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Relationship Characteristics as Moderators of the Satisfaction-Loyalty Link: Findings in a Business-to- Business Context

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Our paper is organized as follows. We begin with a brief overview of the theoretical and conceptual background of our study and provide a synthesis of the extant empirical literature on the relationship between customer satisfaction and customer loyalty. We discuss relationship characteristics as possible moderators of this link and develop research hypotheses. Next, we discuss the method employed to test these hypotheses and present our results. We conclude with a discussion of our results and its implications for future academic research and managers.

Background

In this section we first outline relational exchange theory which is the basis of our theoretical considerations. Afterwards we provide definitions of the constructs of satisfaction and loyalty. Third, we briefly review the literature that has explored the link between these two constructs.

Relational Exchange Theory

The relational contracting model owes its origins to Macneil (1978, 1980) who proposed a new paradigm for studying the law of contractual behavior. His emphasis is on contractual exchange behavior, not law. In his line of reasoning, he differentiates discrete transactions from relational contracts along several key dimensions (Dwyer, Schurr, and Oh 1987).

The archetype of a discrete transaction is manifested by money on the one side and an easily measured commodity on the other (Macneil 1980, p. 60). These transactions are characterized by limited communications and narrow content. Hence, the concept of discrete transaction excludes relational elements.

According to Macneil, parties that want stable, long-term exchange must evolve a governance approach that avoids the uncertainty, conflict, and opportunism of single market transactions. Relational norms evolve in exchange when parties contemplate bilaterally committed strategies and goals and a longer-term orientation (Scott 1987).

While Macneil (1978, 1980) has identified a large list of relational norms, subsequent research typically concentrates on a limited number of these norms (Heide and John 1992; Kaufmann 1987; Kaufmann and Dant 1992; Kaufmann and Stern 1988,

1992; Lusch and Brown 1996). Among the most important norms are (Simpson and Mayo 1997)

- the degree to which monitoring of individual transactions is tempered by trust in adequate returns of the ongoing relationship (i.e., mutuality),
- the extent to which fellowship and unity arising from common responsibilities and interests dominate the relationship (i.e., solidarity), and
- the extent to which exchange arrangements can be modified if changes require it (i.e., flexibility).

In this study we focus on these three norms to derive moderators of the satisfaction-loyalty link. More specifically, we will focus on five moderators. The first, the level of customer's *trust* indicates to which extent the norm of mutuality is established in the relationship (Kaufmann and Stern 1988). Second and third, *information exchange* and *joint working* taking place between the supplier and the customer indicate a high level of the solidarity norm (Kaufmann 1987; Mohr and Spekman 1994). Fourth, the supplier's *flexibility* will contribute to the establishment of the flexibility norm in buyer-seller relationships (Noordewier, John, and Nevin 1990). Finally, as these norms take some time to establish we also consider the *duration of the relationship* (Simpson and Mayo 1997).

Conceptualization of Customer Satisfaction and Loyalty

We define customer satisfaction in accordance with previous research *as the result of an evaluative process, where some comparison standard is compared to the actually perceived performance*. Hereby, the satisfaction judgement is related to all the experiences made with a certain supplier and his/her products or services. Thus, we adopt a cumulative rather than a transaction-specific conceptualization of customer satisfaction (see also Anderson, Fornell, and Lehmann 1994; Boulding et al. 1993; Fornell 1992; Fornell et al. 1996). This view is also supported by the literature belonging to the field of relationship marketing. Given the long-term perspective of this research stream, authors focus on a cumulative rather than a transaction-specific conceptualization of satisfaction (e.g., Schul, Little and Pride 1985; Ganesan 1994; Anderson and Narus 1990, p. 45).

Loyalty has been studied in a variety of contexts, including philosophy (e.g., Fletcher 1993; Royce 1995), political science (e.g., Schaar 1968) and organizational behavior

(Hirschman 1970, Morrow 1993). We conceptualize customer loyalty as a future oriented construct that is intentions based. It includes purchasing intentions, and expanding intentions (Anderson, Fornell, and Lehmann 1994; Narayandas 1997). As such, we define customer loyalty as *the intention of a buyer to continue the purchasing relationship with a supplier and to expand the quantity and volume of this relationship*.

A lot of research in the field of relationship marketing has studied the commitment construct (Dwyer, Schurr, and Oh 1987; Ganesan and Hess 1997; Geyskens, Steenkamp, and Kumar 1999). Although the concept of commitment has become a focal point of explanation in marketing many different conceptualizations of the construct exist (see Young and Denize 1995 for an overview). In a general sense, commitment is conceived as “the sense of closeness one party feels towards the other” (Ross, Anderson, and Weitz 1997, p. 681). The recent literature appears to be evolving towards a three-component model (Anderson and Weitz 1992; Gundlach and Murphy 1993; Gundlach, Achrol, and Mentzer 1995). First, commitment is defined to possess an *instrumental dimension*, which is the willingness to make short-term sacrifices to maintain the relationship (sacrifice). Second, commitment includes a *temporal dimension* (stability). Finally, commitment embraces an *attitudinal dimension* referring to an enduring intention to develop and maintain a stable relationship (loyalty). Thus, we view loyalty as one component of the multi-faceted commitment construct.

