base. Since physical products are bundled with their accompanying services, firms may now have to differentiate their products by the quality of the service processes accompanying those products (Novack, Langley and Rinehart 1995). Because of this, every industry is now potentially a "service" industry (Anderson, Fornell and Lehmann 1995). Understanding the impact of both the operational elements of logistics, as well as the need to provide customer personnel that are knowledgeable and sensitive to understanding the needs of the customer base, can go a long way in differentiating a seemingly similar physical product.

For many years, companies used satisfaction ratings to infer a customer's future purchase intentions. This paper adds to a stream of research that refutes that principle. For these small retailers co-existing with the retail giants, "liking" the relationship was a significant indicator for purchase behavior, and satisfaction only helped to facilitate commitment. While satisfaction is a critical part of maintaining a customer relationship, managers should be concerned with forging those emotional bonds with customers, as it is commitment to the supplier that may be the significant driver of purchase behavior.

Because developing those "committed" relationships, however, can be both time and resource intensive, it is also important for managers to consider which customers or customer segments should be targeted. An important goal for firms is to grow a larger share of the profitable revenue available (Bowersox, Closs and Stank 2000), and maintaining the same level of commitment for all of a firm's customer base may be ineffective from a profit perspective. Managers also need to determine with which

customers it makes the most sense to pursue stronger relationships and develop strategies for managing a portfolio of customer relationships.

CHAPTER 5 – "UNBUNDLING" CUSTOMER LOYALTY: EXPLORING THE RELATIONSHIPS BETWEEN AFFECTIVE COMMITMENT, CALCULATIVE COMMITMENT AND PURCHASE BEHAVIOR

This chapter is a lightly revised version of a paper by the same name that will be submitted to the *Journal of Marketing*. The authors in this article are Beth R. Davis, John T. Mentzer, and Matthew B. Myers.

My use of "we" in this chapter refers to my co-authors and myself. My primary contributions to this paper include (1) selection of the topic and the development of the preliminary theoretical framework, (2) all of the gathering and interpretation of the relevant literature, (3) all of the data collection, (4) the data analysis, and (5) most of the writing.

Introduction

The business environment has seen significant change since the onslaught of global competition. With increasing homogeneity among products, buyers can select similar products from a number of suppliers. For this reason, firms have recognized the significance of creating a loyal customer base. Attaining loyalty from a firm's most profitable customers, however, is becoming increasingly difficult, and firms are still struggling with how to capture it.

Although the strategic significance of loyalty is recognized in academic research and in the popular business press, there remains substantial confusion about how to conceptualize, define, and measure it. While much of marketing research defines loyalty as behavioral intentions (Gustafsson, Johnson and Roos 2005; Johnson, Herrmann and Huber 2006; Neal 1999; Olsen 2002; Selnes 1993; Reynolds and Arnold 2000), repeat purchases or relationship continuance alone do not necessarily indicate "true" loyalty (Jacoby and Kyner 1973; Dick and Basu 1994; Baloglu 2002). For this reason, another

stream of marketing research has empirically tested loyalty as a global construct that has both emotional and behavioral components (Bloemer and Ruyter 1999; Caruana 2002; Pritchard, Havitz and Howard 1999; Too, Souchon and Thirkell 2001).

The first objective of this research is to extend previous theory by taking a more realistic (and, thus, more complex) view of loyalty. We believe that "unbundling" the emotional and behavioral components is important for several reasons. First, a first-order scale likely does not capture the significance of either component individually, and there is also a risk of capturing variance from other situational factors. Therefore, high purchase intention could result from other factors besides emotion (Dick and Basu 1994). Further, a global construct ignores any temporal ordering of the two components being tested, and some components are not just correlated with, but dependent on, other components (Mentzer, Flint and Hult 2001). Finally, the conflicting definitions and simpler conceptualizations of loyalty may have contributed to the contradictory and mixed findings in the satisfaction-loyalty literature (Ganesh, Arnold, and Reynolds 2000). A first-order construct does not capture the effect satisfaction may have on individual loyalty components. Because of these issues, we follow the Dick and Basu (1994) conceptualization and explore loyalty through a causal relationship between affective commitment (the emotional component) and purchase behavior (the behavioral component). We also examine the effect of satisfaction on the two loyalty components.

While affective commitment considers the sense of liking and emotional attachment to the relationship (Wetzels, Ruyter, Birgelen 1998), firms also engage in repeat purchase behavior for more rational, economic reasons. Another objective of this research is to examine the influence of calculative commitment on purchase behavior.

Similar to the work by Gustaffson, Johnson and Roos (2005), we explore the relationships between satisfaction, affective commitment, calculative commitment and purchase behavior.

In order for firms to impact customer loyalty, the resource-based view (RBV) approach finds one source of competitive advantage in a firm's capabilities (Day and Nedungadi 1994). Sellers must create competitive advantage by developing capabilities that offer goods and service mixes in distinct ways to provide customers with convenience, reliability, and support (Fuller, O'Connor and Rawlinson 1993). Customers trust in a seller's ability to consistently deliver the right amount of the right product at the right place at the right time in the right condition (Coyle, Bardi and Langley 1992; Stock and Lambert 1987). Therefore, one powerful source of differentiation is found in a firm's order fulfillment service (Mentzer, Flint and Hult 2001). Order fulfillment service has been posited to align a firm's ability to sense external changes in the market and customer requirements with the internal processes and activities (e.g., manufacturing, procurement, human resource management, etc.) that need to be implemented to ensure superior customer value (Day 1994). Therefore, the final objective of this research is to empirically test the significance of order fulfillment service as a source of differential advantage by gauging its effect on satisfaction, and ultimately, customer loyalty.

Capabilities-Based Competition

As markets become more dynamic, firms have moved from strategies defined by products and markets to those that emphasize the ability to move in and out of products, markets, and businesses quickly in response to changing customer needs and

requirements (Stalk, Evans and Schuler 1997). The ability to provide customer value in this increasingly dynamic environment means a shift in focus to understand the internal processes that enable an organization to capitalize on external changes (Vorhies, Harker and Rao 1999). Capabilities, then, are the complex bundles of skills and accumulated knowledge, exercised through organizational processes, which enable firms to make use of their assets (Day 1994). The idea of capabilities-based competition stems from integrating a company's key processes into strategic capabilities that consistently provide superior value to the customer (Stalk, Evans and Schuler 1997).

While firms seek to provide customer value, customers seek a seller's commitment to a seamless, consistent and superior quality of service for both the present and the long-term (Kandampully 1998). As Fuller, O'Connor and Rawlinson (1993) point out, quality, price, robust designs, and conformance to customer specifications is "just the price of admission" (p. 88). Customers put emphasis on the ease of doing business, delivery dependability, and responsiveness to a product request. A product's services put an envelope around the product, and successful firms "push the envelope" (p. 88). Focusing on those processes to ensure an order fulfillment capability can serve as a significant part of the product "envelope" that can become a powerful source of competitive differentiation (Mentzer, Flint and Hult 2001). Day (1994) notes that order fulfillment capability is often obscured from top management view because it links activities that take place routinely inside the firm. Additionally, order fulfillment can be beneficial because it is categorized as a spanning capability that, when utilized in a strategic manner, has a wealth of connections to other processes.

Order fulfillment service can be positioned as a capability only if it offers significant benefits that are perceived and valued by customers (Day and Wensley 1988), so it is essential to gain the customer's perspective to determine whether order fulfillment is providing customer value outcomes (i.e., satisfaction and loyalty). One critical element that distinguishes the most successful firms is that they externally verify customer perceptions (Jones and Sasser 1995; Reichheld 1996). While traditional order fulfillment service research focused on "hard" measures to assess customer requirements (e.g., fill rates, on-time delivery, order cycle time), more recent order fulfillment research has applied marketing tools to evaluate customer perceptions of seller performance (Mentzer, Flint and Hult 2001; Stank, Goldsby and Vickery 1999).

