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68131 Mannheim

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Homburg, Ch./ Giering, A.

Personal Characteristics as Moderators of the Relationship Between Customer Satisfaction and Loyalty – An Empirical Analysis

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Professor Dr. Christian Homburg

ist Inhaber des Lehrstuhls für Allgemeine Betriebswirtschaftslehre und Marketing I, Universität Mannheim, L 5, 1, 68131 Mannheim. Außerdem ist er Wissenschaftlicher Direktor des Instituts für Marktorientierte Unternehmensführung (IMU) an der Universität Mannheim und Vorsitzender des Wissenschaftlichen Beirates der Prof. Homburg & Partner GmbH.

Dipl.-Kffr. Annette Giering

ist Wissenschaftliche Mitarbeiterin am Lehrstuhl für Allgemeine Betriebswirtschaftslehre und Marketing I, Universität Mannheim, L 5, 1, 68131 Mannheim. Darüber hinaus berät sie Unternehmen in den Bereichen Kundenzufriedenheit, Kundenbindung und Relationship Marketing.

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ABSTRACT

Previous research on the relationship between customer satisfaction and loyalty has largely neglected the issue of moderator variables. The authors develop a set of hypotheses related to the moderating effect of selected personal characteristics on the satisfaction-loyalty link. These hypotheses are tested in a consumer durables context using multiple group causal analysis. Empirical findings provide reasonable support for the theoretical arguments. Specifically, variety seeking, age, and income are found to be important moderators of the satisfaction-loyalty relationship.

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In times of severe competition and rising customer expectations, firms are highly interested in keeping existing customers. As virtually all companies depend on repeat

business, a strong interest in the antecedents of customer loyalty has evolved. Typically, customer satisfaction is thought of as an immediate antecedent to customer loyalty (Anderson & Sullivan, 1990, p. 125). In turn, customer loyalty should lead to increasing shareholder value and asset efficiency (Reichheld, 1996a; Rust & Oliver, 1994). Thus, achieving high levels of customer satisfaction has become a major goal for many companies.

The strong focus on customer satisfaction is based on the implicit assumption that there is a strong positive relationship between customer satisfaction and loyalty. Recently, however, the existence of this strong link has been questioned by managerial writers (Reichheld, 1993; Reichheld, 1996b; Jones & Sasser, 1995). While these authors provide fragmented evidence for high defection rates of satisfied customers, this phenomenon remains largely unexplored in academic literature (Oliva, Oliver, & MacMillan, 1992). The objective of our study is to provide additional insight into the relationship between customer satisfaction and loyalty by examining the effects of moderating factors on this relationship. More specifically, we will study the link between satisfaction and loyalty in the context of consumer durables and investigate the impact of personal characteristics on this relationship. Thus, we address the question: "How do personal characteristics influence the strength of the relationship between satisfaction and loyalty?". The extant literature related to this issue is restricted to theoretical discussion (Dick & Basu, 1994) and very limited empirical evidence (Bloemer & Kasper, 1995; Kasper, 1988).

Research of this type is also relevant from a managerial perspective. Managers responsible for customer retention programs need information concerning the determinants of customer loyalty. It is especially important for managers to know for which customers they can largely rely on satisfaction as a driver of loyalty. Furthermore, it is important to know which types of customers tend to be less loyal even though being highly satisfied.

After reviewing previous research on customer satisfaction, customer loyalty, and the link between the two constructs, we present a conceptual model specifying relationships between different dimensions of satisfaction and loyalty. Next, we develop hypotheses about the moderating influence of personal characteristics on those relationships. We then describe our research method and results. Finally, we discuss our

findings, elaborate on their limitations and explore their theoretical and managerial implications.

CUSTOMER SATISFACTION

Early concepts of satisfaction research have typically defined satisfaction as a post-choice evaluative judgement concerning a specific purchase decision (Bearden & Teel, 1983; Churchill & Suprenant, 1982; Oliver, 1979, 1980; Oliver & DeSarbo, 1988). The theoretical model underlying the vast majority of early satisfaction studies is some version of the confirmation/disconfirmation paradigm (e.g., Olshavsky & Miller, 1972; Oliver & Swan, 1989; Prakash, 1984).

Recent literature adds to this perspective in two ways. First, while traditional models implicitly assume that customer satisfaction is essentially the result of cognitive processes, new conceptual developments suggest that affective processes may also contribute substantially to the explanation and prediction of customer satisfaction (Fornell & Wernerfelt, 1987; Oliver, 1997; Westbrook, 1987; Westbrook & Oliver, 1991).

Second, authors have claimed that satisfaction should be viewed as a judgement based on the cumulative experience made with a certain product or service rather than a transaction-specific phenomenon (Anderson, Fornell, & Lehmann, 1994; Bayus, 1992; Wilton & Nicosia, 1986). Especially with regard to the relationship between customer satisfaction and loyalty, conceptualizing satisfaction as the outcome of one single transaction might be too restrictive: Dissatisfaction with a single transaction is unlikely to cause the customer to switch (Fornell et al., 1996). Also, a single transaction producing a state of satisfaction is unlikely to lead to long-term loyalty. Research in the growing field of relationship marketing using the construct of customer satisfaction has also focused on a cumulative rather than a transaction-specific conceptualization (e.g., Anderson & Narus, 1990; Ganesan, 1994).