Empirical Research on the Customer Satisfaction-Loyalty Link

The link between customer satisfaction and loyalty has been subjected to empirical testing in recent studies (e.g., Bitner 1990; Fornell 1992; Rust, Zahorik, and Keiningham 1995). A large proportion of this literature provides empirical evidence of a positive relationship between customer satisfaction and loyalty. These studies show that customer satisfaction is one, or even the most, important antecedent of customer loyalty (e.g., Anderson and Sullivan 1993; Fornell et al. 1996; Oliver 1980; Patterson, Johnson, and Spreng 1997). For example, Bitner (1990) shows a direct effect of satisfaction on loyalty and a mediated effect through the construct of perceived quality. Similarly, Rust and Zahorik (1993) and Rust, Zahorik, and Keiningham (1995) find a positive link between customer satisfaction and loyalty using data from the retail bank market and from a national hotel chain. Additional empirical evidence for a positive relationship between

the two constructs is provided by Anderson, Fornell, and Lehmann (1994), Taylor and Baker (1994), among others.

However, our focal question (Under which circumstances is the relationship between customer satisfaction and loyalty more or less strong?) has not been studied in previous empirical research. Additionally, most of the research in this field has been in the consumer goods or services literature. Extant research in business-to-business marketing on the satisfaction-loyalty link is limited and typically focuses on marketing channels (e.g., Bieng 1993; Selnes and Gönhaug 1997). Within this context research by Gassenheimer, Sterling, and Robicheaux (1989) and Ping (1993) supports the existence of a positive satisfaction-loyalty link. None of these studies has looked at moderators of the satisfaction-loyalty link.

Hypotheses Development

In a first step, we develop our hypothesis concerning the main effect between customer satisfaction and loyalty. In accordance with previous research, we hypothesize that satisfaction basically has a positive effect on customer loyalty. We argue that, in general, if a customer's expectations are met by the seller, the customer will be less likely to search for a replacement alternative. Two theoretical justifications can be given for this causal relationship. First, finding and evaluating additional suppliers may imply heavy search costs for the customer (Moorthy/Ratchford/Talukdar 1997; Ping 1993). The satisfied customer would see no necessity to accept such costs. Second, switching to new suppliers may be risky from the perspective of the customer. A satisfied customer would not be motivated to take this risk. Following this, we propose:

H_1 : The greater the level of customer satisfaction, the greater the level of customer loyalty.

As indicated above, we additionally suggest certain relationship characteristics to have an impact on the satisfaction-loyalty link. Based on the theoretical background of this study, we examine the effects of trust, information exchange, joint working, flexibility, and age of the relationship on the linkage between satisfaction and loyalty. More precisely, we analyze if these variables serve as quasi-moderators of the satisfaction-loyalty link. A moderator variable either strengthens or weakens the relationship between customer satisfaction and customer loyalty. A quasi-moderating variable, in addition to having a

moderating influence on the relationship between customer satisfaction and customer loyalty, will also have a direct effect on customer loyalty (Sharma, Durand, and Gur-Arie 1981; see also Arnold 1982 and Darrow and Kahl 1982). In the following, we define each moderator variable and develop hypotheses concerning the moderators' influence on the relationship between customer satisfaction and loyalty. We begin by examining the influence of the level of trust on the satisfaction-loyalty linkage.

Trust: A lot of research in recent years has focused on trust as a central variable influencing the relational extent of exchanges between organizations (e.g., Moorman, Deshpandé, and Zaltman 1993; Moorman, Zaltman, and Deshpandé 1992; Wilson 1995). In our study, we focus on the customer's trust defined as *the perceived credibility and benevolence of the supplier as viewed by the customer* (cf. Doney and Cannon 1997; Ganesan 1994). Research in the marketing literature has argued succinctly that trust among buyers and sellers is a key determinant of the strength of the relationship (Doney and Cannon 1997, Dwyer Schurr and Oh 1987; Morgan and Hunt 1994). A firm that trusts its suppliers is more likely to stay in the relationship and make the necessary commitments to continue the relationship (Anderson and Weitz 1989; Doney and Cannon 1997; Morgan and Hunt 1994). In fact, research suggests that the negative impact of short-term inequities in relationships can be mitigated through trust (Dwyer, Schurr, and Oh 1987). As Ganesan (1994) points out, when a buyer trusts its vendor, it can reduce the perceived risks associated with opportunistic behaviors by the vendor; increase the buyer's confidence in the vendor during short periods of inequities; and help reduce transaction costs.

