

# Understanding the Effect of Customer Relationship Management Efforts on Customer Retention and Customer Share Development

Scholars have questioned the effectiveness of several customer relationship management strategies. The author investigates the differential effects of customer relationship perceptions and relationship marketing instruments on customer retention and customer share development over time. Customer relationship perceptions are considered evaluations of relationship strength and a supplier's offerings, and customer share development is the change in customer share between two periods. The results show that affective commitment and loyalty programs that provide economic incentives positively affect both customer retention and customer share development, whereas direct mailings influence customer share development. However, the effect of these variables is rather small. The results also indicate that firms can use the same strategies to affect both customer retention and customer share development.

Customer relationships have been increasingly studied in the academic marketing literature (Berry 1995; Dwyer, Schurr, and Oh 1987; Morgan and Hunt 1994; Sheth and Parvatiyar 1995). An intense interest in customer relationships is also apparent in marketing practice and is most evident in firms' significant investments in customer relationship management (CRM) systems (Kerstetter 2001; Reinartz and Kumar 2002; Winer 2001). Customer retention rates and customer share are important metrics in CRM (Hoekstra, Leeflang, and Wittink 1999; Reichheld 1996). *Customer share* is defined as the ratio of a customer's purchases of a particular category of products or services from supplier X to the customer's total purchases of that category of products or services from all suppliers (Peppers and Rogers 1999).

To maximize these metrics, firms use relationship marketing instruments (RMIs), such as loyalty programs and direct mailings (Hart et al. 1999; Roberts and Berger 1999). Firms also aim to build close relationships with customers to enhance customers' relationship perceptions (CRPs). Although the impact of these tactics on customer retention has been reported (e.g., Bolton 1998; Bolton, Kannan, and Bramlett 2000), there is skepticism about whether such tac-

tics can succeed in developing customer share in consumer markets (Dowling 2002; Dowling and Uncles 1997).

Several studies have considered the impact of CRP on either customer retention or customer share, but not on both (e.g., Anderson and Sullivan 1993; Bolton 1998; Bowman and Narayandas 2001; De Wulf, Odekerken-Schröder, and Iacobucci 2001). A few studies have considered the effect of RMIs on customer retention (e.g., Bolton, Kannan, and Bramlett 2000). In contrast, the effect of RMIs on customer share has been overlooked. Furthermore, most studies focus on customer share in a particular product category (e.g., Bowman and Narayandas 2001). Higher sales of more of the same product or brand can increase this share; however, firms that sell multiple products or services achieve share increases by cross-selling other products. Moreover, no study has considered the effect of CRPs and RMIs on both customer retention and customer share. It is often assumed in the literature that the same strategies used for maximizing customer share can be used to retain customers; however, recent studies indicate that increasing customer share might require different strategies than retaining customers (Blattberg, Getz, and Thomas 2001; Bolton, Lemon, and Verhoef 2002; Reinartz and Kumar 2003).

Prior studies have used self-reported, cross-sectional data that describe both CRPs and customer share (e.g., De Wulf, Odekerken-Schröder, and Iacobucci 2001). The use of such data may have led to overestimation of the considered associations because of methodological problems such as carryover and backfire effects and common method variance (Bickart 1993). Such data cannot establish a causal relationship; indeed, the argument could be made that causality works the other way (i.e., I am loyal, therefore I like the company) (Ehrenberg 1997). Longitudinal data rather than cross-sectional data should be used to establish the causal relationship between customer share and its antecedents.

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I have the following research objectives: First, I aim to understand the effect of CRPs and RMIs on customer retention and customer share development over time. Second, I examine whether the effect of CRPs and RMIs on customer retention and customer share development is different. My study analyzes questionnaire data on CRPs, operational data on the applied RMIs, and longitudinal data on customer retention and customer share of a (multiservice) financial service provider.

## Literature Review

### *CRPs and Customer Behavior*

Table 1 provides an overview of studies that report the effect of CRPs on customer behavior, and it describes the dependent variables, the design and context of the study, the CRPs studied, and the effect of CRPs on behavioral customer loyalty measures (which can be self-reported or actual observed loyalty measures). Table 1 shows that the results of studies that relate CRPs to actual customer behavior are mixed.

### *RMIs and Customer Behavior*

Table 2 provides an overview of the limited number of academic studies that consider the effect of RMIs. The majority of the studies have focused on loyalty or preferential treatment programs, and the results show mixed effects of these programs on customer loyalty. Despite the intensive use of direct mailings in practice, their effect on customer loyalty has almost been ignored. More important, the effect of RMIs on customer share development over time has not been investigated.

## Conceptual Model

Figure 1 shows the conceptual model. In this model, I consider customer retention and customer share development between two periods ( $T_1$  and  $T_0$ ) as the dependent variables, which are affected by CRPs and RMIs. Because I consider customer retention and customer share development as two separate processes, relationship maintenance and relationship development, the underlying hypotheses of the model explicitly predict that different constructs of CRPs, and different RMIs influence customer retention and customer share development. The rationale for this distinction is that a customer's decision to stay in a relationship with a firm may be different from his or her incremental decision to add or drop existing products. Consistent with this notion, Blatberg, Getz, and Thomas (2001) argue that customer retention is not the same as customer share, because two firms could retain the same customer. Reinartz and Kumar (2003) suggest that relationship duration and customer share should be considered as two separate dimensions of the customer relationship. Bolton, Lemon, and Verhoef (2002) propose that the antecedents of customer retention might be different from the antecedents of cross-buying behavior. I explicitly address these differences in the hypotheses.

The inclusion of CRPs as antecedents of retention and customer share development is based on relationship marketing theory, which suggests that CRPs affect behavioral customer loyalty. I included RMIs because a successful cus-

tomers relationship largely depends on the applied RMIs (Bhattacharya and Bolton 2000; Christy, Oliver, and Penn 1996; De Wulf, Odekerken-Schröder, and Iacobucci 2001). Moreover, because of the increasing popularity of CRM among businesses, an increasing number of firms are using RMIs.

In the model, I also include customers' past behavior in the relationship as control variables, which might capture inertia effects that are considered important determinants of customer loyalty in business-to-consumer markets (Dowling and Uncles 1997; Rust, Zeithaml, and Lemon 2000). Past customer behavioral variables (e.g., relationship age, prior customer share) can also be indicators of past behavioral loyalty, which often translates into future loyalty. Prior research suggests that the type of product purchased in the past is an indicator of future cross-selling potential (e.g., Kamakura, Ramaswami, and Srivastava 1991).

