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Direct and moderated effects of customer satisfaction on two dimensions of loyalty in a Business-to-Business context

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Direct and Moderated Effects of Customer Satisfaction on two dimensions of Loyalty in a Business-to-Business Context

Abstract

Although the relationship between customer satisfaction and loyalty has been researched extensively, moderating variables on the satisfaction-loyalty link have only received marginal attention, especially in a business-to-business context. In this paper, we adopt the perspective of a two-dimensional model of loyalty. We develop hypotheses about direct and moderating variables on the satisfaction-loyalty link in a business-to-business context, and test them in an empirical study. The results indicate that strategies for enhancing word of mouth and reinforcement behavior should focus on different variables than those for enhancing price resistance.

Introduction

The link between customer satisfaction and loyalty has been subject to a number of investigations (e.g., Anderson and Sullivan 1993; Mittal, Kumar and Tsiros 1999; Mittal, Ross and Baldasare 1998). At least two aspects of the relationship are noteworthy. First, most researchers agree that the relationship between the two variables is non-linear, although the exact form of the relationship is not completely clear (e.g., Anderson and Mittal 2000; Mittal and Kamakura 2001). Second, the link between satisfaction and loyalty is moderated by a number of variables. Is has been found that characteristics such as gender, variety-seeking tendencies, and involvement play an important role in determining the strength of the association between the two constructs (Anderson 1994; Mittal and Kamakura 2001; Oliva, Oliver and MacMillan 1992). This latter issue, the effect of moderating variables on the relationship between satisfaction and loyalty, is the focus of this paper.

Our research highlights three aspects, which have been neglected in prior research. First, moderating characteristics have been restricted to buyer-related variables (Homburg and Giering 2001; Mittal and Kamakura 2001; Oliva, Oliver and MacMillan 1992). Product-category specific variables have not been studied so far. A moderating role of such variables would have implications for market segmentation and prioritization of customer groups: in short, if the strength of the relationship differed with respect to product category perceptions such as importance or uncertainty of the purchase, customer groups could be segmented with respect to these variables and those groups for which the relationship is stronger should primarily be targeted with satisfaction and retention programs. Second, the multidimensionality of the loyalty construct has rarely been taken into account in research about the relationship between satisfaction and loyalty. This would represent a shortcoming if, for example, certain characteristics moderated the relationship between satisfaction and one dimension of loyalty, but not the relationship between satisfaction and another dimension.

Third, all cited studies highlight a consumer context, while the relationship has not yet been analyzed for industrial buyers. It is therefore not surprising that, for example, Homburg and Giering (2001) propose to research moderating variables of the relationship in a business-to-business context.

In the following, we formulate hypotheses about the relationship between satisfaction and two distinct dimensions of customer loyalty in a business-to-business setting. We analyze the effects of product category-level variables that have been identified by prior research as being important for industrial buying decision-making and loyalty. In particular, we investigate the moderating role of the duration of the customer relationship (Bolton 1998), purchase importance and task uncertainty (Bunn 1993) and perceived switching costs (Nielsen 1996). We take into account the multidimensionality of the loyalty construct in that we consider the effects of the moderating characteristics on each loyalty dimension separately. Our modeling approach can be seen in exhibits 1 and 2.

The Satisfaction-Loyalty Link in a Business-To-Business Context

The direct Relationship

Prior research (e.g., Anderson, Fornell and Lehmann 1994; Fornell 1992; Fornell et al. 1996) and intuition suggest that there exists a positive relationship between satisfaction and loyalty. However, the multidimensionality of the customer loyalty construct has not been accounted for in these studies. In this paper, we conceptualize two dimensions of customer loyalty behavior: active and passive loyalty.

In a recent study, Ganesh, Arnold and Reynolds (2000) empirically derive two distinct, relatively independent dimensions of customer loyalty: the first, named active loyalty by the

authors, refers to direct, customer-initiated behavioral intentions such as word of mouth-referrals or repurchase. In contrast, the second dimension, called passive loyalty, captures customer reactions to the change of marketing variables such as their willingness to stay with a provider in case of relative price increases.