Drawing on previous research discussed above, we argue that the buyer's level of trust, developed based upon previous experiences with the supplier, will impact how the buyer will react in the event of dissatisfaction. The buyer in this case will be more willing to voice his or her dissatisfaction with the supplier and work toward a resolution, rather than exiting the relationship. We expect that buyers who trust their suppliers to have confidence that their concerns will be addressed judiciously by the supplier and that the supplier will work to resolve the problem issue(s). Thus, the loyalty impact of shifts in satisfaction is weaker when the buyer trusts the supplier as opposed to an exchange situation without trust. In other words, we hypothesize that the linkage between customer satisfaction and loyalty is moderated negatively by trust. Stated formally,

H2a: The greater the level of trust, the weaker the relationship between customer satisfaction and customer loyalty.

In addition, as pointed out earlier, trust per se seems to lead to higher levels of loyalty (Anderson and Weitz 1989; Morgan and Hunt 1994). Hence, we additionally assume a positive direct effect of trust on loyalty. Thus, we suggest the following hypothesis:

H2b: The greater the level of trust, the greater the customer loyalty.

Information Exchange: Information exchange is another important characteristic of relational exchange, which has attracted considerable research attention (e.g., Lusch and Brown 1996; Noordewier, John, and Nevin 1990; Sriram and Mummalaneni 1990). Information exchange defined as *the expectation that parties in a relationship will proactively provide information useful to the partner* (cf. Heide and John 1992) has been found to be a common trait of high performing relationships (Mohr and Spekman 1994). By instituting a systematic mechanism for information exchange, parties to a relationship are able to resolve problems early and avoid negative sentiments from festering. Research indicates that an open information exchange system can help complete tasks more effectively (Guetzkow 1965), improve product quality (Menon, Jaworski and Kohli 1997). We believe that constant and frequent information exchange, particularly during periods of buyer dissatisfaction, will allow the buyer the opportunity to assess and analyze why the relationship with a supplier has not yielded satisfactory results. In addition, information sharing can create a sense of co-ownership for the success of a relationship, since the buyer has had an opportunity to provide input to the supplier. Formally stated,

H3a: The higher the level of information exchange between the buyer and the seller, the weaker the relationship between customer satisfaction and customer loyalty.

Frazier et al. (1994) note that sharing essential information relevant to the relationship transaction will help the parties to the relationship to think of and develop strategies that might not have “come to the fore”. Devlin and Bleackley (1988) state that an open and

frequent information exchange between parties helps them to find overall success in the relationship, thus, leading to a stable relationship (see also Lusch and Brown 1996; Mohr and Spekman 1994). We conclude from the aforementioned that buyers and sellers who have a mechanism to exchange information frequently and systematically will be able to resolve issues quickly and avoid creating situations that endanger the business relationship. Hence, we hypothesize:

H3b: The higher the level of information exchange between the buyer and the seller, the greater the customer loyalty.

Joint Working: Joint Working has also been studied as one of the keys to successful partnering by many researchers (e.g., Dabholkar, Johnston, and Cathey 1994; Dwyer, Schurr, and Oh 1987, Sriram, Krapfel, and Spekman 1992; Stuart 1993). Joint working refers to *the parties in a relationship engaging in combined decision making and problem solving*. In the business-to-business setting, joint working arrangements can occur over a large set of issues, for example, product design and development, value analysis and target costing, quality control, logistics and delivery systems (cf. Nielson 1997). Anderson, Lodish and Weitz (1987) suggest that when parties in a relationship participate and make joint decision about goals and plans affecting the outcome of the relationship, the relationship is typically successful. Specifically with respect to relationship outcomes, Mohr and Spekman (1994) found that partnerships that had higher levels of joint working arrangements tend to yield higher sales.

Similar to our arguments referring to information exchange, we assume that a customer does not react strongly to satisfaction shifts when a collaborative partnership with a supplier exists. Cooperative orientation of a relationship is leading to mutual arrangements and problem-solving and not to independent action undertaken by only one of the exchange partners. Additionally, collaborative relationships might create sunk costs for the customer since he or she has made irretrievable investments in this relationship (Fein and Anderson 1997; Heide 1994).

Thus, we suggest:

H4a: The higher the level of joint working between the buyer and the seller, the weaker the relationship between customer satisfaction and customer loyalty.

Furthermore, joint working offers the buyer a sense of co-ownership of the process and will foster a greater degree of commitment to the supplier (cf. Anderson and Narus 1990) who is now more truly a partner in the relationship. Joint working arrangements help strengthen the bond that ties buyers and sellers together (Anderson, Lodish, and Weitz 1987; Mohr and Spekman 1994). In other words, these joint-working arrangements will help cement the buyer's loyalty to the supplier. Formally stated,

H4b: The higher the level of joint working between the buyer and the seller, the greater the customer loyalty.