There is general agreement that customer satisfaction should be conceptualized as a multidimensional construct (Yi, 1990). In this context, one of the frequently used dimensions is satisfaction with the product itself (LaBarbera & Mazursky, 1983; Marr & Crosby, 1992), which relates to the customer's evaluation of product performance based on such characteristics as durability, dollar value, technical sophistication, and

ease of use. Additionally, satisfaction with the sales process has received considerable attention in many studies (Marr & Crosby, 1992; Ramsey & Sohl, 1997). In this vein, a satisfaction judgement focuses on the interpersonal interaction between the sales personnel and the customer and the ability of the sales representative to meet a customer's unique needs. Finally, satisfaction with the after sales service is frequently conceptualized as a dimension of customer satisfaction. This dimension is commonly related to two fundamental properties (Ostrom & Iacobucci, 1995) including the customer's judgement of the quality of the service and his evaluation of the interaction experience he or she has made with the service provider (Crosby, Evans, & Cowles, 1990).

Based on this review, we define customer satisfaction as the result of a cognitive and affective evaluation, where some comparison standard is compared to the actually perceived performance. The satisfaction judgement is related to all the experiences made with a certain supplier concerning his products, the sales process, and the after sales service.

CUSTOMER LOYALTY

The modeling of loyalty has a long history in the academic literature. Within the marketing discipline, articles dealing with the subject of brand loyalty can be traced back to the early twenties (see Copeland, 1923). The majority of early loyalty studies conceptualized loyalty behaviorally as a form of repeat purchasing of a particular product or service over time. While some authors focused on the sequence in which brands were purchased (Brown, 1952; Churchill, 1942), others measured loyalty through the proportion of purchases devoted to a given brand (Brody & Cunningham, 1968; Cunningham, 1956). A third group concentrated on stochastic measures like probability of purchase (Farley, 1964; Frank, 1962; Lipstein, 1959). Finally, some authors combined several behavioral criteria in their empirical studies (Frank, Massy, & Lodahl, 1969; Tucker, 1964).

In his frequently quoted article, Day (1969) criticizes the use of solely behavior-based loyalty measures because these are not able to distinguish between true loyalty and "spurious" loyalty: "The key point is that these spuriously loyal buyers lack any attachment to brand attributes, and they can be immediately captured by another brand

that offers a better deal ..." (p. 30). Accordingly, he suggests a two-dimensional conceptualization of loyalty adding an attitudinal dimension to the behavioral component. Consistent with this perspective, Jacoby (1971) provides a conceptual definition of brand loyalty which stresses the importance of a conscious evaluation process leading to loyal behavior, thus, excluding random repeat purchasing (see also Jacoby & Chestnut, 1978; Jacoby & Kyner, 1973; Jacoby & Olson, 1970).

Recent research has tended to adopt this two-dimensional conceptualization of loyalty (e.g., Dick & Basu, 1994; Oliver, 1997; Pritchard, Howard, & Havitz, 1992). Thus, this perspective will also be used in our study.

THE RELATIONSHIP BETWEEN CUSTOMER SATISFACTION AND LOYALTY

The literature pertaining to the relationship between customer satisfaction and loyalty can be organized in three categories. A first group of authors provide empirical evidence of a positive relationship between customer satisfaction and loyalty without further elaboration. Other studies investigate the functional form of the relationship between customer satisfaction and loyalty. Finally, a third category of research examines effects of moderator variables on the relationship between the two constructs.

Within the first research stream, Bitner (1990) shows that satisfaction has an indirect effect on loyalty mediated by perceived quality. Furthermore, her results (obtained in a services context) reveal that loyalty is also influenced directly by satisfaction. Similarly, Rust and Zahorik (1993) and Rust, Zahorik, and Keiningham (1995) find a 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), Biong (1993), Hallowell (1996), Halstead and Page (1992), Taylor and Baker (1994), and Woodside, Frey, and Daly (1989). Within a marketing channels context, research by Gassenheimer, Sterling, and Robicheaux (1989) and Ping (1993) supports the existence of a positive satisfaction-loyalty link.

While research within the first category has typically been based on the explicit or implicit assumption of a linear relationship, researchers within the second stream

have provided theoretical and empirical support for a more complex (i.e. non-linear) structure. As an example, Heskett et al. (1994) provide conceptual support for a convex structure of the relationship, i.e. increasing marginal returns. Jones and Sasser (1995) argue that such a convex structure is likely to occur mainly in highly competitive environments. Empirical support for a convex relationship is provided by Auh and Johnson (1997). Woodruff, Cadotte, and Jenkins (1983) suggest a "saddle curve" shape of the relationship implying that low or high satisfaction levels should increase a customer's likelihood of reacting in some way. At some medium satisfaction level customers might find themselves in a so-called "zone of indifference". Within this interval, satisfaction has only a small impact on customer loyalty (see also Finkelman & Golland, 1990; Finkelman, Cetlin, & Wenner, 1992). Finally, findings by Oliva, Oliver, and MacMillan (1992) indicate that, depending on the magnitude of transaction costs, the relation between customer satisfaction and loyalty can be both linear and nonlinear.

A third and very limited group of studies examines the existence of external factors moderating the relationship between satisfaction and loyalty. Applying moderated regression analysis, Bloemer and Kasper (1995) and Bloemer, Pauwels, and Kasper (1996) find that involvement has a positive moderating effect on the link between satisfaction and loyalty. The fact that the issue of moderating effects on the relationship between satisfaction and loyalty has received limited attention in the literature shows that our research fills a gap.

STUDY PROPOSITIONS

We first develop hypotheses on the main effects of different dimensions of customer satisfaction on loyalty. In a second step, we develop hypotheses related to moderators of the linkage between satisfaction and loyalty. We focus on personal characteristics as possible moderator variables.