This stream of research used the service quality paradigm and the SERVQUAL scale (Parasuraman, Berry, Zeithaml 1988) to measure customer perceptions of service; however, there was eventually a move to using alternate dimensions when measuring order fulfillment service. From the marketing literature, Beinstock, Mentzer and Bird (1997) argued that alternative dimensions of order fulfillment service should be explored because (1) the service provider and the customer are physically separated and (2) the services are directed at "things" instead of people, so technical or outcome dimensions are necessary for order fulfillment scales. They developed a scale that measured perceptions of physical distribution service quality (PDSQ) based on an earlier conceptual model that included timeliness, availability and condition (Mentzer, Gomes and Krapfel 1989). In an effort to measure perceptions of order fulfillment (referred to as logistics service quality), Mentzer, Flint and Hult (2001) developed a scale based on the

conceptualization that order fulfillment is a process that has different effects on a firm's customer segments.

Drawing from previous research that explored customer perceptions of order fulfillment service (Maltz and Maltz 1998; Mentzer, Flint and Hult 2001; Stank, Goldsby and Vickery 1999; Stank et al. 2003), there are two critical elements for developing the order fulfillment capability. Collier (1991) suggests that any kind of service consists of two distinct dimensions: an internal or operations-oriented dimension and an external or marketing-oriented dimension. Successful firms perform well on both elements, i.e., they understand customers' needs and expectations and have the ability to provide quality services to meet them in an efficient manner (Schlesinger and Heskett 1991). Therefore, the operations oriented dimension is *operational order fulfillment service*, defined as the customer's **perceptions of the operational activities performed that contribute to consistent quality, productivity and efficiency.** Operational elements include physical features of the service and perceptions of reliability, i.e., the ability to perform the promised service dependably and accurately (Stank et al. 2003; Stank, Goldsby and Vickery 1999).

The second element of the order fulfillment capability involves customer perceptions of a seller's order fulfillment contact people (Mentzer, Flint and Hult 2001). Perceptions of service are tied more to the entire service process, which involves personnel contact, than the resulting service outcome (Surprenant and Solomon 1987). Specifically, customers care about whether customer service personnel are knowledgeable, empathize with their situation, and help them resolve their problems (Bitner 1990; Bitner, Booms, and Mohr 1994; Grönroos 1982; Mentzer, Flint and Hult

2001; Parasuraman, Zeitbaml, and Berry 1985). Therefore, as opposed to the operational element, *relational order fulfillment service* is the contact personnel component of the order fulfillment capability, defined as **the customer's perceptions of the seller's contact personnel that bring the firm closer to its customers, in order to understand the customer's needs and expectations.**

Customer Value Outcomes

Success in the marketplace depends on transforming business processes into capabilities that consistently provide superior customer value (Stalk, Evans and Schuler 1997). Because capabilities are also difficult for competitors to copy (Day and Wensley 1988), these customer value "outcomes" should manifest themselves through customer satisfaction and commitment that influence purchase behavior.

Satisfaction

Satisfaction has been conceptualized, measured, and tested for over twenty years in marketing research. Although satisfaction has been described by some as transactional in nature (Oliver 1993), a more dominant view proposes that satisfaction should be viewed as a judgment based on the cumulative experience made with a certain product or service rather than a transaction-specific phenomenon (Anderson, Fornell and Lehmann, 1994). Consistent with the notion that satisfaction is an attitude, cumulative satisfaction is the more economic, psychology-based general perception of the company's overall performance (Rust, Zahorik and Keiningham 1995). This approach to satisfaction has grown and gained acceptance over the last decade (Johnson et al. 2001). Thaibaut and

Kelly (1959) suggest that satisfaction judgments are nothing else but the accumulated prior experiences in the relationship – a proposition that is consistent with the cumulative rather than transactional view on customer satisfaction (Wangenheim 2003). Similarly, Westbrook (1981) proposes that satisfaction is a cumulative, attitude-like construct . This conceptualization is appropriate because some researchers have found that it is cumulative satisfaction that correlates with customer retention (Fornell 1992; Reichheld and Sasser 1990).

"Cumulative" satisfaction has also been used interchangeably with "overall" satisfaction. According to Garbarino and Johnson (1999), cumulative satisfaction is an overall evaluation of the total purchase and consumption experience over time (Anderson, Fornell and Lehmann 1994). Additionally, Fornell (1992) suggests that the majority of the satisfaction literature advocates that satisfaction is an overall postpurchase evaluation. Anderson and Sullivan (1993) also agree that satisfaction is a customer's overall or global judgment regarding the extent to which product or service performance matches expectations. Although it has been measured in numerous ways, the previous discussion highlights that satisfaction is the result of a cognitive evaluation based on total purchase experience over time, based on 1) general satisfaction, 2) confirmation of expectations, and 3) the distance from the customer's hypothetical ideal product.

Commitment

A topic that has been widely researched in the marketing literature is commitment. "Commitment … is of extreme importance in the relational exchange paradigm" (Kim and Oh 2002). The notion of commitment has been an important aspect

of studies on customer relationships (e.g., Gundlach, Achrol and Mentzer 1995). Like satisfaction, it has been conceptualized in numerous ways with various measures. The most generalizable of these definitions, however, is proposed by Meyer and Herscovitch (2001). On the basis of a review of existing definitions, they suggest that commitment can be defined as "a force [mind set] that binds an individual to a course of action of relevance to one or more targets" (p. 301). They argue that the "core essence" of commitment should be the same regardless of the target of that commitment.

Much of the research on commitment in marketing exchanges draws from the organizational behavior literature base, largely based on the work of Meyer and Allen (1991). In the marketing literature, affective and calculative commitment are the most relevant for researching buyer-seller relationships (Geyskens et al 1996). In this stream of literature, commitment entails an affective dimension that refers to the degree to which there is a favorable psychological bond (Gruen et al 2000), and a calculative dimension that is associated with costs and current and future benefits (Gilliland and Bello 2002). According to Geyskens et al. (1996), both are relatively stable states but arise from different motivations for maintaining the relationship.

Affective commitment expresses the extent to which channel members *like* to maintain their relationship with specific partners (Geyskens et al 1996; Mattila 2004). It represents an attitudinal affective orientation towards and a general positive feeling toward an exchange partner that is apart from its purely instrumental worth (Ruyter and Wetzels 1999). Based on a sense of liking and emotional attachment to the partnership (Wetzels, Ruyter, Birgelen 1998), affective commitment serves as a psychological barrier to switching (Johnson et al 2001). In the case of measurement, affective commitment

captures the affective strength of the relationship that customers have with a brand or company (Johnson et al 2001). Therefore, *affective commitment* is defined as the **strength of emotional attachment and positive feelings that a customer has for a seller**.

Becker (1960) looked at organizational commitment using side-bet theory and focused on the accumulated investments an individual stands to lose if he/she leaves the organization. From this theoretical base, calculative commitment results from more rational and economical aspects (Johnson et al 2001), including a "cold" calculation of costs and benefits, and an assessment of the investments made in the relationship and the availability of alternatives to replace or make up for the foregone investments (Geyskens et al. 1996). This form stems from a cognitive evaluation of the instrumental worth of a continued relationship with the organization (Wetzels, Ruyter and Birgelen 1998). It measures the degree to which channel members experience the need to maintain a relationship (Geyskens et al 1996) and includes the degree to which customers are "held hostage" to a particular company (Johnson et al 2001). *Calculative commitment*, then, is the **extent to which a customer perceives the need to maintain a relationship due to costs associated with leaving.** In summary, customers with strong affective commitment remain because they *want* to, while those with strong calculative commitment remain because they *need* to (Ruyter and Semeijn 2002).