Flexibility: According to Macneil's theory, flexibility refers to both partners, that is, mutual flexibility evolves in relational exchanges (see also Anderson and Narus 1990; Dwyer, Schurr, and Oh 1987; Heide and John 1992). However, we decided to concentrate on the supplier's flexibility, since this concept seems to be more relevant in our case. It is the flexibility of the supplier which largely determines the customer's intention to stay in an existing relationship. Flexibility of the supplier is defined as *the extent to which the supplier is willing to make changes to accommodate the customer's changing needs* (cf. Cannon and Homburg 1998). Suppliers often are asked to make adjustments due to unforeseen contingencies (Noordewier, John and Nevin 1990). Buyer-requested changes can take the form of emergency deliveries, sudden increase in quantity purchased, and changes in required stock levels. In addition, a flexible supplier might adjust rules and policies to accommodate a buyer's needs (Cannon and Homburg 1998). For example, a supplier might be willing to make adjustments to the payment schedule to accommodate the buyer's financial situation. Through his flexible behaviors the supplier can help expand and solidify the relationship (cf. Wilson 1995). This could be due to the buyer's sense of obligation to a supplier who has been helpful (by being accomodating) when the buyer needed it. Hence, satisfaction changes might not have such a straightforward impact on the buyer's future buying intention. This is leading us to the following hypothesis:

H5a: The greater the flexibility of the supplier, the weaker the relationship between customer satisfaction and loyalty.

Drawing from the adaptation literature (compared to flexibility adaptation behaviors are typically long-term, more permanent adjustments), we expect supplier flexibility to help bond the buyer in a tighter relationship and create barriers for entry to a competing supplier (cf. Hallén, Johanson, and Seyed-Mohamed 1991). The buyer has developed a sense of bonding as a result of the supplier's past flexible behavior. More specifically, we suggest that the supplier's flexibility has a positive impact on the buyer's loyalty. Formally stated,

H5b: The greater the flexibility of the supplier, the greater the customer loyalty.

Age of the Relationship: As Dwyer, Schurr, and Oh (1987, p. 12) put it: "Most important is the fact that relational exchange transpires over time". The age of the relationship is important for the evolution of relational exchange elements since a relational partnership cannot be built from one day to another. As an example, research in the channel and relationship marketing literature (e.g., Anderson and Sullivan 1993; Anderson and Weitz 1989) suggests that personal interactions over time help develop relationships. With repeated social interactions buyers and sellers bond themselves and the reinforcement from the satisfactory interactions help create customer loyalty. Further, in long-term relationships, the customer's evaluation of the supplier is based on his overall experience with that supplier (Kalwani/Narayandas 1995). That is, the customer's judgement of recent exchange outcomes is strongly influenced by the long-time experience he has made with that supplier. Thus, under such circumstances shifts in satisfaction will have a weaker impact on loyalty. Formally stated,

H6a: The longer the relationship between the buyer and the seller, the weaker the relationship between the customer satisfaction and customer loyalty.

Over time, relationships can display an increasing level of habitualization that slows the defection process. The customer, who gets used to a certain supplier, gets a closer consideration set – in its extreme only consisting of the current supplier. Hence, we hypothesize,

H6b: The longer the relationship between the buyer and the seller, the greater the customer loyalty.

Research Method

Sample and Data Collection

Data for the study was collected in the United States and in Germany. In the United States, 2,500 members of the National Purchasing Managers' Association were randomly selected from the association's membership database. Similarly in Germany, 2,500 purchasing managers were randomly selected from the listing maintained by Bertelsmann AG. Collectively, these purchasing managers represented the chemical, mechanical, and electrical industries (SIC 28-38). Each of the possible respondents were mailed a cover letter, questionnaire, and postage paid return envelopes. Due to duplicate, incomplete or missing addresses a total of 4967 questionnaires were sent out (2475 in Germany and 2300 in the US). Four weeks later, each non-respondent received a reminder letter and another copy of the questionnaire. The process described above yielded 528 completed questionnaires in Germany (giving a response rate of 21.3%) and 453 completed questionnaires in the US (giving a response rate of 19.7%), combining for an overall response rate of 20.6 %.

Nonresponse bias was assessed by comparing early versus the respondents (Armstrong and Overton 1978). More than half of the sample had answered after receiving the reminder. Several variables (e.g. size of firm, number of employees, product category) were tested for differences between the two respondents groups. No significant differences were found suggesting that nonresponse bias is not a problem with this data set.

Measure Development and Assessment

All of the constructs in our study, except for age of the relationship, were measured using multi-item scales. Items were generated based on interviews with selected members of buying centers and a review of the extant literature. The questionnaire was first designed in English. To assure translation equivalence the questionnaire was translated into German and backtranslated into English by a second person. The original and backtranslated versions were compared for conceptual equivalence and translation errors and refined where necessary. The resulting version was

pretested and further refined on the basis of comments from purchasing managers in the United States and Germany.

In order to assess measurement validity, confirmatory factor analyses were run with LISREL VIII (Jöreskog and Sörbom 1993). Table 1 shows the confirmatory factor analysis results together with additional reliability information. Analyses were conducted separately for each construct. A complete list of items is shown in the appendix.