## Hypotheses

### *CRPs*

Relationship marketing theory and customer equity theory posit that customers' perceptions of the intrinsic quality of the relationship (i.e., strength of the relationship) and customers' evaluations of a supplier's offerings shape customers' behavior in the relationship (Garbarino and Johnson 1999; Rust, Zeithaml, and Lemon 2000; Woodruff 1997). The most prominent perception representing the strength of the relationship is (affective) commitment (Moorman, Zaltman, and Desphandé 1992; Morgan and Hunt 1994). Because satisfaction and payment equity are important constructs with respect to the evaluation of a supplier's offerings (Bolton and Lemon 1999), I included these three constructs in the model. The two categories of constructs differ in terms of both content and time orientation: Affective commitment is forward looking, whereas satisfaction and payment equity are retrospective evaluations.

In the customer equity and relationship marketing literature, other CRPs that are not included in my model are often studied. Trust and brand perceptions are the most prominent of these variables (Morgan and Hunt 1994; Rust, Zeithaml, and Lemon 2000). I did not include brand perceptions because the focus is on current customers. My contention is that the brand is especially significant in attracting new customers. During the relationship, the brand probably influences affective commitment (Bolton, Lemon, and Verhoef 2002). I did not include trust, because trust should be considered merely an antecedent of satisfaction and commitment (Geyskens, Steenkamp, and Kumar 1998). No direct effect on customer behavior should be expected.

### *Affective Commitment*

*Commitment* is usually defined as the extent to which an exchange partner desires to continue a valued relationship (Moorman, Zaltman, and Desphandé 1992). I focus on the affective component of commitment, that is, the psychological attachment, based on loyalty and affiliation, of one exchange partner to the other (Bhattacharya, Rao, and Glynn 1995; Gundlach, Achrol, and Mentzer 1995).

**TABLE 1**  
**Overview of Studies on Effect of CRPs on Behavioral Loyalty**

Behavioral Loyalty Measurement	Examples of Studies	Study Design	Study Context	Included Perceptions (Effect)	Additional Results/Comments	
<b>Self-Reported</b> Purchase intentions	Anderson and Sullivan (1993)	Experiment	Various industries	Satisfaction (+)		
	Morgan and Hunt (1994)	Cross-sectional	Channels	Benefits (+), commitment (+)		
	Zeithaml, Berry, and Parasuraman (1996)	Cross-sectional	Various industries	Service quality (+)		
	Garbarino and Johnson (1999)	Cross-sectional	Theater visitors	Satisfaction (+), commitment (-)	Effect depends on relationship orientation of customer	
	Mittal, Kumar, and Tsiros (1999)	Longitudinal	Car market	Satisfaction (+)		
	Macintosh and Lockshin (1997)	Cross-sectional	Retailing	Commitment (+)		
	De Wulf, Odekerken-Schröder, and Iacobucci (2001)	Cross-sectional	Retailing	Relationship quality (+)		
	Bowman and Narayandas (2001)	Cross-sectional	Grocery brands	Satisfaction (+)	Quadratic effect of satisfaction	
	<b>Observed</b> Customer retention and/or relationship duration	Gruen, Summers, and Acito (2000)	Cross-sectional	Professional association	Commitment (0)	
		Bolton (1998)	Longitudinal	Telecommunications	Satisfaction (+)	Effect of satisfaction enhanced by relationship age
Bolton, Kannan, and Bramlett (2000)		Longitudinal	Credit card	Satisfaction (+), payment equity (+)	Performance differences with other firms are important	
Mittal and Kamakura (2001)		Longitudinal	Car market	Satisfaction (+)	Effect of satisfaction moderated by consumer characteristics	
Lemon, White, and Winer (2002)		Longitudinal	Entertainment	Satisfaction (0)	Effect of satisfaction mediated by future expected service usage	
Bolton and Lemon (1999)		Longitudinal	Telecommunications, entertainment	Satisfaction (+)	Payment equity positively affects satisfaction	
Bolton, Kannan, and Bramlett (2000)		Longitudinal	Credit card	Satisfaction (+), payment equity (+)	Performance differences with other firms are important	
Verhoef, Franses, and Hoekstra (2001)		Longitudinal	Financial services	Satisfaction (0), payment equity (0)	Effect of satisfaction and payment equity enhanced by relationship age	

*Effect on customer retention.* Given the previous definition of affective commitment, it might be expected that this type of commitment affects customer retention positively. In line with this, researchers who relate commitment to self-reported behavior, such as purchase intentions, usually find that commitment positively affects customer loyalty (e.g., Garbarino and Johnson 1999; Morgan and Hunt 1994). However, the appearance of such an effect has recently been questioned (Gruen, Summers, and Acito 2000; MacKenzie, Podsakoff, and Ahearne 1998). Despite this, I hypothesize the following:

H<sub>1</sub>: Affective commitment positively affects customer retention.

*Effect on customer share development.* Relationship marketing theory posits that because affectively committed customers believe they are connected to the firm, they display positive behavior toward the firm. As a consequence, affectively committed customers are less likely to patronize other firms (Dick and Basu 1994; Morgan and Hunt 1994; Sheth and Parvatiyar 1995). In other words, committed customers are more (less) likely to increase (decrease) their customer share for the focal supplier over a period of time.

H<sub>2</sub>: Affective commitment positively affects customer share development over time.

## **Satisfaction**

I define *satisfaction* in this study as the emotional state that occurs as a result of a customer's interactions with the firm over time (Anderson, Fornell, and Lehmann 1994; Crosby, Evans, and Cowles 1990). Szymanski and Henard's (2001) meta-analysis shows that satisfaction has a positive impact on self-reported customer loyalty.