To illustrate the significance of the notion of two distinct loyalty dimensions, consider the following: within the customer base of a service provider, there might exist a certain customer type that is likely to stay with her provider and solicit positive WOM as long as the current market situation remains stable (high active loyalty). However, when important marketing variables, such as relative price change, this customer would not hesitate to switch (low passive loyalty). On the other hand, certain customers may not be willing to give positive WOM about their provider (low active loyalty), however, even when there is a strong relative increase in prices they will remain loyal (high passive loyalty). The notion of the two loyalty dimensions and their significant, but relatively small correlation has recently received support (Wangenheim 2001).

In both cited studies, overall satisfaction is significantly correlated with both loyalty dimensions (Ganesh, Arnold and Reynolds 2000; Wangenheim 2001). Hence, we expect that

H1a: Customer satisfaction is positively related to active loyalty.

H1b: Customer satisfaction is positively related to passive loyalty.

Exhibit 1: Model of direct influences on active and passive loyalty in a business-to-business setting

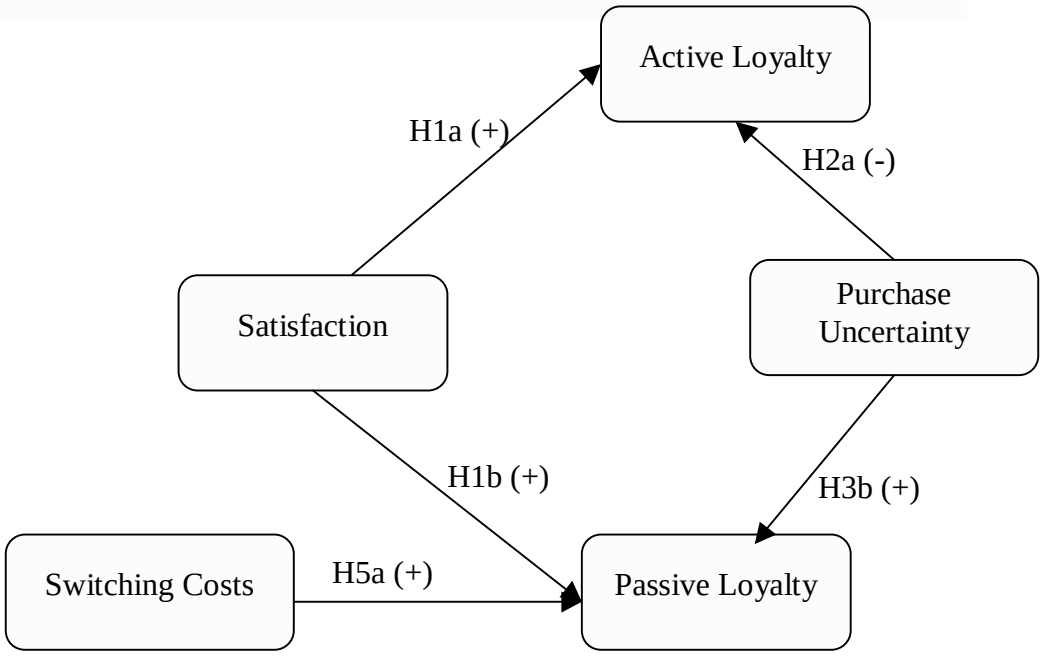
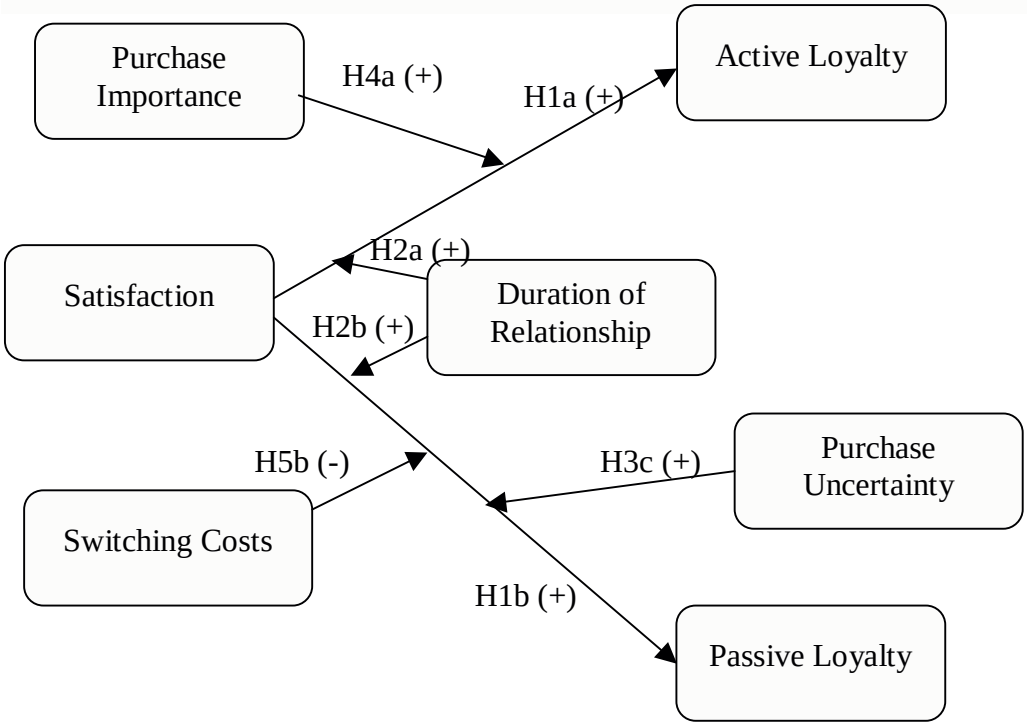