Table 1: MEASUREMENT INFORMATION

| <i>Factor</i> | <i>no. of items</i> | <i>Cronbach's Alpha (standardized)</i> | <i>Composite Reliability</i> | <i>Average Variance Extracted</i> |
|-------------------------|---------------------|---|------------------------------|-----------------------------------|
| Customer Satisfaction | 5 | .89 | .93 | .72 |
| Intention to Repurchase | 4 | .93 | .96 | .86 |
| Intention to Expand | 3 | .85 | .89 | .67 |
| Trust | 7 | .92 | .94 | .69 |
| Information Exchange | 5 | .88 | .91 | .67 |
| Joint Working | 5 | .89 | .91 | .67 |
| Flexibility | 4 | .93 | .94 | .80 |

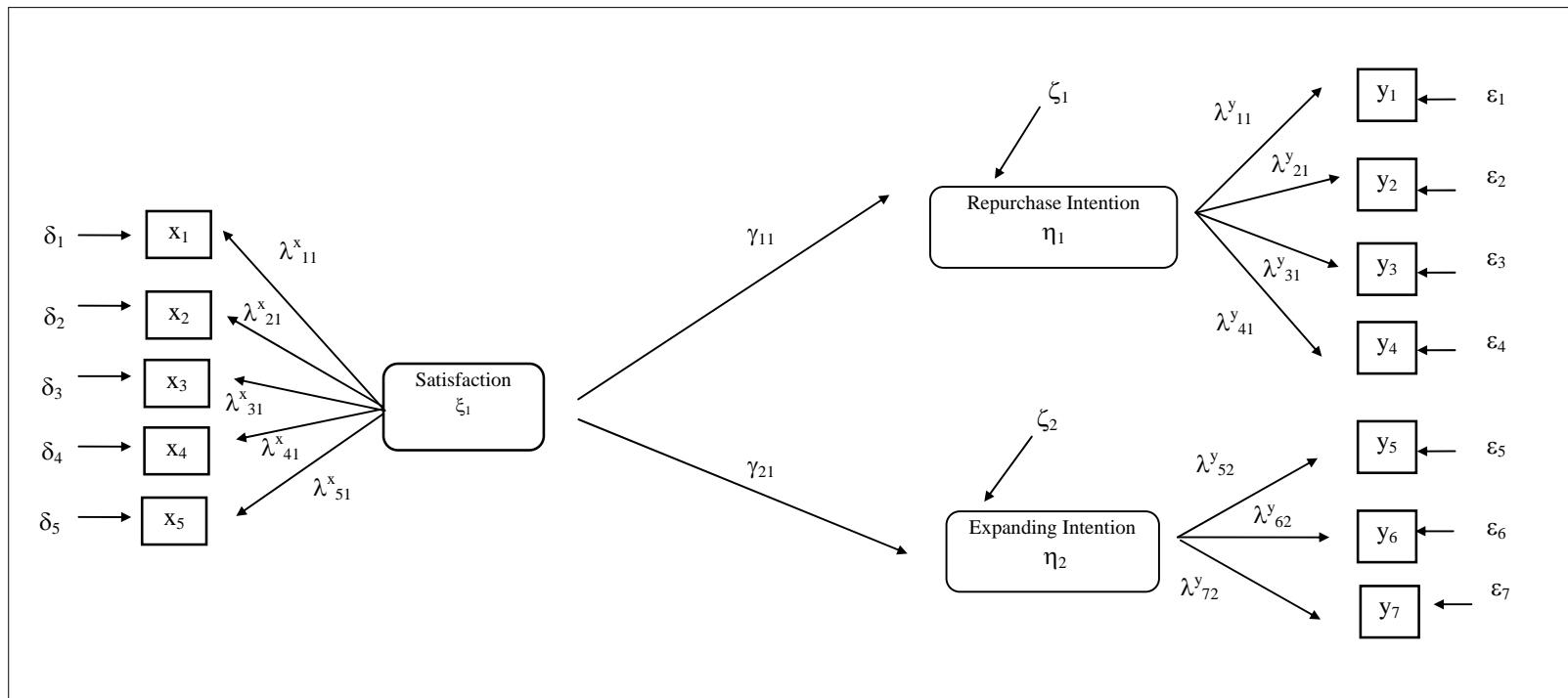
Composite reliability represents the shared variance among a set of observed variables measuring an underlying construct (Fornell and Larcker 1981). Generally, a composite reliability of at least .6 is considered desirable (Bagozzi and Yi 1988, p. 82). This requirement is met for every factor. The values of average variance extracted also provide satisfactory results. As can be seen from Table 1, Coefficient Alpha values also clearly exceed the threshold value of .7 recommended by Nunnally (1978).