Despite such positive results in the literature, the link between satisfaction and actual customer loyalty has been questioned (e.g., Jones and Sasser 1995). Researchers have searched for a better understanding of this link and have proposed a nonlinear relationship between satisfaction and customer behavior (e.g., Anderson and Mittal 2000; Bowman and Narayandas 2001). Other studies have shown that relationship age, product usage, variety seeking, switching costs, consumer knowledge, and sociodemographics (e.g., age, income, gender) moderate the link between satisfaction and customer loyalty (Bolton 1998; Bowman and Narayandas 2001; Capraro, Broniarczyk, and Srivastava 2003; Homburg and Giering 2001; Jones, Mothersbaugh, and Beatty 2001; Mittal and Kamakura 2001). Finally, dynamics during the relationship may also affect this link. Customers update their satisfaction levels using information gathered during new interaction experiences with the firm, and this new information may diminish the effect of prior satisfaction levels (Mazursky and Geva 1989; Mittal, Kumar, and Tsiros 1999).

*Effect on customer retention.* Despite the apparent absence of an empirical link between satisfaction and behavioral customer loyalty, several studies show that satisfaction affects customer retention (Bolton 1998; Bolton, Kannan, and Bramlett 2000). The underlying rationale is that customers aim to maximize the subjective utility they obtain

from a particular supplier (Oliver and Winer 1987). This depends on, among other things, the customer's satisfaction level. As a consequence, customers who are more satisfied are more likely to remain customers. Thus:

H<sub>3</sub>: Satisfaction positively affects customer retention.

*Effect on customer share development.* Although a positive relationship between satisfaction and customer share has been demonstrated in a single product category (Bowman and Narayandas 2001), this does not necessarily imply that satisfaction also positively affects customer share development for a multiservice provider. A theoretical explanation for the absence of such an effect could be that positive evaluations of currently consumed products or services do not necessarily transfer to other offered products or services. In other words, satisfied customers are not necessarily more likely to purchase additional products or services (Verhoef, Franses, and Hoekstra 2001). Another explanation is that though customer retention relates to the focal supplier alone, customer share development also involves competing suppliers. As a result, development of a customer's share might be affected more by the actions of competing suppliers than by the focal firm's prior performance. Thus, I do not expect satisfaction to have a positive effect on customer share development.

## **Payment Equity**

*Payment equity* is defined as a customer's perceived fairness of the price paid for the firm's products or services (Bolton and Lemon 1999, p. 173) and is closely related to the customer's price perceptions. Payment equity is mainly affected by the firm's pricing policy. As a result of its grounding in fairness, a firm's payment equity also depends on competitors' pricing policies and the relative quality of the offered services or products.

*Effect on customer retention.* Higher payment equity (i.e., price perceptions) leads to greater perceived utility of the purchased products or services (Bolton and Lemon 1999). As a result of this greater perceived utility, customers should be more likely to remain with the firm. Consequently, payment equity should have a positive effect on customer retention. This is consistent with empirical studies that show that payment equity positively affects customer retention (Bolton, Kannan, and Bramlett 2000; Varuki and Colgate 2001). Thus:

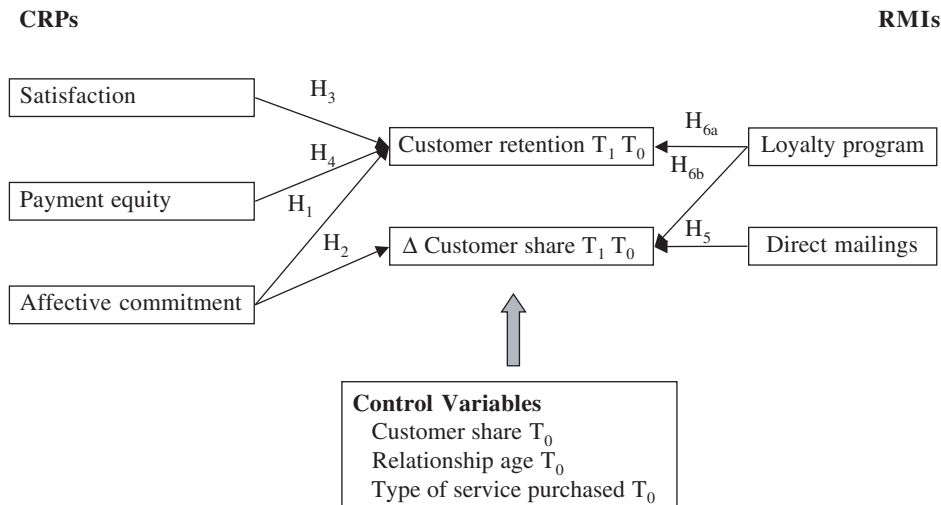
H<sub>4</sub>: Payment equity positively affects customer retention.

*Effect on customer share development.* Although I expect payment equity to have a positive effect on customer retention, I do not necessarily expect this to be true for customer share development. There are two reasons payment equity may have no effect on customer share development. First, literature on price perceptions suggests that customers with higher price perceptions are more likely to search for better prices (Lichtenstein, Ridgway, and Netemeyer 1993). Intuitively, the suggestion that such customers are less loyal makes sense. For example, customers of discounters (with high scores on price perceptions) are known to visit the greatest number of stores in their search for the best bargain.

**TABLE 2**  
**Studies on Effect of RMIs on Behavioral Loyalty**

<b>RMI</b>	<b>Study</b>	<b>Loyalty Measure</b>	<b>Study Design</b>	<b>Study Context</b>	<b>Results</b>
Direct mail	Bawa and Shoemaker (1987)	Aggregated purchase shares	Panel design	Grocery brands	Short-term positive effect on purchase rates
	De Wulf, Odekerken-Schröder, and Iacobucci (2001)	Customer share	Cross-sectional survey, perceptions on direct mail use	Retailing	No effect
Loyalty programs	Dowling and Uncles (1997)	No empirical data	—	—	—
	Sharp and Sharp (1997)	Aggregated penetration, average purchase frequency, customer share, sole buyers	Aggregated panel data	Retailing	No convincing effect of loyalty programs
	Rust, Zeithaml, and Lemon (2000)	Purchase intentions	Cross-sectional survey data, perceptions on loyalty program use	Airlines	Positive effect
	Bolton, Kannan, and Bramlett (2000)	Customer retention, service usage	Longitudinal	Credit card	Positive effect on retention and service usage
	De Wulf, Odekerken-Schröder, and Iacobucci (2001)	Customer share	Cross-sectional survey data, perceptions on preferential treatment programs	Retailing	No effect

**FIGURE 1**  
**Conceptual Model**



According to this reasoning, customers with better price perceptions are more likely to decrease customer share over time. Second, as is satisfaction, a customer's payment equity is based on the customer's awareness of the prices of services or products purchased from the focal firm in the past (Bolton, Lemon, and Verhoef 2002). However, the prices of additional services or products from the focal supplier might be different from the currently purchased services or products. Therefore, a high payment equity score may not indicate that the customer will purchase other products or services from the same supplier. As a consequence, I do not expect payment equity to affect customer share development.