Loyalty

Because of the growing intensity of competition, marketing strategies have changed from focusing on attracting new customers to securing and improving customer

loyalty (Bruhn and Grund 2000). Although there is much research on customer loyalty, it is difficult for companies to implement because much of it is ambiguous and contradictory. One loyalty component, based on continuance, includes past use (Estalami 2000; Olsen 2002; Pritchard, Havitz and Howard 1999; Too, Souchon and Thirkell 2001), share of supply (Baloglu 2002; Selnes and Gonhaug 2000), future intentions (Biong 1993, Bloemer and Ruyter 1999; Devaraj, Matta and Conlon 2001; Caruana 2002; Garbarino and Johnson 1999; Matilla 2001; Ruyter and Bloemer 1999; Ruyter, Moorman, Lemmink 2001; Selnes and Gonhaug 2000; Selnes 1993; Wetzels, Ruyter and van Birgelen 1998), or the inclination not to switch (Mittal and Lassar 1998; Baloglu 2002; Caruana 2002; Hennig-Thurau, Gwinner and Gremler 2002; Zeithaml, Berry and Parasuraman 1996). Other loyalty components include word-of-mouth (Bruhn and Grund 2000; Caruana 2002; Ganesh, Arnold, and Reynolds 2000; Matilla 2001; Ruyter and Bloemer 1999; Selnes 1993; Selnes and Hansen 2001; Too, Souchon and Thirkell 2001; Verhoef, Franses and Hoekstra 2002; Zeithaml, Berry and Parasuraman 1996), price sensitivity (Ganesh, Arnold and Reynolds 2000; Too, Souchon and Thirkell 2001; Verhoef, Franses and Hoekstra 2002; Zeithaml, Berry and Parasuraman 1996), and positive attitude or attachment (Bloemer and Ruyter 1999, Baloglu 2002; Caruana 2002; Hennig-Thurau, Gwinner and Gremler 2002; Matilla 2001; Oliva, Oliver and MacMillan 1992; Pritchard, Havitz and Howard 1999; Ruyter and Bloemer 1999).

While the definitions and measurement scales abound in explaining loyalty, the phenomenon seems to manifest itself in two distinct ways: loyalty intentions and loyalty attitudes (Reynolds and Arnold 2000). What this means, then, is that loyalty encompasses both behavior and emotion. Loyalty as behavior has traditionally focused

on a customer's repeat purchase behavior that is triggered by marketing activities (Hennig-Thurau, Gwinner and Gremier 2002). However, another view proposes that loyal relationships between firms and customers are created by the organization's ability to connect emotionally and forge long-term bonds with customers (Kandampully 1998). The majority of loyalty research measures the phenomenon as a global construct.

Examining loyalty as a single construct, even by including both behavioral and emotional measurement items, however, diminishes the complexity of loyalty in most buyer-seller relationships. For instance, customers may engage in repeat purchasing, but do so with little emotional attachment. Further, some customers may even be dissatisfied, yet still exhibit repeat purchasing because transaction or switching costs are high (Oliva, Oliver and MacMillan 1992). Likewise, other customers may exhibit emotional attachment, yet do not demonstrate repeat purchasing behavior due to lack of resources or opportunity. Dick and Basu (1994) contend that loyalty is a causal relationship between emotion and behavior. Viewing loyalty as an emotion-behavior relationship allows investigation of the phenomenon from a causal perspective, which leads to greater understanding of the antecedents and consequences of the relationship. This causal relationship allows exploration of *when* contingent factors enhance/decrease loyalty, *how* other underlying processes influence loyalty, and "*so what"* issues addressing the consequences of loyalty (Dick and Basu 1994). Thus, other previously measured dimensions of loyalty such as word-of-mouth and price sensitivity are viewed as outcomes of the loyalty relationship. From the loyalty literature base that conceptualizes loyalty as entailing both behavior and emotion, as well as the base of commitment literature, *loyalty* is defined as **the strength of the relationship between a**

customer's affective commitment toward the seller and the repeat purchase behavior with the seller.

Hypothesized Relationships

While a previous empirical study used regression modeling to predict the effects of satisfaction, affective commitment, and calculative commitment on customer retention (Gustaffson, Johnson and Roos 2005), this study extends the research in a number of ways. First, we offer a theoretical model that explores antecedents that indirectly drive purchase behavior; specifically, perceptions of order fulfillment service and personnel contact quality. Because we are proposing a theoretical model, we used structural equation modeling to simultaneously test hypotheses among the latent variables (Hoyle 1995). We also took an alternative view of purchase behavior by looking at *perceptions* of purchase behavior, rather than using regression modeling to *predict* customer retention. Finally, as opposed to a consumer context in an industry where switching costs are minimal, we broaden understanding of these relationships to a business-to-business context. We explore these relationships with retail customers in the consumer durables industry, which is a relatively stable industry where retailers have fewer alternatives.

The conceptual model is presented in Figure 5.1. The theoretical foundations for the relationships presented are based on the prior review of the literature and are summarized below.

The relational elements concern the customer's perceptions of the supplier's contact personnel, while the operational elements consist of the customer's perceptions of the supplier's ability to perform the promised service dependably and accurately (Stank et

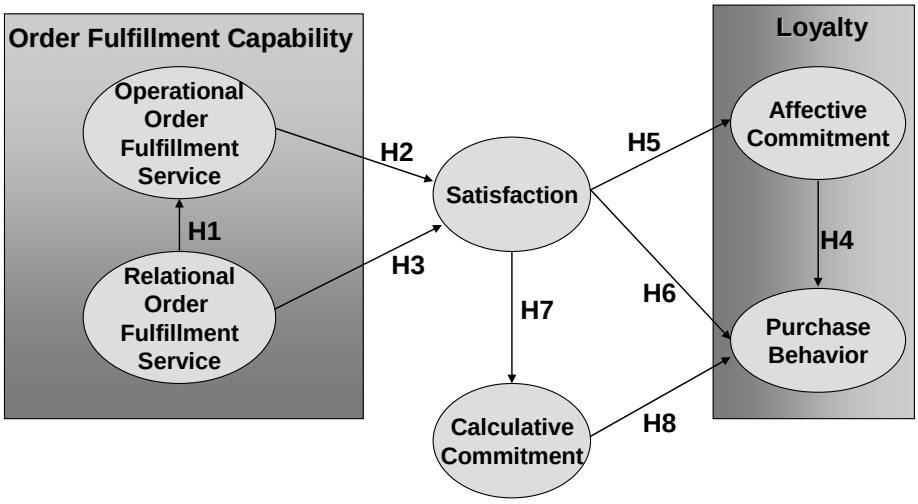


Figure 5.1: Conceptual Model and Hypotheses

al. 2003; Stank, Goldsby and Vickery 1999). In the Mentzer, Flint and Hult (2001) study, the relational component of order fulfillment was conceptualized as personnel contact quality, and these authors found evidence that it positively affected several of the operational elements (e.g., timeliness, order accuracy, order condition). This is because there is a significant benefit to establishing customer relationships, allowing the supplier to gain insight about what the customer needs and wants. Then, upon learning of these needs and wants, the supplier can focus on the operational means of meeting them (Stank, Goldsby and Vickery 1999; Stank et al 2003).

H1: Relational order fulfillment service has a positive effect on operational order fulfillment service.

There are many definitions and descriptions of how order fulfillment creates customer satisfaction, and most are tied to the "seven R's" (Mentzer, Flint and Hult 2001) - a firm's ability to deliver the *right* amount of the *right* product at the *right* place at the *right* time in the *right* condition at the *right* price with the *right* information (Coyle, Bardi and Langley 1992; Stock and Lambert 2001). This conceptualization implies that part of the value of a product is created by order fulfillment service, and having all these "rights" in place should influence a customer's overall judgment of a supplier (Mentzer, Flint and Hult 2001).

Previous research has found evidence that operational and relational perceptions relative to order fulfillment service have significant positive links to customer satisfaction (Daugherty, Stank and Ellinger 1998). Stank, Goldsby and Vickery (1999) found that the relationship between operational performance and customer satisfaction was significant, and Stank et al. (2003) found that relational performance demonstrates a positive relationship with satisfaction. Viewing order fulfillment from a process perspective, Mentzer, Flint and Hult (2001) also found that for different customer segments, satisfaction was positively affected by different order fulfillment dimensions.

H2: Operational order fulfillment service has a positive effect on satisfaction.

H3: Relational order fulfillment service has a positive effect on satisfaction.

The next relationship demonstrated in Figure 5.1 is loyalty, already defined as the causal relationship between affective commitment and purchase behavior. In their behavior, customers may appear to be loyal because they purchase and repurchase the

same product. However, their underlying motives or antecedents of behavior may be quite different (Bloemer 1988). A number of researchers have argued that the affective dimension of commitment best describes the emotional component of loyalty (Mahoney, Madrigal and Howard 2000). Jacoby and Chestnut (1978) say that commitment provides the essential basis for distinguishing between brand loyalty and other forms of purchasing behavior, and this causal relationship differentiates those customers.