Exhibit 2: Model of moderating influences on the satisfaction-loyalty link in a business-to-business setting



The moderated Relationship

Duration of Customer Relationship

A number of studies show that customers recently acquired from other providers („new customers“) differ from those who have for long been a client of their company („old customers“) with respect to a number of aspects. First, overall satisfaction judgments by new recruits are formed based on different characteristics than those of „old“ customers (Mittal and Katrichis 2000). Second, both groups differ in their loyalty to the provider: while new customers are likely to exhibit more positive word of mouth tendencies and repurchase intentions (=active loyalty), old customers show a greater likelihood of staying with the provider even in the case of relative price changes to their disadvantage (Ganesh, Arnold and Reynolds 2000; Wangenheim 2001). This suggests that the relationship between satisfaction and active and passive loyalty should be different for both groups.

Bolton (1998) argues that for long term customer relationships, cumulative experiences should have more weight than for short term relationships. She shows that satisfaction is a better predictor of the duration of a customer relationship for long term than for short term customers. We conclude that active and passive loyalty are more strongly influenced by satisfaction for long term customers than for recent recruits. For new customers, active loyalty behavior, such as positive WOM, could also occur relatively independent of satisfaction levels, due to the situational involvement of a recent purchase (Richins and Bloch 1986) or to serve the purpose of reducing post-purchase dissonances (Festinger 1957). We further, we predict that it will take some time and cumulative rather than one-time satisfying experiences to build up such a strong commitment to a relationship that high resistance towards relative price changes (i.e., passive loyalty) is achieved. Therefore, we expect that

H2a: The relationship between satisfaction and active loyalty is stronger for long term than for new customers.

H2b: The relationship between satisfaction and passive loyalty is stronger for long term than for new customers.

Task Uncertainty

Task uncertainty is defined as "the buyer's perceived lack of information relevant to a decision situation" (Bunn 1993, p.44). It has been found to be a key aspect of industrial buying behavior (Spekman and Stern 1979). The concept is similar to the notion of perceived risk in consumer behavior. As the most frequent strategy for risk reduction, Cox names "reliance on past experience" (Cox 1967, p.80). When uncertainty is high, decision makers will not respond too quickly to slight satisfaction changes, as it will be difficult to find an appropriate alternative. Therefore, higher levels of passive loyalty and a stronger dependence on satisfaction can be expected when task uncertainty is high.

Active loyalty behaviors, such as word of mouth giving, require a relatively high degree of certainty about the quality of a provider, because receivers of referrals might hold the source responsible for false or incomplete information. When task uncertainty is high, not only choice, but also post-purchase performance evaluation of the providers will be difficult. Therefore, lower active loyalty tendencies should be the consequence when task uncertainty is high. Hence, we expect that

H3a: Task uncertainty is negatively related to active loyalty.

H3b: Task uncertainty is positively related to passive loyalty.

H3c: The relationship between satisfaction and passive loyalty is stronger for high than for low perceived task uncertainty.