### **RMIs**

Bhattacharya and Bolton (2000) suggest that RMIs are a subset of other marketing instruments that are specifically aimed at facilitating the relationship, and they distinguish between loyalty or reward programs and tailored promotions. In addition, RMIs can be classified according to Berry's (1995) first two levels of relationship marketing. At the first level (Type I), firms use economic incentives, such as rewards and pricing discounts, to develop the relationship. At the second level (Type II), instruments include more social attributes. By using Type II instruments, firms attempt to give the customer relationship a personal touch.

In this study, I focus on two specific Type I RMIs: direct mailings and loyalty programs. Direct mailings usually are personally customized offers on products or services that the customer currently does not purchase. In most cases, price discounts or other sales promotions (e.g., gadgets) are used to entice the customer to buy. I focus on direct mailings that are a "call to action" rather than only a reinforcing mechanism for the relationship (e.g., thank-you letters). The loyalty program I include in the study is a reward program that provides price discounts based on the number of products or services purchased and the length of the relationship.

### **Direct Mailings**

Direct mailings have some unique characteristics: enablement of personalized offers, no direct competition for the attention of the customer from other advertisements, and a capacity to involve the respondent (Roberts and Berger 1999). Because direct mailings focus on creating additional sales, I do not expect them to influence customer retention. Moreover, the data do not enable me to relate direct mailings to customer retention.

*Effect on customer share development.* There are several theoretical reasons direct mailings should positively influence customer share development. First, direct mailings can create interest in a (new) service and thereby lead to a final purchase (Roberts and Berger 1999). Second, the personalization afforded by direct mailings may increase perceived relationship quality, because customers are approached with individualized communications that appeal to their specific needs and desired manner of fulfilling them (De Wulf, Odekerken-Schröder, and Iacobucci 2001; Hoekstra, Leeflang, and Wittink 1999). Third, according to the sales promotions literature, the short-term rewards (i.e., price discounts) offered by direct mailings may motivate customers to purchase additional services and thus increase customer share. In support of this claim, Bawa and Shoemaker (1987) report short-term gains in redemption rates of direct mail coupons. I hypothesize the following:

$H_5$ : Direct mailings positively affect customer share development over time.

### **Loyalty Programs**

*Effect on customer retention and customer share development.* There are several theoretical reasons the reward-based loyalty program being studied should positively affect both customer retention and customer share development. First, psychological investigations show that rewards can be highly motivating (Latham and Locke 1991). Research also shows that people possess a strong drive to behave in what-

ever manner necessary to achieve future rewards (Nicholls 1989). According to Roehm, Pullins, and Roehm (2002, p. 203), it is reasonable to assume that during participation in a loyalty program, a customer might be motivated by program incentives to purchase the program sponsor's brand repeatedly.

Second, because the program's reward structure usually depends on prior customer behavior, loyalty programs can provide barriers to customers' switching to another supplier. For example, when the reward structure depends on the length of the relationship, customers are less likely to switch (because of a time lag before the same level of rewards can be received from another supplier). It is well known that switching costs are an important antecedent of customer loyalty (Dick and Basu 1994; Klemperer 1995).

Despite the theoretical arguments in favor of the positive effect of loyalty programs on customer retention and customer share development, several researchers have questioned this effect (e.g., Dowling and Uncles 1997; Sharp and Sharp 1997). In contrast, Bolton, Kannan, and Bramlett (2000) and Rust, Zeithaml, and Lemon (2000) show that loyalty programs have a significant, positive effect on customer retention and/or service usage. In this study, I build on the theoretical argument in favor of the positive effect that loyalty programs have on customer retention and customer share development.

H<sub>6</sub>: Loyalty program membership positively affects (a) customer retention and (b) customer share development.

## Research Methodology

### Research Design

I combined survey data from customers of a Dutch financial services company with data from that company's customer database. I used a panel design, displayed in Figure 2, to collect the data. I collected the survey data at two points in time: T<sub>0</sub> and T<sub>1</sub>. I used the first (T<sub>0</sub>) survey to measure CRPs of the company, customer ownership of various insurance

products, and customer characteristics. In the second (T<sub>1</sub>) survey, I collected data on customer ownership of various insurance products.

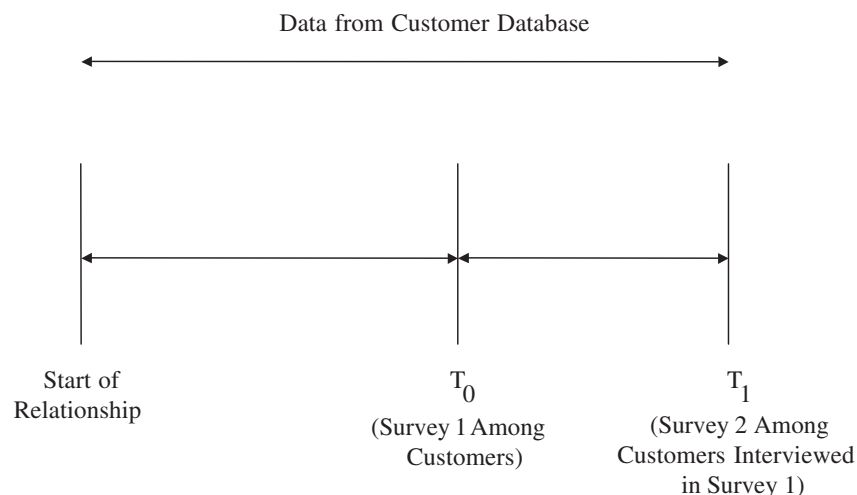
Although the company whose data I used offers other products, such as loans, I limited the study to the category of insurance products. The rationale for this limitation is that customers usually buy each type of insurance product from a single insurance carrier (i.e., insurance type X [life insurance] from insurance carrier Y [i.e., Allianz Life Company]), but this does not necessarily hold for other financial products or services. For example, it is well known that many customers have savings accounts at several financial institutions. Moreover, the insurance market is the most important market for this company in terms of the number of customers and customer turnover (approximately 90%). As a result of this choice, the sample is restricted to those customers who purchase insurance products only from the company. This resulted in a usable sample size of 1677 customers for the first measurement (T<sub>0</sub>) and 918 for the second measurement (T<sub>1</sub>).