The leisure science literature makes this causal connection by researching loyalty to sports teams, sports, and recreational places and activities. In this stream of research, Iwasaki and Havitz (1998) suggest that research on loyalty should move from a focus on conceptualizing the topic to better understanding how loyalty develops and what influences such development. Further, this research contends that loyalty is reflected in commitment and behavioral consistency (Iwasaki and Havitz 1998; Iwasaki and Havitz 2004; James 2001; Pritchard, Havitz and Howard 1999). The contribution in this research stream (Mahoney, Madrigal and Howard 2000; Baloglu 2002; Backman and Crompton 1991b) is to demonstrate that the traditional all-or-none portrayal of loyalty as a simple dichotomy between loyal and non-loyal consumers is too narrow.

Marketing research has also empirically examined the relationship between commitment and loyalty. In studies with business samples, two studies found that affective commitment and trust in benevolence strongly influence the intention to continue the relationship (Wetzels, Ruyter and van Birgelen 1998; Ruyter, Moorman and Lemmink 2001). In a consumer setting, Garbarino and Johnson (1999) concluded that commitment plays different roles in the prediction of the future intentions for high and low relational customers. Verhoef, Franses and Hoekstra (2002) established a link

between affective commitment and customer referrals, and Johnson et al (2001) used the Norwegian Customer Satisfaction Barometer (NCSB) to conclude that affective commitment has a large positive effect on behavioral intentions.

Hansen and Hetn (2004) summarize loyalty by explaining that if a customer's affective commitment is high, it should bring about a wish and motivation to continue purchasing. Since this type of commitment does not include any instrumental cost-benefit evaluations, it is derived from the emotional pleasure associated with the relationship partner, and the feelings of fondness developed within the relationship. As such, affective committed parties are inclined to maintain the relationship and exhibit repeat purchasing behavior.

H4: Affective commitment has a positive effect on purchase behavior.

Wetzels, Ruyter, Birgelen (1998) found a significant positive relationship between satisfaction and affective commitment and commented that more satisfied customers are more affectively committed to the supplier. Johnson et al (2001) concur, noting that satisfaction influences the ability to build strong relationships between buyers and sellers. Bloemer and Kasper (1995) also found a positive relationship and suggest that affective commitment differentiates between true loyalty and spurious loyalty. The most important difference between these two loyalty concepts is that true loyalty is based on affective commitment and spurious loyalty is not based on any commitment at all (but may be purchase behavior based upon a lack of alternatives).

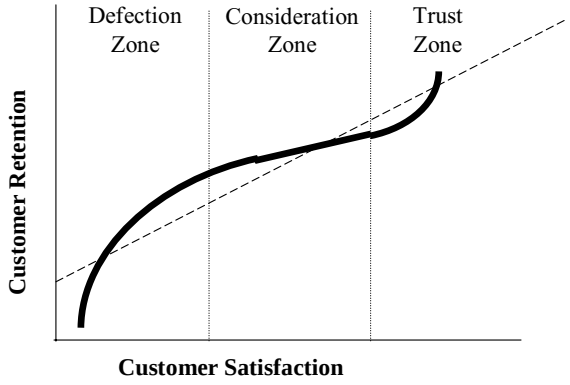
H5: Satisfaction has a positive effect on affective commitment.

The literature pertaining to the relationship between customer satisfaction and the behavioral element of loyalty can be organized in three categories (Homburg and Giering

2001). The first involves a linear relationship, and this is the most common relationship in most research. Some authors contend, however, that satisfaction is not a good predictive measure because it is not always correlated with buying behavior (Brown 2000), and that satisfaction only keeps the product or service in the purchaser's consideration set (Neal 1999).

The second category of research examines effects of moderator variables on the relationship between the two constructs (Homburg and Giering 2001). Several studies have explored moderating variables in the satisfaction-purchase behavior relationship, such as customer characteristics (Homberg and Giering 2001), perceived product importance, purchase uncertainty, switching costs, relationship duration (Wangenheim 2003), mood, and value attainment (Ruyter and Bloemer 1999). Oliva, Oliver and MacMillan (1992) found that satisfaction is related to purchase behavior, depending on transaction costs. Correspondingly, Fornell (1992) examined the satisfaction-purchase behavior relationship in 28 different industries and confirmed that satisfaction is much more important in industries where the switching barriers are low.

The final category is studies that support more complex (i.e., nonlinear) structures (Homburg and Giering 2001). Fornell (1992) found an asymmetric relationship and contends that the satisfaction-purchase behavior link is nonlinear because the impact of satisfaction on repurchase intentions is greater at the extremes. Coyne (1989) proposed the relationship between satisfaction and behavior is nonlinear, involving two critical thresholds. As Figure 5.2 demonstrates [adopted from Anderson and Mittal (2000)], when satisfaction rises above a certain threshold, or the trust zone, purchase behavior climbs rapidly. When satisfaction falls below the lower threshold, or the defection zone,



Adopted from: Anderson and Mittal (2000), "*Strengthening the Satisfaction-Profit-Chain*," Journal of Service Research, Vol.3, (November), pp. 107-120.

Figure 5.2 Satisfaction-Purchase Behavior Relationship

purchase behavior declines rapidly. Between thresholds, or the consideration zone, purchase behavior is flat. This implies satisfaction has to be high enough to encourage behavioral loyalty, or low enough to diminish it, and failing to account for asymmetric and non-linear relationships may lead to inconclusive and contradictory empirical findings (Anderson and Mittal 2000).

H6: The relationship between satisfaction and purchasing behavior is diatonic, where the relationship is more positive in the Trust Zone and the Defection Zone than in the Consideration Zone.

While current marketing research assumes that customers with a large degree of affective commitment will continue to purchase from a seller, there are also "calculative" reasons for purchase behavior. Customer loyalty assumes a commitment to the seller

because of an attachment and *desire* to continue purchasing; however, early industrial buying behavior research assumed that all buying decisions were economically rational choice processes (Wilson 1971). Although calculative commitment also motivates a buyer to continue purchasing, it arises from a different incentive to maintain the relationship (Geyskens et al. 1996). This view of commitment is more behavioral than affective, and stems from a cognitive evaluation of the instrumental worth of a continued relationship (Wetzels, Ruyter and Birgelen 1998).

Some research assumes that calculative commitment reflects a rather negative motivation for continuing the relationship (Geyskens et al. 1996). However, customers may also maintain the relationship because of the benefits derived (Andaleeb 1996), or because the customer cannot obtain the same resources or outcomes without the current seller (Ruyter, Moorman and Lemmink 2001). The "need" to continue purchasing or sustain the relationship may derive from the satisfaction with some aspect of a seller's product or services. Since capabilities are hard for competitors to copy (Stalk, Evans and Shulman 1992), customers may come to the very rational conclusion that there are no better alternatives, and the cost and effort to change to another seller is too high because of the overall satisfaction derived by the order fulfillment services received. Although there is very little empirical research that has addressed this relationship, Wetzels, Ruyter and Birgelen (1998) found a significant relationship between satisfaction and calculative commitment and also between calculative commitment and intention to stay in the relationship in an industrial service context between an office equipment manufacturer and its industrial customers. Calculative commitment, then, is another driver that influences purchase behavior.

H7: Satisfaction has a positive effect on calculative commitment.

H8: Calculative commitment has a positive effect on purchase behavior.

Research Method

Sample Design

To examine the model, we collected data from the independent retail segment within a consumer durable manufacturer's customer base. Independent retailers are segmented by this manufacturer as having sales with this manufacturer of under $5 million dollars annually, and these customers represent close to 20% of the firm's annual revenues. This segment of the customer base was chosen because it was important that someone in the store have authority over the purchase decisions. Many of the "big-box" and larger national retailers have centralized purchasing, so managers at the store level receive allocation of products, but have no direct authority in the purchasing decisions from the manufacturer.