Hypothesized Main Effects between Satisfaction and Loyalty

As pointed out earlier, we use a three-dimensional conceptualization of satisfaction including satisfaction with the product, satisfaction with the sales process, and satisfaction with the after sales service. Consistent with the definition of customer

satisfaction provided above, these three dimensions comprise cognitive as well as affective aspects (see also Oliver, 1993). Especially in the context of consumer durables, satisfaction with the product primarily relates to technical and functional features of the product and is, therefore, determined by a customer's cognitive evaluation (e.g., his judgement on the occurrence of defects). On the other hand, satisfaction with the sales process is concerned with the personal interaction between a sales representative and the customer. Thus, in this context the customer's satisfaction judgement is assumed to be primarily the result of affective processes (Quelch & Ash, 1981). A customer's satisfaction with the after sales service is generally based on both, cognition (evaluation of the quality of the service) and affect (e.g., evaluation of the friendliness of the service provider). However, especially in the context of consumer durables, after sales service typically involves technically complex repairing procedures. Therefore, the assessment of the performance of after sales services is a difficult task for the customer, because he or she can usually neither observe how the work is conducted nor evaluate the efficiency of the specific procedures. Hence, using terminology from the area of "economics of information" (see Darby & Karni, 1973; Nelson, 1970), it is proposed that most of the attributes of the after sales service are credence or at least experience qualities (Zeithaml, 1981, p. 186). If a customer feels uncomfortable to evaluate a specific service performance properly, he or she bases his post-purchase response primarily on emotional attributions (Wyckham, Fitzroy, & Mandry, 1975, p. 61). Consequently, we consider the third satisfaction dimension to be dominated by affective rather than cognitive aspects.

In accordance with previous research (Forbes, Tse, & Taylor, 1986; Fornell & Wernerfelt, 1987; Patterson, Johnson, & Spreng, 1997), we hypothesize that all three satisfaction dimensions have a positive effect on customer loyalty. Hence, the hypotheses for the main effects are as follows:

H₁: Satisfaction with the product has a positive influence on customer loyalty.

H₂: Satisfaction with the sales process has a positive influence on customer loyalty.

H₃: Satisfaction with the after sales service has a positive influence on customer loyalty.

Hypothesized Moderating Effects of the Relationship between Satisfaction and Loyalty

Based on a review of the literature related to personal determinants of buying behavior, five personal characteristics are predicted to have a moderating impact on the linkage between customer satisfaction and loyalty. We chose three demographic as well as two psychological factors in order to see if there are differences in their explanatory power. Each of these factors has been found to be relevant in the context of customer satisfaction and/or loyalty in previous studies. Subsequently, we discuss each of the five potential moderators and develop specific hypotheses.

Gender. The impact of gender on buying behavior has attracted some research interest (e.g., Jasper & Lan, 1992; Slama & Tashian, 1985; Zeithaml, 1985). An empirical investigation by Keng and Yang (1993) reveals significant differences between men and women concerning their emphasis on different types of values. More specifically, men were more focused on the value of achievement than women. Thus, satisfaction with the product is likely to be more important for men than for women since the functionality of the product largely determines the degree to which the purchase actually achieves its purpose. As a consequence, the impact which satisfaction with the product has on loyalty is suggested to be stronger for men than for women (H_{4A}).

On the other hand, women's purchasing behavior is strongly influenced by their evaluation of personal interaction processes. Compared to men, they are more involved in purchasing activities (Slama & Tashlian, 1985), and pay more attention to the consulting services of the sales personnel (Gilbert & Warren, 1995). This view is supported by Zeithaml's (1985) empirical results that men rely less on the information they receive during their interaction with the salespeople. Thus, we hypothesize that the linkage between satisfaction with the sales process and loyalty is stronger for women than for men (H_{4B}).

As mentioned earlier, customer satisfaction with the after sales service is considered to be dominated by affective aspects, such as an individual's perception of the service provider's advisory activities or the quality of the personal interaction

processes. Therefore, in accordance with the arguments leading to hypothesis H_{4B}, we assume that the influence of the third dimension of customer satisfaction on loyalty is stronger for females than for males (H_{4C}). In summary, we hypothesize the following moderating effects of gender:

H₄: The impact of satisfaction with the product on loyalty is stronger for men than for women (H_{4A}). The loyalty effect of satisfaction with the sales process and with the after sales service, respectively, is stronger for women than for men (H_{4B and C}).

Age. Age is another demographic characteristic which has attracted considerable research attention. Research comparing young and elderly customers has concentrated on differences in the information processing abilities needed to evaluate a product (Moscovitch, 1982; Roedder John & Cole, 1986; Smith & Baltes, 1990; Walsh, 1982). Authors have claimed that the so-called crystallized abilities increase over lifetime (Horn, 1982; Light, 1991). Crystallized ability reflects knowledge of a specific problem content or the operations needed to solve a problem and is a product of learning and experience (Sorce, 1995). Thus, when evaluating a certain product, older people are likely to focus on its key features. Based on their superior experience they have gained the ability to pay selective attention to the crucial stimulus features while ignoring less relevant ones (Phillips & Sternthal, 1977). Hence, we suggest that satisfaction with the product has a stronger influence on loyalty for older people (H_{5A}).

Consistent with this view, we assume that younger people experience more difficulties in evaluating the quality of a product. Thus, they are likely to show heavy reliance on the information provided by the sales personnel or the provider of the after sales service, respectively. Further, the existence of age differences in remembering, understanding, and evaluating information is well documented in numerous consumer research studies (see Bearden & Mason, 1979; Phillips & Sternthal, 1977; Stephens & Warrens, 1984). Most of these studies conclude, that information processing declines with age (Gilly & Zeithaml, 1985). Additionally, there is empirical evidence that older people have slower processing speeds and have more difficulty in processing large amounts of new information (Cole & Gaeth, 1990). Hence, we hypothesize that the new information provided during the sales process or the after sales service, respectively, is

better received by younger than by older people. Thus, it is assumed that satisfaction with the sales process and with the after sales service, respectively, has a stronger impact on loyalty for younger than for older people (H_{5B} and H_{5C}). Hence, we suggest the following hypothesis:

H_5 : The impact of satisfaction with the product on loyalty is stronger for older than for younger people (H_{5A}). The loyalty effect of satisfaction with the sales process and with the after sales service, respectively, is stronger for younger than for older people (H_{5B} and C).