### Contents of the Company Customer Database

The company's customer database provided data on the past behavior of individual customers and the company RMIs directed at individual customers. The past customer behavior data cover two periods. The first period starts at the beginning of a relationship between the company and the customer and ends at T<sub>0</sub> (this period differs among customers). The data on past customer behavior included variables such as number of insurance policies purchased, type of insurance policies purchased, and relationship length. The second period covers the interval between T<sub>0</sub> and T<sub>1</sub>. For this period, the database provided data about which customers left the company and the number of company insurance policies a customer owned at T<sub>1</sub>.

The company's customer database contains the following information on RMIs: loyalty program membership at T<sub>0</sub> and the number of direct mailings sent between T<sub>0</sub> and T<sub>1</sub>. Every customer who purchases one or more financial

**FIGURE 2**  
Panel Design



services from the company can become a member of the loyalty program (an opt-in program). At the end of each year, the program gives customers a monetary reward based on the number of services purchased and the age of the relationship. Because the company uses regression-type models to select the customers with the highest probability of responding to direct mailings, the number of direct mailings sent differs among customers.

### Customer Survey Data Collection

At  $T_0$ , customer survey data were collected by telephone from a random sample of 6525 customers of the company. A quota sampling approach was used to obtain a representative sample. I received data from 2300 customers (35% response rate). After those responses with too many missing values were deleted, a sample size of 1986 customers remained. At  $T_1$ , I again collected data from those customers, except for those who left the company between  $T_0$  and  $T_1$ . In the second data collection effort, 1128 customers were willing to cooperate (65% response rate). To assess nonresponse bias at  $T_1$ , I tested whether respondents and nonrespondents differed significantly with respect to customer share at  $T_0$ . A t-test does not reveal a significant difference ( $p = .36$ ). Thus, I conclude that there is no nonresponse bias.

### Measurement of CRPs

For the measurement of CRPs (i.e., affective commitment, satisfaction, and payment equity), I adapted existing scales to fit the context of financial services. For the affective commitment scale, I adapted items from the studies of Anderson and Weitz (1992), Garbarino and Johnson (1999), and Kumar, Scheer, and Steenkamp (1995). To measure satisfaction, I adapted Singh's (1990) scale and added four new items. Finally, I based the payment equity scale on items adapted from Bolton and Lemon's (1999) and Singh's (1990) studies.

To assess construct validity and clarify wording, the original scales were tested by a group of 12 marketing academics and 3 marketing practitioners familiar with customer relationships. Subsequently, the scales were tested by a random sample of 200 customers of the company. On the basis of interitem correlations, item-to-total correlations, coefficient alpha, and exploratory and confirmatory factor analysis, I reduced the set of items in each scale.<sup>1</sup>

<sup>1</sup>I follow Steenkamp and van Trijp's (1991) proposed method, using exploratory factor analysis and then confirmatory factor analysis to validate marketing constructs.

### Validation of CRPs

The final measures are reported in the Appendix. The scales for commitment and satisfaction have reasonable coefficient alphas. For payment equity, I report a correlation coefficient of .49, which is not considerably high.<sup>2</sup> However, note that the reported composite reliabilities of all scales are sufficient (Bagozzi and Yi 1988). I applied confirmatory factor analysis in Lisrel 83 to further assess the quality of the measures (Jöreskog and Sörbom 1993), and I achieved the following model fit:  $\chi^2 = 217.4$  (degrees of freedom [d.f.] = 51,  $p < .01$ ),  $\chi^2/d.f. = 4.26$  (d.f. = 1,  $p < .05$ ), goodness-of-fit index = .98, adjusted goodness-of-fit index = .97, comparative fit index = .98, and root mean square error of approximation = .04. These fit indexes satisfy the criteria for a good model fit (Bagozzi and Yi 1988; Baumgartner and Homburg 1996). A series of  $\chi^2$  difference tests on the respective factor correlations provided further evidence for discriminant validity (Anderson and Gerbing 1988). On the basis of these results, I summed the scores on the items of each construct. The means, standard deviations, and correlation matrix are shown in Table 3.

### Measurement of Dependent Variable

An often-used method of measuring customer share is asking customers to report the number of purchases of the focal brand they normally make (Bowman and Narayandas 2001; De Wulf, Odekerken-Schröder, and Iacobucci 2001). In this study, I sought a more objective measure. In line with the conceptualization of customer share, I define customer share of customer  $i$  for supplier  $j$  in category  $k$  at time  $t$  as

<sup>2</sup>I report correlation coefficient rather than Cronbach's alpha because I used only two items. Cronbach's alpha is designed to test the interitem reliability of a scale by comparing every combination of each item with all other items in the scale as a group. Because there is no group with which each item can be compared in a two-item scale (only the other item), Cronbach's alpha is meaningless for two-item scales. It might also be argued that one of the single items would be better suited for measuring the construct from a content validity perspective. To check this, I also estimated the models (see Tables 4 and 5) with a single item as an antecedent. For both items, the effect of payment equity remained insignificant in the two models. Because in general multiple-item measurement is preferred over single-item measurement, I report the model results of the summated two-item scores.

**TABLE 3**  
Means (Standard Deviation) and Correlation Matrix Independent Variables

	Mean	X1	X2	X3	X4	X5	X6
X1 Commitment	2.96 (.77)	1.00					
X2 Satisfaction	3.75 (.44)	.37**	1.00				
X3 Payment equity	3.41 (.56)	.14**	.21**	1.00			
X4 Direct mail	3.51 (2.12)	.01	.02	.01	1.00		
X5 Loyalty program	.30 (.46)	.09**	.14**	.03	.56**	1.00	
X6 Log customer share $T_0$	-.152 (.66)	.12**	.09**	.06*	.48**	.53**	1.00

\* $p < .05$ .