Since our research is based on an international data set, we finally tested measurement invariance to see if the construct measures exhibit adequate cross-national equivalence. More specifically, we tested configural and metric invariance of the developed scales (see Steenkamp and Baumgartner 1998). All seven measures met the criterion of configural invariance. For three of the developed scales full metric invariance could be shown, and the other four turned out to be at least partially invariant across the two countries. Thus, we conclude that there is a sufficient degree of measurement invariance across the two countries.

Data Analysis Procedure

Figure 1 provides an overview of the hypothesized main effects using the LISREL notation. Given our proposed two-dimensional conceptualization of loyalty, we assume satisfaction to have an effect on each of the two loyalty dimensions.

Figure 1: CAUSAL MODEL OF MAIN EFFECTS



First, LISREL VIII was used to estimate the system of equations represented in Figure 1 (see Jöreskog and Sörbom 1993). Next, we assessed the influence of moderator variables on the two postulated relationships between satisfaction and loyalty. We conducted median splits in our sample based on the values of the moderator variables. That is, for every moderator variable, Multiple Group LISREL was performed comparing two sub-samples (high versus low values of the moderator variable). More specifically, we compared two models that are different only with respect to the effect of satisfaction on one loyalty dimension (one γ -parameter). One model restricts this parameter to be equal across groups while the more general model allows this parameter to vary across groups. Since these are nested models with the general model having one degree of freedom less than the restricted model, the χ^2 -value will always be lower for the general model than for the restricted model. The question is whether the improvement in χ^2 when moving from the restricted to the more general model is significant. This would indicate differential effects of satisfaction on loyalty in the two sub-samples, thus supporting the hypothesis of a moderator effect. Significance can be assessed on the basis of the χ^2 -difference between the two models using a χ^2 -distribution with one degree of freedom. The critical value at the .05 level is 3.84. After having analyzed the moderator effect, we turned to the analysis of the hypothesized direct effect of the constructs, which was carried out through additional causal analysis.

Results

The model shown in Figure 1 yielded satisfying results. The overall fit measures suggest that the data provide a good fit for the hypothesized causal model. The goodness-of-fit index, adjusted goodness-of-fit index, non-normed-fit index, and comparative-fit index ($GFI=.99$; $AGFI=.99$; $NNFI=.99$; $CFI=.99$) clearly exceed the threshold values recommended in the extant literature (Bagozzi and Yi 1988; Baumgartner and Homburg 1996). Thus, we conclude that the model fits the data very well. The two effects of satisfaction on loyalty are significant at the 1 %-level and have standardized gamma-values of .82 (γ_{11}) and .52 (γ_{21}) and squared multiple correlations of .66 (γ_{11}) and .27 (γ_{21}), lending support for H_1 . Thus, satisfaction affects both dimensions of customer loyalty .

The results of the moderator analyses are shown in Table 2. The postulated moderating effects of relationship characteristics are basically supported by the data. H_{2A}, which states that the greater the level of trust, the weaker the relationship between customer satisfaction and customer loyalty, is supported for the link between satisfaction and the intention to expand the relationship with the supplier but not for the link between satisfaction and repurchase intention. H_{3A} and H_{5A}, which postulate negative moderator effects of information exchange and supplier flexibility on the relationship, are also supported for one loyalty dimension. However, the moderating effect with regard to the second loyalty component lacks statistical significance. As hypothesized by H_{4A} (the greater the joint working arrangements between the buyer and the seller, the weaker the relationship between customer satisfaction and customer loyalty) and H_{6A} (the longer the relationship between the buyer and the seller, the weaker the relationship between the customer satisfaction and customer loyalty), joint working and the age of the relationship weaken the link between satisfaction and loyalty significantly. These negative moderating effects were significant with regard to both loyalty dimensions.

Finally, we used LISREL VIII to estimate the postulated direct effects on the two dimensions of loyalty. As can be seen from Table 3, our results indicate a positive and significant effect on both loyalty-dimensions for four of the five factors. Thus, our findings support most of the b-hypotheses, showing the existence of quasi-moderating effects. The only exception is the effect of relationship age (H_{6B}). The results show that age of the relationship is no guarantee for loyalty per se. When the duration of a relationship with a certain supplier increases, a buying firm becomes less reactive to satisfaction changes (as indicated by H_{6A}) but does not necessarily become more loyal. The buyer's loyalty depends on his trust in that supplier, the amount of information exchange, joint working, and the supplier's flexibility but not on the mere length of the relationship.