Income. Income is another demographic characteristic of a person which is assumed to have a strong impact on choice decisions (Zeithaml, 1985). In a general sense, it is assumed that people with higher income have achieved a higher level of education (Farley, 1964). Thus, they usually engage more in information processing prior to the decision process (Schaninger & Sciglimpaglia, 1981), and their choice is essentially based on the evaluation of the information given to them. Due to their cognitive capacities they feel more comfortable when dealing with and relying on new information inputs (Hoyer, 1984; Spence & Brucks, 1997). Thus, we suppose that the quality of the relationship and the information exchange between the salesperson (or the provider of the after sales service, respectively) and the customer largely determines the probability of continued customer loyalty. This leads to the hypotheses, that the loyalty effects of satisfaction with the sales process as well as satisfaction with the after sales service increase with higher income (H_{6B} and H_{6C}).

On the other hand, product satisfaction is likely to be less important for people with high income (H_{6A}) since their financial risk associated with the purchase of a poor quality product is lower (Jacoby & Kaplan, 1972; Murray & Schlacter, 1990). In summary, this leads us to the following hypothesis:

H_6 : The impact of satisfaction with the product on loyalty is stronger for people with lower income (H_{6A}). The loyalty effect of satisfaction with the sales process and with the after sales service, respectively, is stronger for people with higher income (H_{6B} and C).

Involvement. A lot of research in recent years has focused on involvement as a central variable influencing purchase decisions (e.g., Beatty, Kahle, & Homer, 1988;

Burton & Netemeyer, 1992; Kapferer & Laurent, 1993; Mittal, 1995; Zaichkowsky, 1985; Zaichkowsky & Sood, 1988). The concept of involvement has been discussed for about three decades in the consumer behavior literature and even longer in psychology (Muncy & Hunt, 1984). Although there is some disagreement concerning the precise definition of involvement, most researchers agree that the level of involvement is associated with the level of perceived personal relevance or importance of a specific product category to the customer (Celsi & Olson, 1988; Flynn & Goldsmith, 1993; Gotlieb, Schlacter, & Louis, 1992). Current theory holds that high customer involvement in a product will lead to extensive interest in and search of product-related information (Bloch & Richins, 1983; Mittal, 1989; Richins & Bloch, 1986). However, because of a highly involved person's greater expertise with the product category, he or she may have little need for such information during the actual purchase decision (Heslin & Johnson, 1992). Hence, we hypothesize that the impact of the two satisfaction dimensions which refer mainly to consulting and advisory activities of the supplier (i.e., satisfaction with the sales process and satisfaction with the after sales service) have a weaker effect on loyalty when a customer is very involved with that product (H_{7A} and H_{7B}). Further, we do not expect any moderating effect of involvement on the relationship between satisfaction with the product and loyalty. Hence, we suggest the following hypothesis:

H₇: The loyalty effect of satisfaction with the sales process and with the after sales service, respectively, is weaker for highly involved people (H_{7A} and B).

Variety Seeking. The phenomenon of variety seeking is a much discussed topic. Its antecedents, determinants, implications, and correlates have been investigated by psychologists, consumer behaviorists, marketers, and economists. The basic idea behind the concept of variety seeking is that under certain conditions everyone has a need for variety in his daily life (Faison, 1977). When customers seek variety, they have wants and needs that cannot be filled best by a single brand, but by a purchase history involving consistent switching among brands (Feinberg, Kahn, & McAllister, 1992; Lattin & McAlister, 1985). Thus, customers seek variety in product choices in order to avoid feelings of monotony and boredom (Menon & Kahn, 1995).

Different types of variety seeking have been identified in the literature (see McAlister & Pessemier, 1982 for an interdisciplinary review). We focus on variety

seeking as an intrinsically motivated phenomenon. Thus, we do not include variation in behavior that is instigated by the instrumental or functional value of the alternatives (see also van Trijp, 1995; vanTrijp, Hoyer, & Inman, 1996). Intrinsically motivated variety seeking means that a customer switches brands only for the sake of variety and the stimulation it brings to the situation, irrespective of his satisfaction with the original brand and the consequences implied by his switching behavior (Raju, 1980; Steenkamp & Baumgartner, 1992). Hence, in our context, we propose a customer' s drive for variety to weaken the relationship between satisfaction with the product and loyalty. Since we regard variety seeking as a product-related phenomenon, meaning that people with a high need for variety will express this intrinsic motivation in some product categories, but not others (vanTrijp, Hoyer, & Inman, 1996), we suggest no moderating effect of variety seeking on the linkages between satisfaction with the sales process or satisfaction with the after sales service and loyalty. Thus, we hypothesize:

H₃: The impact of satisfaction with the product on loyalty is weaker for people with a strong drive for variety.

Method

Sample

Questionnaires that operationalized the satisfaction and the loyalty construct as well as the moderator variables were sent to 3.000 randomly selected customers of a German car manufacturer who had bought a new car two years ago. The two year delay between the purchase and the survey was necessary for two reasons. First, to make sure that the customers had gained enough experience with the car as well as the services offered by the car manufacturer. Second, to find respondents which were ready to think about a new car on the other hand. 943 usable responses were returned, representing a response rate of 31.4%.

Measures

Most of the constructs in our study were measured by means of multi-item scales. Item generation was based on interviews with customers as well as managers from the automotive industry and a review of the extant literature.