Purchase Importance

Purchase importance is "the "buyer's perception of the significance of the buying decision and/or the potential impact of the purchase on the functioning of the firm" (Bunn 1993, p.43). Similar to the consumer research construct of involvement, perceived purchase importance is an important determinant for the choice process that will be applied in the situation.

When perceived purchase importance is high, customers should engage more in information search activities, and, consequently, be better informed about the product. Further, they should observe purchase outcomes more carefully than in low-importance cases, and therefore be more likely to detect even small differences between expectations and performance. Because the negative consequences of such differences are perceived as more critical when purchase importance is high, the motivation to terminate the unsatisfactory relationship will be high. On the other hand, when the relationship is satisfactory, reinforcement will be high, because of the high risk that is typically associated with important purchases (Bayus 1992).

Also, post-purchase affects should be more likely when a purchase is perceived as being high in importance. In case of satisfaction, affects such as joy and relief should be experienced, while dissatisfaction could induce anger or regret. These emotions increase the likelihood of behaviors such as positive or negative word of mouth giving (Westbrook 1987). Therefore, active loyalty behavior such as reinforcement and word of mouth, should be more strongly influenced by satisfaction judgments. Hernce, it is expected that

H4a: The relationship between satisfaction and active loyalty is stronger when perceived purchase importance is high.

Switching Costs

The concept of switching costs is theoretically backed by both psychological social exchange theory (e.g, Blau 1964) and newer institutional economics (e.g., Williamson 1975). Both approaches highlight that exchange relationships to a large extend depend on the investments made by both parties that are specifically devoted to this relationship. These investments can be describes as "the value of specific capital that, in other uses is, by definition, much smaller than the specialized use for which it has been intended" (Williamson 1981, p.555).

From both a customers' and a firms' perspective, having made a specific investment creates switching costs, which are the investment actions which inhibit changing suppliers or customers (Nielson 1996). Switching costs, by definition, inhibit switching behavior. While a number of different types of switching costs can be considered, in this research we are only concerned with time and hassle as potential sources of switching costs. Time costs evolve because of the time-consuming nature of a search process for a new provider, while hassle refers to the psychic costs of a provider change, including the termination of the relationship with the old transaction partner.

When switching costs are high, reactive loyalty tendencies should operate relatively independent of satisfaction judgments, because switching is strongly inhibited by past transaction-specific investments. Increases in relative price will not directly translate into lower loyalty, but will be weighed against those investments, and the relationship between satisfaction and passive loyalty is weakened. In contrast, active loyalty behavior tendencies

should not be stronger or weaker than under circumstances of low switching costs, because output word of mouth and reinforcement will operate independently of perceived switching costs. Therefore, we propose that

H5a: Switching costs are negatively associated with passive loyalty.
H5b: The relationship between satisfaction and passive loyalty is stronger for high than for low switching costs.

Research Method

Research Design and Data Collection

An empirical study was conducted to test our hypotheses. The German market for industrial energy provision represented the chosen industry, because a) energy provision constitutes a service that every company has to use and b) the relatively recent liberalization of the German energy market should have raised the general market involvement, thus increasing the salience of the topic in the mind of customers and potentially the likelihood to participate in the study.

Trained interviewers from a professional telephone marketing research conducted the interviews. The sample was randomly drawn from a German company database ("Hoppenstedt"). In total, the interviewers made calls to 5724 companies. 3131 calls resulted in either no answer or a busy signal and 2168 potential respondents refused to participate in the study. 425 interviews were completed, resulting in a response rate of 16.4% (425/(2593). Because of missing values or contradictory answers, seven cases had to be removed from the data set, resulting in 418 usable questionnaires.

Measurement of Constructs

For measurement of the latent constructs, we used scales that had been developed in previous studies. Our final instrument was pre-tested in a small sample study (n=15). We revised the questionnaire on the basis of these results.

The central variables in our research are customer satisfaction and loyalty. Both constructs have been conceptualized and measured in a large number of earlier studies (e.g., Anderson, Fornell and Lehmann 1994; Fornell et al. 1996; Rust and Zahorik 1993). In our study, we used a six-item instrument containing items such as overall satisfaction and fulfillment of expectations on six-point rating scales. In accordance with our hypotheses, we conceptualized loyalty as a two-dimensional construct (active and passive loyalty). For measurement of the two dimensions, we used two 3-item instruments adapted from the study of Ganesh, Arnold and Reynolds (2000).