Table 2: RESULTS OF MULTIPLE GROUP CAUSAL ANALYSIS

| Trust(H _{2a}) | | | |
|---|---------------------------------|---------------------|---|
| high | low | hypothesized effect | chi-square difference ($\Delta df = 1$) |
| $\gamma_{11}=.72$ ($t=26.92$) | $\gamma_{11}=.71$ ($t=31.68$) | - | $\Delta\chi^2=.25$ |
| $\gamma_{21}=.36$ ($t=15.84$) | $\gamma_{21}=.47$ ($t=22.60$) | - | $\Delta\chi^2=19.23^{**}$ |
| $\Delta\chi^2$ for all gammas set equal across subgroups ($\Delta df = 2$): 19.49** | | | |
| Information Exchange (H _{3a}) | | | |
| high | low | hypothesized effect | chi-square difference ($\Delta df = 1$) |
| $\gamma_{11}=.69$ ($t=26.22$) | $\gamma_{11}=.79$ ($t=32.03$) | - | $\Delta\chi^2=10.18^{**}$ |
| $\gamma_{21}=.46$ ($t=17.65$) | $\gamma_{21}=.43$ ($t=20.19$) | - | $\Delta\chi^2=0$ |
| $\Delta\chi^2$ for all gammas set equal across subgroups ($\Delta df = 2$): 10.19* | | | |
| Joint Working (H _{4a}) | | | |
| high | low | hypothesized effect | chi-square difference ($\Delta df = 1$) |
| $\gamma_{11}=.74$ ($t=33.69$) | $\gamma_{11}=.82$ ($t=34.60$) | - | $\Delta\chi^2=5.24^*$ |
| $\gamma_{21}=.48$ ($t=21.91$) | $\gamma_{21}=.49$ ($t=24.10$) | - | $\Delta\chi^2=5.48^*$ |
| $\Delta\chi^2$ for all gammas set equal across subgroups ($\Delta df = 2$): 10.79* | | | |
| Flexibility (H _{5a}) | | | |
| high | low | hypothesized effect | chi-square difference ($\Delta df = 1$) |
| $\gamma_{11}=.77$ ($t=29.72$) | $\gamma_{11}=.76$ ($t=28.17$) | - | $\Delta\chi^2=2.41$ |
| $\gamma_{21}=.44$ ($t=18.64$) | $\gamma_{21}=.52$ ($t=20.70$) | - | $\Delta\chi^2=5.50^*$ |
| $\Delta\chi^2$ for all gammas set equal across subgroups ($\Delta df = 2$): 7.92* | | | |
| Age of the Relationship (H _{6a}) | | | |
| high | low | hypothesized effect | chi-square difference ($\Delta df = 1$) |
| $\gamma_{11}=.73$ ($t=32.73$) | $\gamma_{11}=.87$ ($t=28.09$) | - | $\Delta\chi^2=23.79^{**}$ |
| $\gamma_{21}=.43$ ($t=21.26$) | $\gamma_{21}=.60$ ($t=20.10$) | - | $\Delta\chi^2=25.72^{**}$ |
| $\Delta\chi^2$ for all gammas set equal across subgroups ($\Delta df = 2$): 50.86** | | | |

** chi-square difference is significant at the 1 %-level

* chi-square difference is significant at the 5 %-level

Table 3: ESTIMATES OF STRUCTURAL EQUATION COEFFICIENTS - Direct Effects -

| <i>Hypotheses</i> | <i>hypothesized effect</i> | <i>gamma-value (standardized) and t-value*</i> |
|------------------------------------|----------------------------|--|
| H_{2b} : Trust | + | .73 (53.28) |
| | + | .50 (35.87) |
| H_{3b} : Information Exchange | + | .53 (39.32) |
| | + | .52 (30.12) |
| H_{4b} : Joint Working | + | .46 (32.73) |
| | + | .47 (26.05) |
| H_{5b} : Flexibility | + | .66 (42.65) |
| | + | .50 (33.49) |
| H_{6b} : Age of the Relationship | + | .09 (1.62) |
| | + | .05 (1.19) |

* the first line refers to the repurchase intention, the second line to the intention to expand the relationship

Discussion

Theoretical Issues

In recent times doubts have been raised concerning the straightforward nature of the relationship between customer satisfaction and loyalty (e.g., Oliva, Oliver, and MacMillan 1992; Henning-Thurau and Klee 1997). In this study, we investigated if the strength of the link between satisfaction and loyalty is influenced by characteristics of the relationship between buyer and supplier. Our findings suggest that the relationship between satisfaction and loyalty is weakened by relational characteristics of an exchange such as trust, information exchange, joint working, supplier flexibility, and duration of the relationship. Additionally, we showed that these characteristics serve as quasi-moderators. That is, besides weakening the strength of the link between satisfaction and loyalty, relational elements have a positive impact on customer loyalty.

With regard to the age of the relationship, no positive direct effect on loyalty was found. Hence, the age of a partnership does not automatically increase the future stability of this exchange. At least in business-to-business context customers apparently are unlikely to stay loyal to a supplier just because they are used to him.

Another major finding of our study is that although we found a lot of significant moderator effects on the relationship between customer satisfaction and loyalty, the satisfaction-loyalty link is never moderated away. This means that the relationship between satisfaction and loyalty is weaker in relational exchanges but it is still present. Hence, the moderator effects do not make disappear the link between satisfaction and loyalty, they only make it less strong.