\*\* $p < .01$ .



$$(1) \text{ Customer share}_{i,j,k,t} = \frac{\text{Number of services purchased in category } k \text{ at supplier } j \text{ at time } t}{\text{Number of services purchased in category } k \text{ from all suppliers at time } t}$$

Data for the numerator were available from the company customer database; however, data for the denominator were generally not stored in the company customer database. Therefore, I asked customers in the survey which insurance products (of both the company and competitors) they owned at  $T_0$  and at  $T_1$ .

### Analysis

The theoretical distinction between customer retention and customer share development has implications for my analysis. As a result of this distinction, I use a dual approach. I first estimate a probit model to explain customer retention or defection for the remaining sample after  $T_0$  ( $N = 1677$ ). Second, I use a regression model to explain customer share development over time for the customers who remain with the company. A serious issue with this type of approach is that the explanatory variables explaining customer retention also explain customer share development. As a consequence, the regression parameters may be biased (Franses and Paap 2001). I apply the Heckman (1976) two-step procedure to correct for this bias. Using this procedure, I include the so-called Heckman correction term (or inverse Mills ratio) in the regression model for customer share development. This correction term is calculated by means of outcomes of the probit model for customer retention. This modeling approach is also known as the Tobit2 model (Franses and Paap 2001). Because the inclusion of this correction term may cause heteroskedasticity, I apply White's (1980) method to adjust for heteroskedasticity. Another issue with the approach is that restricting the sample in the customer share development regression model to remaining customers might restrict the potential variance in the dependent variable, thus affecting the estimation results. To assess whether this is true, I calculated the standard deviations for the restricted and unrestricted sample. The differences between standard deviations in customer share development are small: .10 for the unrestricted sample, including defectors, and .09 for the restricted sample. In the empirical modeling, I further assess this issue by estimating the customer share development model for the unrestricted sample and comparing the results with those of the restricted sample.

Because I am interested in the changes in customer share over time, I use a difference model to test the hypotheses (Bowman and Narayandas 2001). In line with the literature on market share models, the difference between the logs of customer share at  $T_1$  and  $T_0$  ( $CS_0$ ,  $CS_1$ ) is the dependent variable in the regression model. This variable can be interpreted as the percentage change in customer share over the measured period.

In both the probit model for customer retention and the regression model for customer share development of the customers who remain with the company, I use a hierarchical modeling approach. I include the past customer behavior

covariates (past behavior) as independent variables and the mean-centered composites of the items in the relationship perception scales (perceptions; e.g., affective commitment, satisfaction, payment equity). Finally, I include RMIs. For the loyalty program, I constructed a dummy variable that indicated whether the customer was a member of the loyalty program at  $T_0$ . I dealt with the number of direct mailings sent to a customer as follows: Because the company stops direct mailing customers when they defect, the number of direct mailings was not included in the probit model for customer retention. Because customers leave during the period covered in the study, the number of mailings could be correlated with defection. However, this correlation is not due to the positive effect of direct mailings on customer retention; rather, it is the result of the company's mailing policy. The foregoing results in the following two equations:

$$(2) P(\text{retention} = 1) = \alpha_0 + \alpha_1 \text{past behavior}_0 + \alpha_2 \text{perceptions}_0 + \alpha_3 \text{RMIs}_{0-1}, \text{ and}$$

$$(3) \text{Log}(CS_1) - \text{log}(CS_0) = \beta_0 + \beta_1 \text{past behavior}_0 + \beta_2 \text{perceptions}_0 + \beta_3 \text{RMIs}_{0-1} + \beta_4 \text{Heckman correction.}$$

In Equations 2 and 3, I provide the formulation of the model in the form of matrices in which each  $\alpha$  or  $\beta$  may comprise several separate parameters. For example, in the case of  $\beta_2$ , there are three different parameters for the effect of commitment, satisfaction, and payment equity.

## Hypothesis Testing

### Customer Retention

Approximately 6.4% of the 1677 customers in the sample defected during the period of the study.<sup>3</sup> I report the estimation results of Equation 3 in Table 4. The first model (which only includes control variables with respect to past customer behavior) explains approximately 17% of the variance and is significant ( $p < .01$ ). The coefficients of the included control variables intuitively have the expected signs. Customers with high prior customer shares and lengthy relationships are less likely to defect. Furthermore, the ownership of a coinsurance, damage insurance, car insurance, and/or life insurance product has a positive effect ( $p < .05$ ). In the second model, including CRPs, McFadden  $R^2$  increases by approximately 1% ( $p = .06$ ). Only affective commitment has a significant, positive effect ( $p < .01$ ) on customer retention, in support of  $H_1$ . I found no effect for either satisfaction or payment equity. These results do not support  $H_3$  or  $H_4$ . Following Bolton (1998), I also explored whether relationship age moderates the effect of satisfaction. The estimation results indicate that the interaction term between satisfaction

<sup>3</sup>The sample of 1677 for the analysis of the antecedents of customer retention is much larger than the sample used in the customer share development model, because behavioral data about customers' past purchase behavior were unnecessary in the customer retention analysis. Consequently, customers who did not respond in the second survey can be included in this analysis.

**TABLE 4**  
**Probit Model Results for Customer Retention (N = 1677)**

Variable	Hypothesis (Sign)	Model 1 (z-Value)	Model 2 (z-Value)	Model 3 (z-Value)
Constant		1.66 (5.10)**	1.68 (5.03)**	1.58 (4.58)**
Log customer share $T_0$		.34 (2.23)*	.33 (2.13)**	.30 (1.89)
Log relationship age		.11 (2.32)*	.11 (2.14)*	.09 (1.79)
Coinsurance		.12 (1.21)	.12 (1.22)	.11 (1.04)
Damage insurance		.78 (4.13)**	.78 (4.06)**	.74 (3.92)**
Car insurance		.36 (2.97)**	.33 (2.70)**	.33 (2.72)**
Life insurance		1.02 (4.00)**	1.01 (3.99)**	1.00 (3.95)**
<b>Perceptions</b>				
Commitment	H <sub>1</sub> (+)		.21 (2.66)**	.20 (2.58)**
Satisfaction	H <sub>3</sub> (+)		-.21 (1.52)	-.22 (1.63)
Payment equity	H <sub>4</sub> (+)		-.03 (.26)	-.03 (.30)
<b>RMIs</b>				
Loyalty program	H <sub>6a</sub> (+)			.38 (2.02)*
McFadden R <sup>2</sup>		.168	.178	.184
Adjusted McFadden R <sup>2</sup>		.165	.173	.179
Likelihood ratio statistic (d.f.)		127.64** (6)	135.20** (9)	139.68** (10)
Akaike information criterion		.384	.383	.382

\* $p < .05$ .