For measuring purchase importance, purchase uncertainty and switching costs, items used in previous studies were modified for the present purpose. All three constructs were measured using 2-item instruments. Finally, whether the respondent was a new or an old customer of his provider was measured using a dichotomous, 1-Item measure, asking whether the company has switched the provider after the market liberalization.

To test the quality of our measures, we conducted an exploratory factor analysis and computed coefficient alpha for the final instruments. For customer satisfaction, the exploratory factor analysis revealed a clear 1-factor solution. The average explained variance of this factor was 58%, and coefficient alpha of .85 indicated good reliability for the instrument (Nunally 1978).

Factor analysis of the six loyalty measures resulted in the expected two-factor solution. However, from both instruments, one item had to be removed due to low item-to-total correlation and an increase in coefficient alpha when removing the items. Alpha equaled .74 for active and .72 for passive loyalty, which can be interpreted as satisfactory (Nunally 1978).

The instruments for measuring purchase importance, purchase uncertainty and perceived switching costs all showed high internal consistency (alphas .75, .73, .84, respectively). To test for discriminant validity among our latent variables, we applied the Fornell/Larker criterion (Fornell and Larker 1981), which requires that none of the factors among our latent variables should have a higher squared correlation coefficient with any other variable than the average variation of the indicators explained by the factor is. In table 1, we display the correlation matrix and level of significance of our latent constructs (upper non-diagonal elements), as well as the squared correlation coefficients (lower non-diagonal elements). It can be seen that none of the squared correlation coefficients exceed 0.25, while the lowest average variance explained by a factor is .58 (customer satisfaction). Hence, we conclude that discriminant validity is given.

Table 1: Correlations, Level of Significance and Squared Correlations of Latent Constructs

	Satisfaction	Active Loyalty	Passive Loyalty	Purchase Uncertainty	Purchase Importance	Switching Costs
Satisfaction		.50 (.00)	.33 (.00)	.04 (.50)	.15 (.00)	-.13 (.01)
Active Loyalty	.25		.35 (.00)	-.04 (.40)	.07 (.17)	-.11 (.02)
Passive Loyalty	.11	.13		.00 (.96)	.07 (.17)	-.01 (.89)
Purchase Uncertainty	.00	.00	.00		.31 (.00)	.33 (.00)
Purchase Importance	.02	.00	.02	.10		.01 (.81)
Switching Costs	.02	.01	.00	.11	.00	

Results

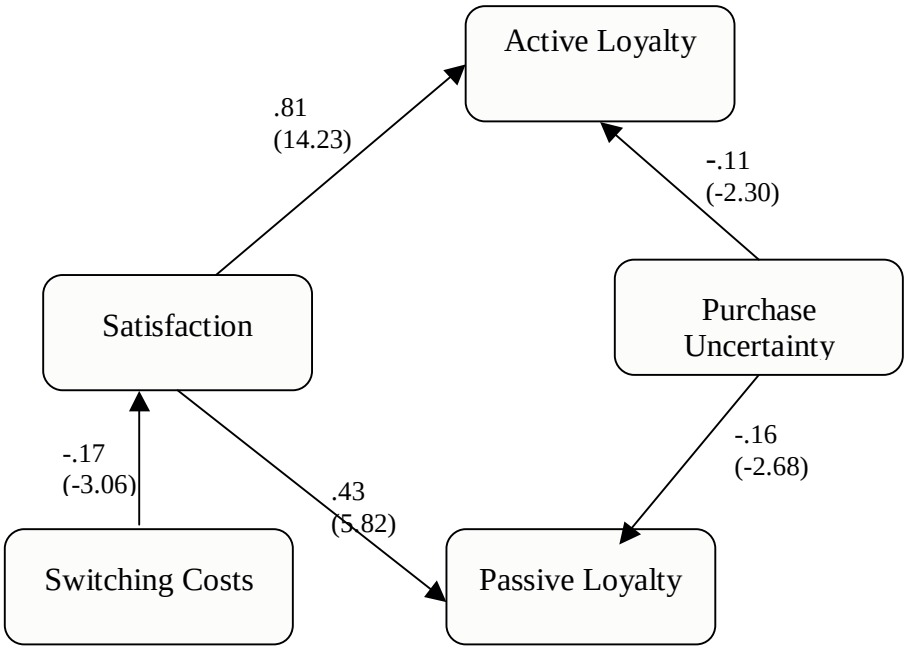
To test our hypotheses, we chose a structural equation modeling approach. The software package LISREL 8.51 was used to conduct the analysis. First, for testing the direct relationships, we estimated a model including all variables that are hypothesized to have a direct influence on the two loyalty dimensions. Then, we used multi-group causal analysis to test the our hypotheses regarding the moderating influences in our model.