The participating manufacturer provided a customer list of 2,205 independent retail accounts. Of these customers, 1,944 had email addresses. Because of the large percentage of email addresses that were available, we chose to develop a web-based survey instead of a mail survey. The remaining 558 customers were contacted via phone and were asked to participate in the survey. Of those we were able to contact by phone, 250 supplied their email addresses and agreed to participate. We received 160 completed surveys from those contacted via phone (response rate = 64%). After accounting for the sample of 450 used in the pre-test, the remaining 1,494 customers were sent an email for the final survey. From the email list, 326 of the emails were returned as undeliverable,

and 465 completed surveys were returned (response rate = 39.8%). The customers were asked if they were an exclusive dealer, and those that answered "yes" were removed from this study. The final sample consisted of 396 responses, with 100 from an initial phone contact and the other 296 reached via email, with a response rate of 33.3%. We assessed nonresponse bias by contacting a random sample of 30 nonrespondents from the sample by telephone and asking them to answer five non-demographic questions (Mentzer and Flint 1997). The t-tests of group means revealed no significant differences between respondents and nonrespondents on any of the questions. Thus, nonresponse bias was not considered a problem.

The target respondent in each retail store was the individual that made the purchases from the manufacturer for the store, and who dealt with the manufacturer's contact personnel directly. The email addresses provided by the manufacturer gave us that information. For those customers that were contacted by phone, we asked to speak to the person that dealt directly with the manufacturer. Table 5.1 demonstrates how the data were segmented by the duration of the relationship, the customers' annual revenues, the percentage of the business that went to this manufacturer, and the respondent contact method.

Scale Development

Development of the measurement scales for each construct in the model proceeded through a series of steps. A review of the relevant literature was first conducted to identify available measures. Since the sampling frame came from a consumer durable manufacturer's customer base, it was critical to adapt the measures to

Table 5.1: Demographics

Annual Revenue	
Under $500,000	19.2%
$500,001 - $1 million	28.5%
$1.1 to $2 million	21.8%
$2.1 to $3 million	9.8%
Greater than $3 million	20.7%
Relationship Length	
1 to 5 years	8%
6 to 10 years	14.4%
11 to 15 years	12.1%
16 to 20 years	16.5%
more than 20 years	49.1%
Percentage of Business	
Less than 20%	8.2%
21 – 30%	18.5%
31 – 40%	14.1%
41 - 50%	10.8%
51 – 60%	14.9%
61 – 70%	13.9%
Over 70%	19.5%
Respondent contact method	
Email	74.7% (n=296)
Phone	25.3% (n=100)

fit the industry context. Based on the measures derived from the literature, interviews with the manufacturer's managers in sales, marketing, and supply chain groups were then used to develop a complete customer survey instrument. The interviews were particularly useful in adapting meaningful measures of operational and relational order fulfillment service to the consumer durables industry context.

Measures for operational and relational order fulfillment service were constructed first in accordance with the existing scales from Stank et al. (2003), Stank, Goldsby and Vickery (1999), and Mentzer, Flint and Hult (2001). These scales were reviewed by the manufacturer's representatives and then adapted to fit the industry context. According to Dick and Basu (1994), it is important to create measures that gauge perceptions "relative" to other firms. Because perceptions are generally anchored to some kind of "standard,"

this gives the respondents a common point of reference. Therefore, the items were adapted to reflect a comparison to other manufacturers in the consumer durables industry.

The calculative commitment measurement items were adapted from Kumar, Hibbard and Stern (1994). Affective commitment has several measurement scales in the literature, and items were adapted from scales from Kim and Frazier (1997), Caruana (2002), Stank et al. (2003), and Kumar, Hibbard and Stern (1994). Both commitment scale items were adapted to produce comparison statements. Purchase behavior was also adapted to have comparative items. The measures were gauged to infer whether customers consistently purchased the manufacturer's products, planned to continue making purchases, and considered the manufacturer the customer's "primary" vendor for consumer durables. The measures used for this construct were adapted from Too, Souchon and Thirkell (2001), Matilla (2001) and Caruana (2002).

The only construct that did not have comparative measures to other manufacturers was satisfaction. This construct was considered an overall and cumulative measurement of the customers' perceptions of service. The comparison standard for this construct was how well the manufacturer performed relative to expectations. The items for this scale were adapted from Selnes and Gonhaug (2000) and Garbarino and Johnson (1999).

After adapting the measures, a survey instrument was created and subjected to a pre-test. A random sample of 450 customers from the list supplied by the manufacturer was initially contacted by email to complete the survey. Of the 450 customers, 102 of the emails were undeliverable, and 108 surveys were completed (a response rate of 31%). Analysis of the pre-test resulted in some minor revisions to a few of the items to enhance readability. Another lesson learned in the pre-test was that some customers were

exclusive dealers for this manufacturer. Because the exclusive dealers had different customer characteristics, we realized that those "exclusive" customers would have to be removed from the sampling frame in order to diminish any bias in the results.

Before hypothesis testing, we also engaged in scale purification. Following basic descriptive analyses, including examination for coding errors, normality, skewness, kurtosis, means, and standard deviations, we subjected the purification data set to confirmatory factor analyses (CFA) by means of AMOS 6.0. In these analyses, items were grouped into *a priori* conceptualized scales. Modification indices (i.e., initially any greater than 10), standardized residuals (i.e., greater than 4), and fit statistics (i.e., comparative fit index [CFI], RMSEA, and χ^2 with corresponding degrees of freedom [d.f.] were used to flag potentially problematic items (Anderson and Gerbing 1988; MacCullum 1986).

We then examined these items within the theoretical context of each scale and deleted items on substantive and statistical grounds, if appropriate (Anderson and Gerbing 1988; MacCullum 1986) (described in more detail for the sample included in the "Measurement Analysis" section). Eliminating those items from the initial pool resulted in 29 items to tap the six constructs scales. The refined scales are provided in Table 5.2.

Measurement Analysis

To confirm construct unidmensionality, validity, and reliability, we evaluated the psychometric properties of the six constructs by using CFA by means of AMOS 6.0. Within this analysis, we incorporated both theoretical and statistical consideration in developing the scales (Anderson and Gerbing 1988). We evaluated the model using the

Table 5.2: Survey Measures, Loadings, Average Variance Extracted and Construct Reliability

Construct	Measure	Loading	AVE	Construct Reliability
Operational Order Fulfillment Service (a)	1. Special order lead time (special orders are non-regular orders).	.810	.559	.904
	2. Order lead time variation (consistency of meeting promised delivery dates).	.751		
	3. Timeliness (product is delivered on or before the requested delivery date).	.877		
	4. Order release quantities (availability and ability to obtain order quantities desired).	.899		
	5. Order accuracy (how closely shipments match your orders upon arrival- right order, right number, not substitutions).	.784		
	6. Order discrepancy handling (how well Manufacturer X addresses any discrepancies in orders after the orders arrive).	.435		
Relational Order Fulfillment Service (a)	1. Proactively communicate supply issues that may delay your order.	.904	.708	.923
	2. Cooperate with you to help you make order processing more efficient.	.927		
	3. Make recommendations for continuous improvement on an ongoing basis.	.893		
	4. Know your needs well.	.815		
	5. Are responsive to problems that arise.	.633		
Satisfaction (b)	1. Overall, I am very satisfied with Manufacturer X's service.	.897	.676	.910
	2. Fully provides the services that I want from them.	.875		
	3. Comes close to giving me "perfect" service.	.522		
	4. Offers service that is barely acceptable.	.887		
	5. Sets itself apart from other home appliance manufacturers in the industry because of its superior service.	.867		
Affective Commitment (b)	1. I have developed a closer business relationship with Manufacturer X than other home appliance manufacturers.	.893	.694	.937
	2. I really like doing business with Manufacturer X, better than other home appliance manufacturers.	.936		
	3. I am willing to put in more effort to purchase products from Manufacturer X than other home appliance suppliers.	.844		
	4. I want to remain a customer of Manufacturer X more than other home appliance manufacturers because we enjoy our relationship with them.	.828		
	5. The relationship between you and Manufacturer X? (1="very weak level of trust," 7="very strong level of trust")	.763		