\*\* $p < .01$ .

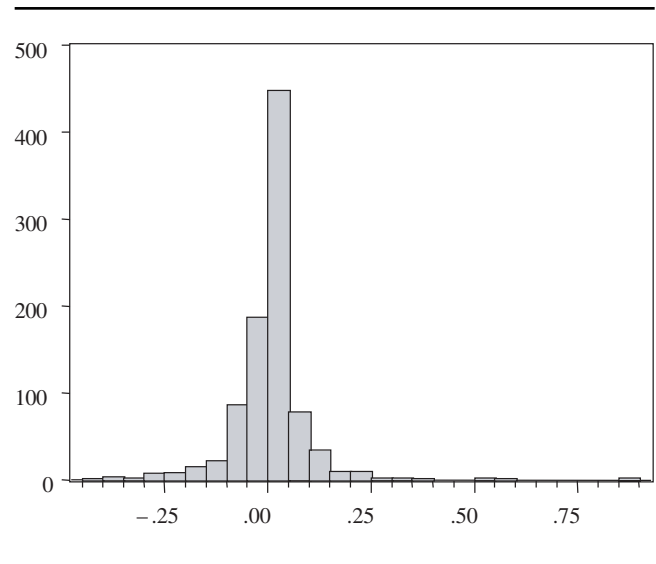
and relationship age is significant ( $\alpha = .28$ ;  $p = .01$ ), in support of the idea that relationship age enhances the effect of satisfaction. In the third model, with the loyalty program included, McFadden R<sup>2</sup> increases by approximately 1% ( $p < .05$ ). I found the loyalty program to have a significant, positive effect ( $p < .05$ ), in support of H<sub>6a</sub>.

### **Customer Share Development for Remaining Customers**

Figure 3 shows the changes in customer share for the customers who did not defect. Although on average changes in customer share are almost zero, I observed changes in customer share for approximately 68% of the customers in the sample (N = 918). The distribution in Figure 3 is symmetrical. For 34% of customers in the sample, I observed negative changes, and for approximately 34%, their customer shares increased. As a logical consequence, the average for changes in customer share is zero (i.e., the mean values for customer share at  $T_0$  and  $T_1$  have approximately the same value of .285).

The regression results of Equation 3 are reported in Table 5. The first model (including past customer behavior) explains approximately 10% of the variance in customer share changes. The log of customer share at  $T_0$  has a negative effect on changes in customer share ( $p < .01$ ). Thus, customers with large (small) customer shares are more likely to decrease (increase) their customer share in the next period. Customers who own damage insurance, car insurance, or coinsurance are more likely to increase their customer share ( $p < .01$ ). The estimation results of the second model (which includes CRPs) show that affective commitment has a sig-

**FIGURE 3**  
**Customer Share Development (N = 918)**



nificant, positive effect on customer share development ( $p < .05$ ). Thus, I find support for H<sub>2</sub>. However, I found no significant effect for either satisfaction or payment equity. These results are in line with my expectations that such CRPs do not directly affect customer share development. In the third model (which includes RMIs), the loyalty program has a significant, positive effect on customer share development ( $p < .05$ ). Direct mailings also positively affect cus-

**TABLE 5**  
**Regression Model Results of Changes in Customer Share (N = 918)**

Variable	Hypothesis (Sign)	Model 1 (t-Value)	Model 2 (t-Value)	Model 3 (t-Value)
Constant		-.44 (6.84)**	-.46 (7.09)**	-.52 (7.80)**
Heckman correction		.06 (.90)	.07 (1.27)	.10 (1.48)
Log customer share $T_0$		-.17 (9.97)**	-.19 (10.3)**	-.20 (11.0)**
Coinsurance		.02 (3.83)**	.02 (3.92)**	.02 (3.26)**
Damage insurance		.14 (6.35)**	.15 (6.52)**	.14 (6.09)**
Car insurance		.04 (2.69)**	.01 (2.29)*	.04 (2.52)**
Legal insurance		.03 (1.15)	.03 (1.16)	.03 (1.16)
<b>Perceptions</b>				
Commitment	H <sub>2</sub> (+)		.03 (2.55)*	.03 (2.58)**
Satisfaction	H <sub>3</sub> (+)		.00 (.01)	-.00 (.21)
Payment equity	H <sub>4</sub> (+)		-.01 (.85)	-.01 (.66)
<b>RMIs</b>				
Loyalty program	H <sub>5</sub> (+)			.04 (2.22)*
Direct mailing	H <sub>6</sub> (+)			.01 (2.31)*
R <sup>2</sup>		.10	.11	.13
Adjusted R <sup>2</sup>		.10	.10	.12
F-value		16.95**	12.21**	11.72**

\* $p < .05$ .

\*\* $p < .01$ .

customer share development ( $p < .05$ ).<sup>4</sup> Thus, both H<sub>5</sub> and H<sub>6b</sub> are supported.

The Heckman (1976) correction term is not significant, which implies that selecting only the remaining customers does not affect the estimation results (Franses and Paap 2001). It might be argued that leaving out defectors would reduce variance in the customer share development measure, which in turn might affect the estimation results. To assess this issue further, I also estimated a model that included the defectors.<sup>5</sup> However, there are two problems with the model.

<sup>4</sup>An issue in estimating the effect of direct mailings is that the company whose data are used does not randomly select customers to receive such mailings; the company uses models to target the most receptive customers. These models are not known. The company's use of such models might lead to an endogeneity problem, which could result in (upwardly biased) inconsistent parameter estimates for direct mailings. To test for possible endogeneity, I used the Hausman test that Davidson and MacKinnon (1989) propose. This test does not reveal any evidence for endogeneity ( $p = .88$ ).