For assessing the overall fit of the model, the most frequent fit indices are reported (e.g., Bagozzi and Yi 1988). In particular, we address chi-square, χ^2 / df , GFI (Goodness-of-Fit), AGFI (Adjusted Godness-of-Fit and RMSEA (root-mean-square error of approximation). The χ^2 / df statistics for our model is 2.32 and therefore below the recommended 2.5. While RMSEA should not exceed .08, we obtained .06. Finally, GFI und AGFI should reach at least .9, and these criteria were also fulfilled by our model (GFI: .95; AGFI: .91). Overall, our measures indicate a good fit, with all indices better than the recommended values.

Exhibit 3 shows the estimates of the model based on the full data set. It can be seen that hypotheses H1a and H1b receive strong support. Satisfaction exerts positive, statistically significant influence on both types of loyalty (γ_a = .82, t = 14.23, γ_p = .45, t = 5.82 for active and for passive loyalty, respectively). Further, H3b is supported, as the influence of purchase uncertainty on active loyalty is negative (γ_{ua} = -.11, t = -2.59). H3b, however, is not supported. Opposite to our hypothesis, the path from purchase uncertainty to passive loyalty is negative (γ_{up} = - .19, t = -3.05). Also, in contrast to H5a, switching costs are not significantly related to passive loyalty (γ_{sp} = .07, t = 1.35). However, the modification indices provided in the LISREL output suggested adding a path from switching costs to

satisfaction to our model. Doing so slightly improved the overall fit of the model, and the influence of switching costs on satisfaction was negative and significant (γ_{ss} = -.17 , t =-3.15). Theoretically, we explain this finding with reactance theory (Brehm and Brehm 1981): when individuals feel forced into a decision (in this case: staying with a provider due to high exit barriers), they will develop dislikes against it. 67% of the variance of active and 21% of the variance of passive loyalty in our model can be explained by the independent variables satisfaction and purchase uncertainty.

Exhibit 3: Path Model of Direct Effects



To test the hypotheses regarding the moderating variables, we proceeded as follows: For each of the latent variables, we performed a median-split procedure, which resulted in two groups, one containing the cases that scored high on the respective variable and one containing those who scored low (for the variable "new vs. old client", the splitting mechanism was given by our 1-item dichotomous instrument). Then, we estimated a path model based on the

covariance matrixes of the two sub-samples, and, in a first step, restricted all paths in the model to be equal between the two groups. Next, we estimated a second path model in which we allowed the path from satisfaction to one of the two loyalty dimensions to vary between the two groups. Finally, we drew our attention to the difference in chi-square of the two models. A moderating influence of a variable is confirmed if a) the path from satisfaction to the respective loyalty dimension is higher for the group for which a positive moderating role was expected and b) the drop in chi-square between the restricted and the unrestricted model with one degree of freedom less (due to the additional path to be estimated) was significant (for this procedure, see also Jöreskog and Sörbom 1993).