From a methodological perspective, our study illustrates how causal modeling can be used to analyze moderator effects. Most previous research on moderator effects has used more simplistic techniques such as moderated regression analysis. Especially when analyzing relationships between latent constructs, multiple group causal modeling seems more appropriate since it allows the simultaneous estimation of measurement parameters and structural relationships. Future research should use this approach to a larger extent, especially when complex constructs are involved.

We concentrated on relationship characteristics as moderators of the satisfaction-loyalty link. However, other factors (such as product or market characteristics) could influence the strength of the relationship between satisfaction and loyalty as well. This is an interesting issue that should be investigated by future research.

Managerial Issues

Our study has two major managerial implications. The first important managerial implication of our study relates to the impact customer satisfaction has on customer loyalty. In contrast to the doubts which some managerial writers have raised concerning the consequences of customer satisfaction (e.g., Jones and Sasser 1995; Reichheld 1993; 1996b), our empirical results clearly indicate that increasing customer satisfaction leads to increasing customer loyalty. Thus, we can encourage managers to reduce customer switching rates through investments in the satisfaction of their customers.

Second, companies can manage customer defections due to customer dissatisfaction by building long-lasting partnerships. Our findings seem to indicate that

managers can build equity with their customers by investing in trust building programs, instituting information sharing systems, involving the customers in the decision process and accommodating reasonable customer requests. These investments will help the company to bond its customers even in times of the customers' dissatisfaction.

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APPENDIX

Scale Items*

| | (mean / SD / item reliability) |
|---|--------------------------------|
| Customer Satisfaction | |
| Overall, our company is very satisfied with this supplier | (5.92/1.14/.84) |
| Our company is not completely happy with this supplier | (5.56/1.72/.61) |
| If we had to do it all over again, we would still choose this supplier for this product | (6.05/1.21/.73) |
| We are very pleased with our relationship with this supplier | (5.81/1.23/.82) |
| Our experience with this supplier has not been good | (6.10/1.36/.67) |
| Customer Loyalty - Intention to Repurchase | |
| It is probable that our relationship with this supplier will continue | (6.36/.89/.86) |
| We will purchase from this supplier again | (6.44/.83/.82) |
| We intend to stay loyal to this supplier | (6.04/1.15/.82) |
| We expect this supplier to be working with us for a long time | (6.17/1.04/.90) |
| Customer Loyalty - Intention to Expand | |
| (partly adapted from Cannon and Homburg 1998) | |
| In the future, this supplier will receive a larger share of our business | (4.75/1.74/.71) |
| We expect to expand our business with this supplier | (4.81/1.63/.84) |
| Over the next few years, this supplier will be used more than it is now | (4.55/1.67/.81) |
| Trust | |
| (partly adapted from Doney and Cannon 1997) | |
| This supplier keeps promises it makes to our company | (5.78/1.22/.58) |
| We believe the information that this supplier provides to us | (5.72/1.12/.67) |
| This supplier is genuinely concerned that our business succeeds | (5.70/1.22/.71) |
| When making important decisions, this supplier considers our welfare as well as its own | (5.07/1.42/.67) |
| We trust this supplier keeps our best interests in mind | (5.38/1.35/.78) |
| This supplier is trustworthy | (5.87/1.17/.83) |
| We find it necessary to be cautious when dealing with this supplier | (5.89/1.44/.63) |

Information exchange

(partly adapted from Heide and John; Nielson 1997)

| | |
|---|-----------------|
| In this relationship, any information that might help the other party will be provided to them | (4.85/1.74/.64) |
| We have frequent informal exchange between our two companies | (5.12/1.58/.62) |
| Both companies share confidential information if it can help the other party | (4.66/1.74/.60) |
| We keep each other informed about events or changes that may affect the relationship | (5.21/1.51/.79) |
| Both our companies willingly provide important technical information if needed for the relationship's success | (5.41/1.47/.70) |

(mean / SD / item reliability)

Joint working

(partly adapted from Nielson 1997)

| | |
|--|-----------------|
| Our two companies jointly make many important technical decisions that might impact our relationship with each other | (4.34/1.86/.64) |
| Our two companies jointly decide on the goals and objectives for our relationship with each other | (4.30/1.86/.60) |
| In many cases, our two companies mutually agree before making major technical decisions that might impact our relationship with each other | (4.56/1.90/.72) |
| Our two companies jointly solve many of our technical problems | (4.82/1.75/.74) |
| Both companies actively provide input into this product's development process | (4.38/1.89/.65) |

Flexibility

(partly adapted from Cannon and Homburg 1998)

| | |
|---|-----------------|
| This supplier is flexible enough to handle unforeseen problems | (5.52/1.29/.75) |
| This supplier handles changes well | (5.35/1.34/.81) |
| This supplier can readily adjust its inventories to meet changes in our needs | (5.14/1.50/.80) |
| This supplier is flexible in response to requests we make | (5.46/1.35/.85) |

* = 7-point Likert scales with "strongly agree" and "strongly disagree" as anchors were employed