A multi-dimensional scale was used to measure customer loyalty. As pointed out earlier, previous research suggests customer loyalty to consist of a behavioral and an attitudinal component. We capture a customer's positive attitude towards a certain supplier's product through his willingness to recommend the product to others. Hence, we suggest that recommendation behavior occurs when the customer has a positively valanced attitude towards a certain product and perceives this product as being superior to the products of alternative suppliers (see also Dick & Basu, 1994, p. 101). In addition to the customer's recommendation behavior and his intention to repurchase the product, we conceptualized a third dimension of customer loyalty - the customer's intention to repurchase the product from the same distributor. Previous work focusing on consumer durables (e.g., Johnson et al., 1997) shows that, besides repurchase and recommendation of the product itself, the intention of staying loyal to the distributor embodies another important component of customer loyalty.

In order to assess measurement validity, confirmatory factor analyses were run with LISREL VIII (Jöreskog & Sörbom, 1993). Confirmatory factor analysis is considered to be superior to more traditional criteria such as Coefficient Alpha in the context of scale validation since less restrictive assumptions apply (Anderson & Gerbing, 1993; Bagozzi, Yi, & Phillips, 1991; Gerbing & Anderson, 1988). Table 1 shows the confirmatory factor analysis results together with some additional reliability information. Analyses were conducted separately for the three satisfaction dimensions, the three loyalty dimensions, and the moderating factors.

Table 1. Validation of Construct Measures

<i>Factor</i>	<i>Number of Items</i>	<i>Cronbach Alpha</i>	<i>Composite Reliability</i>	<i>Average Variance Extracted</i>
<i>satisfaction with the</i>	3	.79	.79	.56

<i>product</i>				
<i>satisfaction with the sales process</i>	4	.85	.89	.67
<i>satisfaction with the after sales service</i>	11	.89	.92	.44
<i>recommendation of the product</i>	2	.87	.93	.87
<i>product repurchase intention</i>	3	.81	.89	.74
<i>distributor repurchase intention</i>	1	-	-	-
<i>involvement</i>	2	.79	.63	.51
<i>variety seeking</i>	3	.63	.63	.50

Composite reliability represents the shared variance among a set of observed variables measuring an underlying construct (Fornell & Larcker, 1981). Generally, a composite reliability of at least .6 is considered desirable (Bagozzi & 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, with one exception Coefficient Alpha values clearly exceed the threshold value of .7 recommended by Nunnally (1978).

Analysis

Figure 1 provides an overview of the hypothesized main effects using the well-known LISREL-notation. Given our hypothesized three-dimensional conceptualization of loyalty, we operationalize hypotheses H_1 , H_2 , and H_3 in our model in the following way: We assume the first two dimensions of satisfaction to affect all three components of loyalty (H_1 , H_2), whereas satisfaction with the after sales service is expected to have an effect only on loyalty to the distributor (H_3). It is proposed, thus, that a customer's evaluation of the after sales service is exclusively based on his assessment of the car dealer's performance and, hence, is unrelated to the two product-related loyalty dimensions.