In table 4, we display the results of the test regarding the moderating effects. It can be seen that H2a and H2b receive support. The effect of satisfaction on both types of loyalty is stronger for old than for new customers. Further, H3c is supported. The effect of satisfaction on passive loyalty is stronger when purchase uncertainty is high. H4a is also supported. The relationship between satisfaction and active loyalty is stronger when purchase importance is high. In all of these cases, the effect change is in the hypothesized direction and the decrease in chi-square in the unrestricted model improves model fit significantly. In contrast, H5b is not supported. Switching costs do not moderate the relationship between satisfaction and passive loyalty. Instead, surprisingly, a significant moderating effect was obtained that we had not expected. Switching costs seem to negatively moderate the relationship between satisfaction and active loyalty. An explanation for this finding is could be that when switching costs are low, a satisfying experience is more likely to result in word of mouth and reinforcement, because the provider can always easily be changed and giving a recommendation is less risky, because the receiver can, in the unexpected event of dissatisfaction, also switch under conditions of low switching costs. On the other hand, an explanation for our finding that there is no moderating effect of switching costs on the

relationship between satisfaction and passive loyalty could be connected with the direct effect of switching costs on satisfaction: in case of high switching costs, satisfaction is directly lowered, consequently leading to lower active and passive loyalty tendencies. It would be interesting to see whether behavioral measures (i.e., actual switching behavior) would be affected in the same way.

Table 2: Results of multi-group analysis

Duration of Customer Relationship			
	New Customer	Old Customer	$\Delta\chi^2$
Active Loyalty	.67	.82	3.18*
Passive Loyalty	.29	.55	4.52**

Purchase Uncertainty			
	High	Low	$\Delta\chi^2$
Active Loyalty	.78	.74	.23
Passive Loyalty	.57	.35	3.33*

Purchase Importance			
	High	Low	$\Delta\chi^2$
Active Loyalty	.86	.69	4.31**
Passive Loyalty	.47	.53	.01

Switching Costs			
	High	Low	$\Delta\chi^2$
Active Loyalty	.73	.87	3.32*
Passive Loyalty	.45	.47	.17

* = Statistically significant at the 10%-level
** = Statistically significant at the 5%-level

Discussion, Implications and Limitations

The results of the present study shed light on a number of important issues regarding the relationship between satisfaction and loyalty that have not been addressed by previous research. We develop and empirically test a model of moderating variables on the satisfaction-loyalty link in business-to-business context. We further show that the relationship between customer satisfaction and the different dimensions of the loyalty construct are not influenced by the same moderator variables.

In designing satisfaction and loyalty campaigns, managers must be clear about the two distinct dimensions. For example, an increase in satisfaction among a group of customers that perceive high switching costs and the purchase of the product as being important can be expected to result in more positive word of mouth and repurchase intentions. However, the same campaign directed towards a group that is high in perceived purchase uncertainty will much rather result in increased resistance towards price increases. Depending on the goals of the respective satisfaction investments, managers should target these programs carefully towards the groups. Market segmentation within a company's customer base according to characteristics such as switching costs, purchase importance and purchase uncertainty should therefore be considered.

For recently recruited customers, the influence of satisfaction on both types of loyalty is weaker. This confirms that companies should indeed strive for long term relationships, because for such customers they will be able to increase retention rates and loyalty behavior by strongly focusing on service quality and satisfaction. Whether it is worth investing into an increase of new customers satisfaction has to be decided on a careful cost-benefit analysis, as new customers will be more likely to defect despite high satisfaction levels, and high satisfaction is not such a strong predictor of retention for them (Bolton 1998). Finally, it is

well worth noting that the effect of satisfaction is much stronger on active than on passive loyalty. Managers must be aware, that rising exit barriers and price insensitivity is much more difficult than increasing positive word of mouth and reinforcement.

It is important to note some limitations of our work. The findings of the study may not be generalizable as the sample was limited to one industry, and, one country. It could also be that the recent liberalization of the market affects the results. As the results of the study are in accordance with prior research in that moderating variables clearly affect the satisfaction-loyalty link, future research should test whether the effects found are applicable to other industrial markets as well. Another limitation of the study is connected with our measures. As widely used, we employed attitudinal multi-item measures for capturing the loyalty construct. While research has repeatedly shown that satisfaction and loyalty measures are good predictors of subsequent retention and loyalty behavior (e.g., Bolton 1998; Fornell et al. 1996), it would be important to study the form and moderating characteristics of the relationship between these attitudinal measures and actual loyalty behavior. As outlined by Mittal and Kamakura (2001), researchers and managers should be aware that the form of the satisfaction-behavior relationship (e.g., actual repeat purchase, or customer relationship duration) might yet be different from formerly studied and proposed forms. In future research, loyalty should be measured as both an attitude and a behavior to determine the "true" form of the satisfaction-loyalty link.

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