Table 5.2 Continued

Construct	Measure	Loading	AVE	Construct Reliability
Calculative Commitment (b)	1. The total cost to change to another manufacturer would be too high.	.799	.658	.881
	2. There is too much effort/difficulty in moving more of my business to another manufacturer.	.943		
	3. Switching more of my business to another manufacturer requires too much time and energy.	.916		
	4. There are not enough alternative home appliance manufacturers in the industry to switch more business from Whirlpool to another manufacturer.	.516		
Purchase Behavior (b)	1. I have purchased more Manufacturer X products over the last several years than other home appliance manufacturers' products.	.919	.881	.967
	2. I consider Manufacturer X my primary home appliance manufacturer.	.976		
	3. Manufacturer X has been my primary manufacturer for the past few years.	.970		
	4. I expect Manufacturer X to be my primary home appliance manufacturer in the future.	.886		

a Better–Worse than other manufacturers (1 = "much worse," 7 = "much better")
b Agree–disagree scale (1 = "strongly disagree," 7 = "strongly agree")

DELTA2 index, RMSEA, and the CFI, which have been shown to be the most stable fit indices (Gerbing and Anderson 1992). The χ^2 statistics with corresponding degrees of freedom are included for comparison purposes (Joreskog and Sorbom 1996). Using these criteria, the analysis resulted in acceptable fit of the data (Table 5.3).

One criterion for establishing reliability is that the AVE should exceed .5 to ensure that, on average, the measures share at least half of their variation with the latent variable (Fornell and Larcker 1981; Hjorth 1994). A complementary measure of construct reliability is calculated using the procedures outlined by Gerbing and Anderson (1988).The formula specifies that $(\Sigma\lambda)^2/[(\Sigma\lambda)^2 + \Sigma(1-\lambda j^2)]$. The numerator equals the standardized parameter estimates (λ) between a latent variable and its indicators summed, then the summation is squared. The denominator equals the numerator plus the summed

Table 5.3: Fit Statistics

	Measurement Model	Structural Model
CFI	.956	.952
DELTA 2	.956	.952
RMSEA	.058	.060
χ^2	838	890.9
d.f.	362	369

measurement error ($1-\lambda_j^2$) for each indicator. The measurement error is 1 minus the square of the indicator's standardized parameter estimate (Garver and Mentzer 1999). This estimate is very close to coefficient alpha, and acceptable reliability is .7 or greater. As demonstrated in Table 5.2, the AVE and the construct reliability criterion are met for each of the latent variables, which support the reliability of the measures. Given the overall sound assessment of the measurement model, attention was then directed to the structural model and the hypothesized relationships.

To assess convergent validity, we assessed the overall fit of the measurement model, and the magnitude, direction, and statistical significance of the estimated parameters between latent variables and their indicators (Anderson and Gerbing 1988). As demonstrated in Table 5.2, the standardized factor loadings are all relatively large and positive. The lowest value among the items is .435 (item 6, operational order fulfillment service); however, this item was kept in the analysis for nomological and face validity reasons.

We estimated discriminant validity in order to verify that items from one scale did not load or converge too closely with items from a different scale (Dabholkar, Thorpe and Rentz 1997). This was particularly critical because several of the constructs were highly correlated. To ensure the discriminant validity of the constructs, Fornell and

Larcker (1981) argue that the average variance extracted (AVE) of any two constructs should be greater than their squared correlation. Average variance extracted, where $\Sigma\lambda^2/[\Sigma\lambda^2 + \Sigma(1-\lambda j^2)]$, measures the total amount of variance in the indicators accounted for by the latent variable. Table 5.4 provides evidence of discriminant validity between the constructs.

As an additional test to ensure that the items did discriminate, we used the nested model approach, where comparisons are made between the original measurement model and successive models with correlations (phis) among latent variables fixed to 1. As long as the alternate measurement models fail to demonstrate significantly better fit than the original model, discriminant validity exists (Bagozzi and Yi 1998). We evaluated one pair of factors at a time, as suggested by Anderson and Gerbing (1988), and found that each alternate model did not demonstrate better fit.

Table 5.4: Results of Discriminant Validity Analyses

	Operational OFS	Relational OFS	Satisfaction	Affective Commitment	Purchase Behavior	Calculative Commitment
Operational OFS	**0.559**					
Relational OFS	0.315	**0.708**				
Satisfaction	0.500	0.608	**0.676**			
Affective Commitment	0.249	0.510	0.616	**0.694**		
Purchase Behavior	0.118	0.123	0.248	0.483	**0.881**	
Calculative Commitment	0.062	0.084	0.136	0.147	0.056	**0.658**

**** Fornell and Larker (1981)**

Structural Model Results

The eight hypotheses illustrated in Figure 5.1 were tested simultaneously in a structural equation model using AMOS 6.0. The fit statistics for the structural model offered in Table 5.3 are comparable to those of the measurement model, and demonstrate sound model fit (CFI=.952, DELTA2=.952 and RMSEA=.060). Examination of the hypotheses can proceed given an overall sound assessment of model fit, and the results of the hypothesis tests are provided in Figure 5.3.

The first hypothesis examines the direct influence that relational order fulfillment service has on operational order fulfillment service. The model results indicate a strong confirmation for Hypothesis 1, supporting the contention that as the manufacturer's customer personnel develop working relationships with customers, the manufacturer can learn more about the customers' operational needs, and therefore align processes to meet those needs.

Hypotheses 2 and 3 suggest that both operational and relational order fulfillment service positively influence satisfaction, and both of these hypotheses were supported. Previous research found conflicting results when examining this relationship. Stank et al. (2003) found support for the relational component and no support for the operational component, and Stank, Goldsby and Vickery (1999) found strong support for the operational component and marginal support for the relational component. We believe the reason for our result is the industry context. In the interviews with some of the customers and the manufacturer's representatives, respondents explained that both order fulfillment service components are critical to the retailers. These smaller retailers

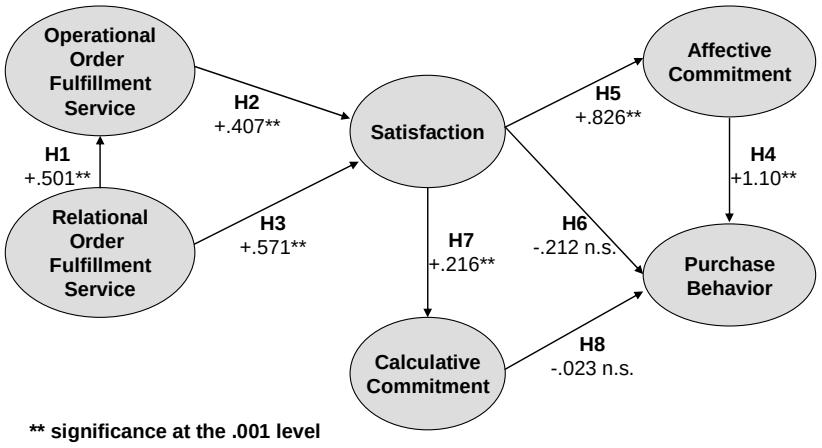


Figure 5.3: Hypotheses Test Results

usually only carry floor models, and when a sale is made to consumers, the retailer gives them a delivery date for the appliance they bought. The retailer then relies on consistent and dependable delivery from the manufacturer in order to keep the final consumer satisfied, making operational order fulfillment service crucial, but the manufacturer's customer personnel also play a key role for retailers in terms of receiving orders, communicating delays, and helping with any problems that may arise.

Hypothesis 4 proposes that affective commitment has a positive influence on purchase behavior, and this constitutes loyalty. There was strong support for this hypothesis, so we maintain that loyalty is indeed the strength of the relationship between affective commitment and purchase behavior. This is a significant finding that previous

research has not addressed, as this view of loyalty "unbundles" the emotional and behavioral components of loyalty. Additionally, unlike the few studies that look at loyalty multi-dimensionally, this conceptualization infers causation and temporal ordering. This supports the contention that building emotional connections and trust has a significant effect on the customer's future buying behavior.

The next two hypotheses explored the satisfaction-loyalty relationship. We found support for Hypothesis 5, which indicates that satisfaction does have a significant influence on affective commitment. Greater levels of satisfaction engender a stronger emotional attachment to the relationship with the manufacturer. Interestingly, the unstandardized parameter estimate for this relationship is greater than 1, which normally indicates a problem. However, in this model, this is an over-inflated estimate because of suppression, which will be explained further with the next hypothesis.