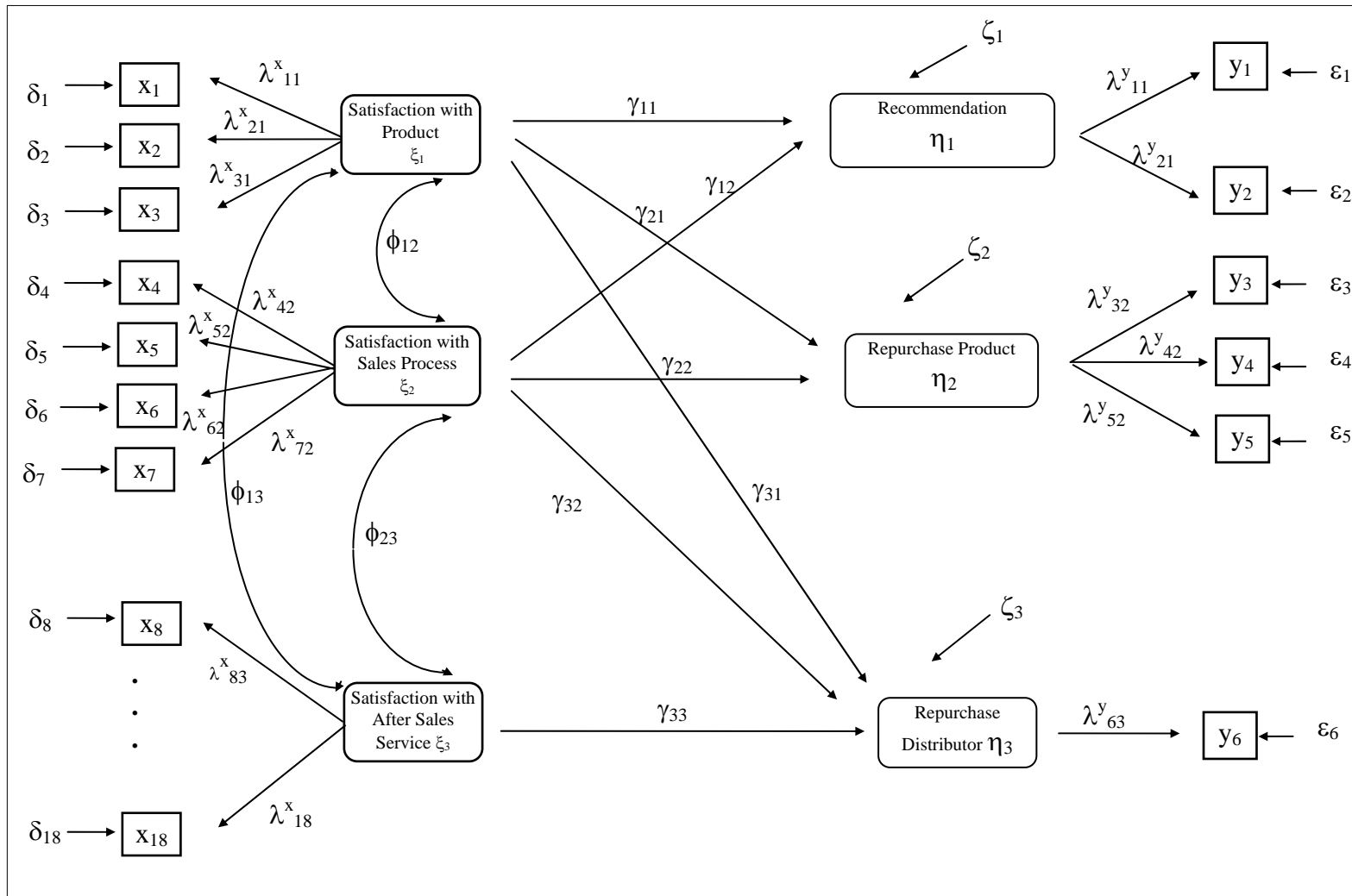


Figure 1: Causal Model of Effects between Customer Satisfaction and Loyalty

In a first step, we tested our main hypotheses (H₁-H₃). LISREL VIII was used to estimate the system of equations represented in Figure 1 (see Jöreskog & Sörbom, 1993). In a next step, we assessed the influence of moderator variables on the postulated relationships between satisfaction and loyalty. Empirical techniques for evaluating moderator effects include moderated regression analysis and Multiple Group LISREL. The first one is commonly used within the behavioral sciences (see Arnold, 1982 and Darrow & Kahl, 1982 for an overview). Though moderated regression analysis is a widely accepted technique in marketing research, we considered Multiple Group LISREL to be a more appropriate method in our case since relationships among latent constructs are considered.

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 subsamples, one with high versus one with low values of the moderator variable (as far as gender is concerned, we compared males and females, respectively). More specifically, we compared two models that are different only with respect to the effect of one satisfaction dimension 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 subsamples, 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.

RESULTS

Table 2 gives the results of the model shown in Figure 1. Goodness-of-fit index (GFI) and adjusted goodness-of-fit index (AGFI) are two descriptive overall fit measures for which a threshold value of .9 usually is recommended (Baumgartner &

Homburg, 1996; Bagozzi & Yi, 1988). Our model meets these criteria (GFI = .99 and AGFI = .98). RMSEA is a fit measure that is based on the concept of non-centrality (Steiger, 1990). Values up to .05 usually are considered to indicate a good model fit. In our case, RMSEA is .045. Thus, although the χ^2 -statistic is significant ($\chi^2 = 711.57$, $df = 243$, $p < .01$), we conclude that the model fits the data reasonably well.

All γ -parameters are significant at the 1 %-level, supporting our hypotheses H₁, H₂, and H₃. Thus, all of the hypothesized main effects of satisfaction on loyalty are supported by our findings. We observe particularly strong effects of satisfaction with the product on recommendation behavior as well as product repurchase intention. Another strong effect is observed between satisfaction with the sales process and the intention to repurchase at the same distributor.

Table 2. Estimates of Structural Equation Coefficients

<i>parameter</i>	<i>parameter value (standardized)</i>	<i>t-value</i>
γ_{11}	.44	15.84
γ_{21}	.60	19.98
γ_{31}	.12	3.66
γ_{12}	.16	6.37
γ_{22}	.26	9.64
γ_{32}	.44	8.38
γ_{33}	.24	4.94

After having found support for the main effects, we turn to the hypothesized moderator effects in order to gain deeper insights into the relationship between customer satisfaction and loyalty. Prior to testing individual hypotheses we conducted an overall χ^2 -difference test for each of the moderator variables. Here, we compared a

model which imposes equality constraints on all seven γ -parameters across subgroups and a general model which allows all of these parameters to vary freely across subgroups. Thus, this test evaluates the null hypothesis that the respective moderator variable does not have any effect on the relationship between satisfaction and loyalty. As can be seen from Table 3, this null hypothesis was rejected for each of the five moderator variables ($\Delta\chi^2 \geq 14.07$, $\Delta df = 7$). This finding shows that our moderator variables, in general, are relevant in the context of the satisfaction-loyalty-link. We will now turn to analyzing the specific hypotheses. Results of hypotheses tests are shown in Table 3.

Table 3. Results of Multiple Group Analysis

<i>Gender(H₄)</i>			
<i>male</i>		<i>female</i>	<i>chi-square difference ($\Delta df = 1$)</i>
H _{4A}	$\gamma_{11}=.44$ (t=15.49)	$\gamma_{11}=.42$ (t=4.08)	$\Delta\chi^2=.14$
	$\gamma_{21}=.61$ (t=19.38)	$\gamma_{21}=.49$ (t=4.67)	$\Delta\chi^2=.68$
	$\gamma_{31}=.14$ (t=4.28)	$\gamma_{31}=-.12$ (t=-.92)	$\Delta\chi^2=4.14$ *
H _{4B}	$\gamma_{12}=.15$ (t=5.77)	$\gamma_{12}=.20$ (t=2.65)	$\Delta\chi^2=.33$
	$\gamma_{22}=.24$ (t=8.49)	$\gamma_{22}=.45$ (t=5.94)	$\Delta\chi^2=5.73$ *
	$\gamma_{32}=.43$ (t=7.98)	$\gamma_{32}=.53$ (t=2.01)	$\Delta\chi^2=.13$
H _{4C}	$\gamma_{33}=.23$ (t=4.58)	$\gamma_{33}=.37$ (t=1.66)	$\Delta\chi^2=.27$
$\Delta\chi^2$ for all gammas set equal across subgroups ($\Delta df = 7$): 16.57*			

<i>Age (H₅)</i>			
	<i>old</i>	<i>young</i>	<i>chi-square difference (Δdf = 1)</i>
H _{5A}	γ ₁₁ =.56 (t=8.04)	γ ₁₁ =.42 (t=6.96)	Δχ ² =7.15 *
	γ ₂₁ =.84 (t=9.94)	γ ₂₁ =.47 (t=9.13)	Δχ ² =13.25 *
	γ ₃₁ =.44 (t=5.13)	γ ₃₁ =-.04 (t=-.63)	Δχ ² =20.21 *
H _{5B}	γ ₁₂ =.00 (t=.01)	γ ₁₂ =.14 (t=3.53)	Δχ ² =2.03
	γ ₂₂ =.07 (t=.68)	γ ₂₂ =.40 (t=10.65)	Δχ ² =13.31 *
	γ ₃₂ =.16 (t=1.44)	γ ₃₂ =.66 (t=4.05)	Δχ ² =7.43 *
H _{5C}	γ ₃₃ =.18 (t=2.08)	γ ₃₃ =.19 (t=1.16)	across subgroups Δχ ² =0
Δχ ² for all gammas set equal across subgroups (Δdf = 7): 41.42*			

<i>Income (H₆)</i>			
	<i>high</i>	<i>low</i>	<i>chi-square difference (Δdf = 1)</i>
H _{6A}	γ ₁₁ =.41 (t=7.17) γ ₂₁ =.53 (t=8.81) γ ₃₁ =.10 (t=1.62)	γ ₁₁ =.88 (t=4.92) γ ₂₁ =1.40 (t=3.07) γ ₃₁ =.47 (t=3.32)	Δχ ² =8.37 * Δχ ² =12.95 * Δχ ² =6.8 *
H _{6B}	γ ₁₂ =.24 (t=5.17) γ ₂₂ =.36 (t=7.50) γ ₃₂ =.32 (t=2.89)	γ ₁₂ =-.37 (t=-1.83) γ ₂₂ =-.71 (t=-1.46) γ ₃₂ =.12 (t=.57)	Δχ ² =17.03 * Δχ ² =21.53 * Δχ ² =.72
H _{6C}	γ ₃₃ =.34 (t=3.69)	γ ₃₃ =.19 (t=1.57)	Δχ ² =1.06
Δχ ² for all gammas set equal across subgroups (Δdf = 7): 30.95*			
<i>Involvement (H₇)</i>			
	<i>high</i>	<i>low</i>	<i>chi-square difference (Δdf = 1)</i>
H _{7A}	γ ₁₂ =.11 (t=2.94) γ ₂₂ =.19 (t=4.46) γ ₃₂ =.47 (t=5.12)	γ ₁₂ =.21 (t=5.38) γ ₂₂ =.34 (t=8.05) γ ₃₂ =.46 (t=5.35)	Δχ ² =3.66 Δχ ² =5.82 * Δχ ² = .01
H _{7B}	γ ₃₃ =.23 (t=2.76)	γ ₃₃ =.25 (t=3.23)	Δχ ² = .01
Δχ ² for all gammas set equal across subgroups (Δdf = 7): 20.05*			
<i>Variety Seeking (H₈)</i>			
	<i>high</i>	<i>low</i>	<i>chi-square difference (Δdf = 1)</i>
	γ ₁₁ =.39 (t=9.05) γ ₂₁ =.55 (t=12.33) γ ₃₁ =-.01 (t=-.20)	γ ₁₁ =.60 (t=10.76) γ ₂₁ =.80 (t=12.09) γ ₃₁ =.18 (t=3.04)	Δχ ² =5.16 * Δχ ² =11.34 * Δχ ² =5.88 *
Δχ ² for all gammas set equal across subgroups (Δdf = 7): 28.13*			

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

H_{4A} suggests that the relationship between satisfaction with the product and loyalty is stronger for men than for women, whereas the influence of satisfaction with the sales process or satisfaction with the after sales service on loyalty is assumed to be stronger for women than for men (H_{4B} and H_{4C}). Our results show significant differences for only two out of the seven effects (γ_{31} and γ_{22}). Inspection of the corresponding parameter estimates indicates that satisfaction with the product has a significant effect on the intention to repurchase at the same distributor for men but not for women. While significant effects of satisfaction with the sales process on the intention to repurchase at the same distributor (γ_{32}) are present in both subsamples, this effect is observed to be stronger in the female subsample as has been hypothesized in H_{4B}. In summary, our findings, although partly supporting our hypothesis, show that the customer's gender is of minor importance for the satisfaction-loyalty link.

H_{5A} posits a positive moderator effect of age on the relationship between satisfaction with the product and loyalty. The results support this hypothesis for all three loyalty dimensions. For younger people, satisfaction with the sales process has been posited to have a stronger effect on loyalty than for older people (H_{5B}). This hypothesis is supported empirically for two out of three loyalty dimensions (repurchase intention of the product and intention to stay loyal to the car distributor). Hence, H_{5B} is partly supported. H_{5C} is not supported by our findings since the χ^2 -difference is insignificant. In summary, our results reveal an important role of age as a moderator of the satisfaction-loyalty link.