The other satisfaction hypothesis, which predicted a diatonic relationship between satisfaction and purchase behavior, also gave rise to an interesting result. In order to test this relationship, we used structural equation modeling to simultaneously test all of the hypotheses in order to get the R-square value for the satisfaction-purchase behavior relationship. AMOS 6.0 cannot test a diatonic nonlinear relationship, so we used a polynomial regression formula in order to add the "curves" in the line demonstrated in Figure 5.2, estimated by $CS^* = \beta 1 CS + \beta 2 CS^2 + \beta 3 CS^3 + \beta 0$. The hypothesis would be supported if the R-square value was significantly higher using this regression formula than with the linear relationship tested in AMOS.

As Figure 5.2 suggests, the results produced a *significantly negative* regression weight estimate (.-.212) in AMOS. Likewise, we also found a non-significant nonlinear

relationship when we applied the polynomial regression formula. This surprising finding indicates suppression in the model in the relationship between satisfaction and purchase behavior. Suppression indicates the relationship between two variables (satisfaction and purchase behavior) is hiding the real relationship with another variable (affective commitment and purchase behavior) (Cohen and Cohen 1983). Satisfaction and purchase behavior are positively correlated, but there is a negative path weight between the two. This occurs because this path is "suppressing" another over-inflated path – the "real" relationship is from satisfaction to affective commitment to purchase behavior, which is why the affective commitment-purchase behavior path is greater than 1. To provide further support, we constrained the relationship between satisfaction and purchase behavior, and the constrained model produced better parsimonious fit. For more confirmation, we then freed the satisfaction-purchase behavior path, and constrained the affective commitment-purchase behavior relationship. In this scenario, satisfaction had a positive and significant influence on purchase behavior (path weight = .71). Therefore, this is a totally mediated model, and the best explanation for the relationship between these three constructs is that satisfaction affects purchase behavior *through* affective commitment. In other words, satisfaction leads to affective commitment, and this emotional attachment is what influences a customer's subsequent purchase behavior.

Hypotheses H7 and H8 suggest that satisfaction influences calculative commitment, which in turn affects purchase behavior. As hypothesized, satisfaction does have a significant positive effect on calculative commitment. Overall satisfaction stemming from order fulfillment service creates switching barriers and engenders a rational perception that switching to another manufacturer is too difficult or that there are

not any better alternatives. Given that finding, it was surprising that the last hypothesis is not supported. Although satisfaction created a perceived "need" to continue the relationship, calculative commitment did not have any influence on the retailers' perceptions of the actual purchasing decisions. The cognitive and logical reasons for continuing to purchase from the manufacturer were overshadowed by the retailers' attachment and commitment to the manufacturer. Exploring this finding further, we found that calculative commitment does not significantly influence purchase behavior as long as either satisfaction *or* affective commitment has a direct relationship to purchase behavior. In other words, the only instance where calculative commitment affects purchase behavior is when both satisfaction and affective commitment are constrained.

Alternate Model

It has been suggested that researchers compare rival models in addition to testing the theorized model by conducting *post hoc* analysis (Bollen and Long 1992; Rust, Lee, and Valente 1995). While calculative commitment did not have a direct effect on purchase behavior, an alternate model might be able to explain how it could indirectly affect purchase behavior by looking at its moderating effect on loyalty. One reason for positing that loyalty is the relationship between affective commitment and purchase behavior is because it is important to separate customers that purchase because of an attachment versus those repeat buyers that do not have any affinity or affection towards the organization. In explaining the difference between these customers, it is crucial to understand what factors influence the strength of the relationship between affective commitment and purchase behavior. To address this issue, an alternate model might

explain how calculative commitment can influence loyalty. Specifically, as illustrated in Figure 5.4, we removed the satisfaction-purchase behavior link to account for the mediating relationship, and tested calculative commitment as a moderating variable between affective commitment and purchasing behavior.

As an example to illustrate the moderating relationship in this research context,the manufacturer in this channel has a very strong brand presence in the consumer market. Management has been very successful in employing a "pull" strategy, whereby they create consumer demand and use the channel to pull the products through to the final customer. Because of the success of this channel strategy, a retailer might not be emotionally attached to the manufacturer, but continue to purchase because of the

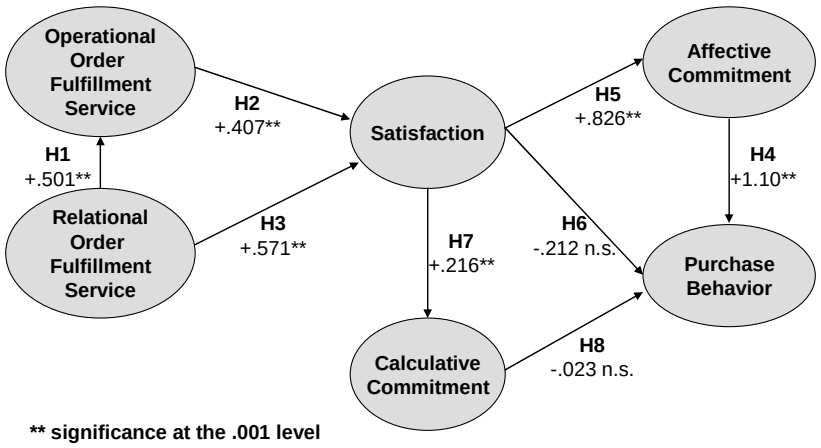


Figure 5.4: Alternate Model

manufacturer, the less influence affective commitment should have on purchasing behavior. When the cost or difficulty becomes a factor in the manufacturer-retailer relationship, calculative commitment may not have a direct effect on purchase behavior; however, it might moderate the relationship between affective commitment and purchasing behavior. The contention here is that when calculative commitment is high, the relationship between affective commitment and purchasing behavior weakens. Likewise, when calculative commitment is low, the relationship between affective commitment and purchasing behavior is stronger.

In order to test the moderating relationship, we used a discreet models approach in AMOS. While moderated regression analysis is a widely accepted technique in marketing research, structural equation modeling was considered to be a more appropriate method because relationships among all of the latent constructs are considered (Homberg and Giering 2001). Median splits were conducted in this sample based on the values of the moderator variable. That is, for calculative commitment, the sample was split into low, medium, and high groups. In the nested model approach, one model restricts the affective commitment-purchase behavior parameter to be equal across groups and a second model allows this parameter to vary across groups. AMOS then calculates a model comparison to determine whether the difference between the two models is significantly different. According to the analysis, there is not a significant difference between the two models. When the parameter is constrained, the unstandardized parameter estimate is .93, and when the parameter varies across the low, medium and high groups, parameter estimates are .96, .95 and .90, respectively. Therefore, not only does calculative commitment not directly impact purchase behavior,

it also does not influence the strength of the relationship between affective commitment and purchase behavior.

Discussion and Implications

In today's changing business environment, it is hard to compete on products alone as the global marketplace provides more and opportunities for customers to find similar products and product features. Therefore, engendering a sense of loyalty through products alone will be much harder to achieve. Sellers in all positions in the marketing channel may now have to differentiate their products by the quality of the service processes accompanying those products (Novack, Langley and Rinehart 1995). Because of this, every industry is now potentially a "service" industry (Anderson, Fornell and Lehmann 1994). One goal of this research was to extend the discipline's understanding about how capabilities create customer value outcomes, and we have highlighted the significance of creating an order fulfillment capability in order to maintain a loyal customer base.

Another purpose of this research was to extend the discipline's understanding of loyalty. A stream of marketing literature defines and measures loyalty as behavioral intentions. However, more than 30 years ago, Jacoby and Kyner (1973) argued that loyalty is more than just repeat purchase behavior and that it also engenders an emotional connection. Intentions or purchase behavior alone stem from many factors besides a genuine attachment, so referring to this as "loyalty" misrepresents the phenomenon. In order to make this distinction, we believe loyalty should be defined and measured not

simply as repurchase intentions or as a global construct with emotional and behavioral items, but as a causal relationship between affective commitment and purchase behavior.