H_{6A} proposes that the relationship between satisfaction with the product and loyalty is weaker for people with high income than it is for people with low income. This proposition is supported by our results for all of the three loyalty dimensions. Furthermore, as proposed by H_{6B} and H_{6C}, the results show that income moderates the relationship between satisfaction with the sales process and satisfaction with the after sales service and loyalty positively, but two of these postulated effects lack statistical significance (γ_{32} and γ_{33}). Thus, H_{6B} is partly supported while we find no support for H_{6C}.

H_{7A} posits that the amount of involvement weakens the influence satisfaction with the sales process has on loyalty. We find only limited support for H_{7A} since the

moderating effect is supported for only one of the three loyalty dimensions. Also, our data provide no support for H_{7B}.

As expressed by H₈, we suggest that variety seeking has a negative moderator effect on the relationship between satisfaction with the product and the three loyalty dimensions. Empirical results clearly support this hypothesis with regard to all three loyalty dimensions.

DISCUSSION

Research Implications

Previous research has largely neglected the issue of moderator effects on the relationship between satisfaction and loyalty. Against this background, we suggested a number of hypotheses related to the moderating impact of personal characteristics on the satisfaction-loyalty link. Using multiple group causal analysis, we find significant differences across subgroups concerning the satisfaction-loyalty link for each of the moderators. Also we obtain reasonable support for our specific hypotheses. More specifically, we find that variety seeking, age, and income are important moderators of the satisfaction-loyalty link. Less evidence for moderating effects is found for gender and involvement. Thus, our research makes a significant contribution to a better understanding of the link between customer satisfaction and loyalty.

Our research also provides an improved understanding of the role of personal characteristics in the context of customer loyalty. Early work by Brody and Cunningham (1968) and Frank (1967) based on panel data or experimental research designs indicates that demographic and personality variables are of negligible value when predicting brand loyalty. Thus, these early findings indicate that there are no direct effects of these variables on loyalty. Based on advanced multivariate analysis, however, our study shows that personal characteristics are relevant as moderators of the relationship between customer satisfaction and loyalty.

Our results also emphasize the importance of studying demographic characteristics as determinants of buyer behavior. Much of the more recent research in many areas of consumer behavior has abandoned demographic factors and shifted

attention to psychological constructs. There is no doubt that these constructs explain many of the individual-level phenomena more adequately than general demographic factors. Nevertheless, our results strongly indicate that demographic characteristics such as age and income do play an important role as moderators of relationships between psychological and behavioral constructs. A key benefit of incorporating demographics in studies of consumer behavior is that those factors are much easier to measure and, therefore, easier to handle for marketing practitioners. Hence, we claim that managerial relevance of consumer behavior research is increased when demographics are incorporated into the research design. In many situations a customer's demographic characteristics do both effect and reflect his psychological state, his values, and his behavior (e.g., Areni, Kiecker, & Palan, 1998; Dickerson & Gentry, 1983; Kalyanam & Putler, 1997; Reinartz & Kumar, 1999; Timmer & Kahle, 1983).

Additionally, previous research in the area of customer satisfaction and loyalty has typically used fairly simple conceptualizations (e.g., Biong, 1993; Bloemer & Kasper, 1995; Halstead & Page, 1992). Frequently, the constructs are conceptualized in a unidimensional way. Our findings indicate that this view may be too simplistic and that the use of multidimensional construct conceptualizations may be beneficial.

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 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.

Management Implications

Our study has several 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, 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.

However, within this context, managers must have a careful look at the different dimensions of satisfaction and their impact on loyalty. As an example, our findings demonstrate that satisfaction with the sales process and satisfaction with the after sales service have a much stronger effect on a customer's intention to stay loyal to a distributor than this is the case for satisfaction with the product itself.

Third, our results provide managers with a detailed understanding for which customers the satisfaction-loyalty link is more or less strong. These findings can be used for the purpose of resource allocation in customer satisfaction programs. These resources should primarily be used to satisfy those customers that exhibit a strong link between satisfaction and loyalty. As an example, our findings suggest that it is very important to focus on satisfaction of younger customers with the sales process.

Additionally, activities for increasing customer loyalty (such as customer clubs or bonus programs) should focus on those customers that exhibit a weaker satisfaction-loyalty relationship. As an example, it might make sense to identify variety seekers among the company's customers and to target them with a retention program.

Limitations and Directions for Future Research

The results of our study need to be viewed in the light of its limitations. These limitations, along with the study's findings, suggest directions for further research. First, we have only investigated the customers of one company in the automotive industry. Both our measurement scales and our model need to be validated in other industries before generalization can be made. Additionally our research focuses on consumer durables. Applying the model to other contexts, such as consumer services, would provide an interesting and fruitful area for further research.

In addition, future research could also address the broad issues of transferring our model to the area of business-to-business marketing. In this context, organizational characteristics of the buying firm as well as relational characteristics of the buyer-supplier-relationship might have a strong moderating influence on the relationship between satisfaction with a supplier and loyalty.

Furthermore, we investigated only the impact of moderator variables which have an effect on the strength of the relationship. Hence, we did not analyze if these variables also affect the functional form of the link between satisfaction and loyalty.

The findings of our study highlight the need for more comprehensive models of the relationship between customer satisfaction and loyalty. Our model concentrates on selected characteristics of the individual customer as moderating factors. A number of other personality traits (e.g., uncertainty orientation of the customer) that were not considered in our study can also have a moderating impact on the relationship between satisfaction and loyalty. Further, characteristics of the supplier or the supplier's market (e.g., competitive intensity, reputation of the supplier) may affect the strength of this link. Future research needs to examine this issue more closely.

Given the complex nature of the relationship between customer satisfaction and customer loyalty, our study has barely scratched the surface of research that needs to be completed. Our illustrations show that the relationship between satisfaction and loyalty differs among different customers. Ideally, future research should build upon this conclusion and attempt to provide further insight into the nature of this relationship under different conditions.

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