An additional reason for defining and measuring loyalty from a "relationship" perspective is to be able to measure customers' strength of attachment in order to separate the highly loyal from the spuriously loyal customer, distinguishing genuine loyalty from habitual behavior (Mahoney, Madrigal and Howard 2000). Jones and Sasser (1995) presented the topic of "false loyalty" (e.g., spurious loyalty), which can be misinterpreted by marketers as genuine loyalty or mistaken for loyalty due to a customer's high level of repeat patronage despite a low relative attitude toward the marketer. This causal loyalty relationship perspective allows for distinction between these customers, and has been more extensively studied empirically in the leisure science literature. Mahoney, Madrigal and Howard (2000) developed a scale to use in segmenting sports customers by differentiating consumers into discreet segments based on the strength of their overall loyalty. Baloglu (2002) also used casino customers to do a cluster analysis for segmentation of "loyalty types." Likewise, Backman and Crompton (1991b) looked at golf and tennis customers and measured loyalty with attachment and behavior as two individual components and also found loyalty types. Finally, from a methodological perspective, causal relationships can be used to analyze moderator effects, and previous research has largely neglected moderators (Homburg and Giering 2001). Although calculative commitment did not moderate the loyalty relationship in this context, additional moderators should be explored to help explain what might strengthen or weaken the effect affective commitment has on purchase behavior.

This research also found a significant and unexpected result that adds more understanding to the stream of satisfaction-loyalty research. While previous research contends that satisfying customers leads to customer loyalty, there is now evidence that supports the existence of a more complex, mediating relationship. After a review of the literature, we found evidence of a similar relationship in other studies. In a consumer context across several industries, analysis showed that although satisfaction did influence repurchase behavior, affective commitment had a much more significant influence (Johnson et al. 2001). For business customers of a telecommunications company, results also indicated that while satisfaction influences behavioral intentions, positive affect (positive experiences) is more influential (Selnes and Gonhaug 2000). Finally, in a business-to-business context with customers from a major Dutch office equipment firm, the results were similar to our findings. Wetzels, Ruyter and van Birgelen (1998) ascertained that satisfaction did not directly influence the customers' intention to stay, but did so indirectly through affective commitment, indicating that affective commitment is a mediating variable. The significance of this finding again points to the need to "unbundle" the loyalty components in order to better understand a customer's relationship with a supplier. Just satisfying customers may not be enough to influence future behavior, but forging emotional bonds and trust in the relationship stems from first satisfying customers and consequently, positively influences purchase behavior.

Another surprising finding in this research is that calculative commitment did not have a significant influence on purchase behavior. In the Gustaffson, Johnson and Roos (2005) research in a consumer setting, calculative commitment was a significant variable in predicting behavioral intentions. In a business-to business context, Ruyter, Moorman

and Lemmink (2001) and Wetzels, Ruyter and van Birgelen (1998) found that calculative commitment affected customers' intentions to remain with the seller, and Ruyter and Semeijn (2002) also found that calculative commitment influences customers' willingness to invest in the relationship. Business buyers are supposed to make purchase decisions based on, at least to some degree, the calculation of costs and benefits along with the availability of alternatives (Geyskens et al. 1996). It is interesting that in this manufacturer-retailer context, the retailers based their purchase decisions on what they wanted to do, not on what they needed to do. The attachment to the relationship they have developed (or not developed) overshadows any perceived need or dependence on the manufacturer when they make purchase decisions. Consistent with the relationship marketing literature, this means forging those emotional bonds is very important in creating customer value.

Research Implications

The capabilities-based approach to business has received attention in both the business and academic press. What is needed is additional empirical research that connects specific capabilities to business outcomes. Order fulfillment is one of many capabilities that integrate internal processes to become a strategic weapon in this dynamic and competitive environment. Other capabilities that can provide superior customer value, such as manufacturing, human resource, and new product development capabilities should be explored to determine their components and how they are linked to outcomes such as satisfaction and loyalty.

Other research implications involve further extension of empirically testing loyalty. As mentioned previously, future research should test loyalty as a causal relationship between affective commitment and purchase behavior and explore other moderating variables that could potentially alter the strength of that relationship. Since this research was done in a one industry context with one segment of a manufacturer's customer base, it is also important to test the generalizability of these findings to other areas of the channel and across other industries. It would also be advantageous to look at other customer types. These customers are small retailers, and the channel dynamics are likely very different than other "big box" retailers. It would be interesting to see how the model changes for these bigger, more powerful retailers. For instance, is the importance of building emotional connections with manufacturers as important in a setting where the focus shifts to meeting quarterly earning estimates that drive stock price? It would also be beneficial to build on this research to further explore other factors that may drive perceptions of customer loyalty. For instance, what happens when product criticality differs among customers? How does a customer's price sensitivity affect loyalty? Is there a difference in the model under conditions of asymmetrical dependence? Looking at the outcomes of loyalty would also be an area ripe for research. Loyalty should positively affect a customer's likelihood to make referrals or possibly even decrease a customer's price sensitivity. In order to substantiate the importance of loyalty as a significant revenue-generating outcome, future research could also investigate loyalty's impact on a firm's bottom line.

A final area of research involves the effect of calculative commitment on purchase behavior. The notion that purchase behavior is driven by emotion rather than logic warrants more investigation. Both Ruyter, Moorman and Lemmink (2001) and Wetzels, Ruyter and van Birgelen (1998) found that calculative commitment influenced intentions to stay. The items to tap the "intention to stay" construct in the previous studies involved statements about the continuity of the relationship, such as, "We expect our relationship with our supplier to last long" (Ruyter, Moorman, Lemmink 2001). The items to tap purchase behavior in the present study did not have "relationship" in the question stem or in any of the items and focused on past, present and future purchase decisions. Although certainly related, these items are likely tapping two different yet similar constructs. Because calculative commitment is how much a customer needs a relationship with the seller (or vice versa), it is then logical to assume that "needing the relationship" leads to an intention to continue the relationship. What is apparently less straightforward, however, is if customers perceive "needing" the relationship as a driver when actually deciding when or how much product/service to purchase. Future research should explore whether perceptions of purchase behavior and relationship continuance are distinctly different phenomenon.

Managerial Implications

Because of the increasing demands of customers to have exactly what they want when they want it, it is important to meet customer demands in a consistent manner. Understanding the impact of a firm's ability to execute order fulfillment service dependably and accurately (the operational component) and to provide customer

personnel that are knowledgeable and empathetic to the needs of customers (the relational component) can go a long way in differentiating a seemingly similar physical product. It is also important for firms to recognize that in order to meet the operational requirements, there must be processes in place to enable customer contact personnel to interface with those responsible for the operational elements. This allows for the operational processes to stay flexible and responsive to changing customer requirements.

Over 50 years ago Peter Drucker argued that creating a satisfied customer was the only valid definition of business purpose (Drucker 1954). For many years, companies used satisfaction ratings to infer a customer's future purchase intentions. This paper adds to a stream of research that finds while creating satisfied customers is certainly critical, simply satisfying customers does not mean that firms will retain their customers. Managers should be concerned with forging those emotional bonds with customers, as it is commitment to the supplier that may be the significant driver of purchase behavior.

Using a segmentation technique that divides customers by their commitment and subsequent purchase behavior can be helpful for managers to understand the different customer types in their customer portfolio. For instance, customers that are affectively committed and exhibit repeat purchasing are very different customers than those that purchase because of habit or lack of alternatives. Although engendering emotional attachments can be critical for a base of loyal customers, those "committed" relationships can be both time and resource intensive. Thus, it is important for managers to consider which customers or customer segments should be targeted. At the same time, a positive aspect about "uncommitted" customers is that they are very helpful in keeping the

business going and generally constitute a major volume of any business (Kumara, Bohling and Laddac 2003).

An important goal for firms is to grow a larger share of the profitable revenue available (Bowersox, Closs and Stank 2000), and maintaining the same level of commitment for all of a firm's customer base may be ineffective from a profit perspective. Managers need to determine with which customers it makes the most sense to pursue stronger relationships and develop strategies for managing a portfolio of customer relationships.

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