<sup>5</sup>Notwithstanding this result, I also used two approaches to correct for possible endogeneity. The first approach applied instrumental variables using two-stage least squares in the estimation of a system of two equations (Pindyck and Rubinfeld 1998). I used two sociodemographic variables as instrumental variables: income and age. I selected these variables because they are often included in CRM models (Verhoef et al. 2003). The estimation of this model results in the same parameter estimate for direct mailings (.04); however, this parameter is only marginally significant ( $p = .10$ ). The second approach estimated a system of equations in which two separate equations are estimated: one with customer share development as a dependent variable and the other with the number of direct mailings as a dependent variable. With this approach, the effect of direct mailings remained significant ( $p < .05$ ); however, the parameter estimate decreased from .04 to .013. On the basis of these analyses, I conclude that endogeneity of direct mailings does not affect the hypothesis testing.

First, I cannot include direct mailings as an explanatory variable because, as I noted previously, no mailings are sent to defectors. Second, because the log of 0 does not exist, the differences in logs of customer share between  $T_1$  and  $T_0$  for defectors cannot be calculated. A solution to this problem is to impute a share value that is close to 0 (e.g., .001). I used this approach and imputed several different values to assess the stability of the results, and the results remained the same for the different imputations. The estimation results for an imputed value for customer share at  $T_1$  for defectors of .001 show that the coefficients of affective commitment and the loyalty program remain significant, but there is no effect of satisfaction or payment equity. The R<sup>2</sup> of the model is .09, which is lower than the R<sup>2</sup> of .12 of the model that includes only the remaining customers reported in Table 5. Given these results, I conclude that restricting the sample to remaining customers does not affect the hypotheses-testing results.

## Additional Analysis

### *Mediating Effect of Commitment*<sup>6</sup>

In the relationship marketing literature, there has been a debate about the mediating role of commitment (Garbarino and Johnson 1999; Morgan and Hunt 1994). In this study, commitment may mediate the effect of payment equity and satisfaction on customer share development, which in turn may explain the nonsignificant effects of both satisfaction and payment equity. To test for this mediating effect, I used Baron and Kenny's (1986) proposed mediation test. I reestimated Model 2 (Column 3, Tables 4 and 5) in both the customer retention and the customer share development appli-

<sup>6</sup>A reviewer suggested this analysis.

cations, but I left out commitment. The parameter estimates for satisfaction and payment equity remain insignificant in both models (customer retention:  $\alpha = -.10, p > .10$ ;  $\alpha = .03, p > .10$ ; customer share development:  $\beta = .01, p > .10$ ;  $\beta = -.01, p > .10$ ). In addition, I reestimated both models, leaving out satisfaction and payment equity. The parameter estimates for commitment were significant in both models (customer retention:  $\alpha = .17, p < .05$ ; customer share development:  $\beta = .02, p < .01$ ). Finally, I estimated a regression model in which I related satisfaction and payment equity to commitment. The parameters of both satisfaction and payment equity were positive and significant ( $\gamma = .61, p < .01$ ;  $\gamma = .09, p < .05$ ). These results show that satisfaction and payment equity should be considered antecedents of affective commitment; however, affective commitment does not function as a mediating variable.

## Conclusions

### Summary of Findings

In this article, I contributed to the marketing literature by studying the effect of CRPs and RMIs on both customer retention and customer share development in a single study. The objectives of this article were twofold. First, I aimed to understand the effect of CRPs and RMIs on customer retention and customer share development. Second, I examined whether different variables of CRPs and RMIs influence customer retention and customer share development. Using a longitudinal research design, I related CRPs and RMIs to actual customer retention and customer share development. An overview of the hypotheses, those that were supported and those that were not supported, is provided in Table 6. For the remainder of this discussion, I focus on the notable findings.

### Effect of CRPs and RMIs on Customer Retention and Customer Share Development

The first notable finding of this research is that affective commitment is an antecedent of both customer retention and customer share development. This result is not in line with recent findings that commitment does not influence customer retention (e.g., Gruen, Summers, and Acito 2000). However, it confirms previous claims in the relationship marketing literature that commitment is a significant variable in customer relationships (Morgan and Hunt 1994; Sheth and Parvatiyar 1995); more precisely, it affects both relationship maintenance and relationship development. At the same time, the absence of an effect of satisfaction and payment equity raises some notable issues. This result contradicts previous findings in the literature (e.g., Bowman and Narayandas 2001; Szymanski and Henard 2001); several reasons may explain this. First, prior research has typically relied on survey measures for which self-reported dependent variables are correlated as a result of common method of measures. This study uses behavioral data based (partially) on internal company data. Second, unlike prior studies on customer share (e.g., Bowman and Narayandas 2001; De Wulf, Odekerken-Schröder, and Iacobucci 2000) in which causality is problematic, this study focuses on the change in customer share. An understanding of customer share development may require a deeper understanding of the role of CRPs and RMIs. Third, prior studies focus on customer share of a single brand in a single product category (Bowman and Narayandas 2001), but this study focuses on customer share across multiple different services.

Customer share changes occur over time when customers add (or drop) new (current) products or services to (from) their portfolio of purchased products or services at the focal supplier or at competing suppliers. In this underly-

**TABLE 6**  
Summary of Hypothesis-Testing Results

Antecedents	Customer Retention			Customer Share Development		
	Hypothesis (Sign)	Effect	Support	Hypothesis (Sign)	Effect	Support
Affective commitment	H <sub>1</sub> (+)	+	Yes	H <sub>2</sub> (+)	+	Yes
Satisfaction	H <sub>3</sub> (+)	0; positively moderated by relationship age	No	No effect	0	Yes
Payment equity	H <sub>4</sub> (+)	0	No	No effect	0	Yes
Direct mailings	No effect	N.A.	N.A.	H <sub>5</sub> (+)	+	Yes
Loyalty program	H <sub>6a</sub> (+)	+	Yes	H <sub>6b</sub> (+)	+	Yes

Notes: N.A. = not available; this effect could not be estimated because of data limitations.

ing decision process, satisfaction and payment equity play only a marginal role for several reasons. First, satisfaction and payment equity are based on one's current experiences with the focal supplier. These experiences do not necessarily transfer to other products or services of that supplier: New events may occur during the relationship that could change these perceptions (e.g., Mazursky and Geva 1989; Mittal, Kumar, and Tsiros 1999), thereby limiting the explanatory power current perceptions. Second, in a competitive environment, firms attempt to maximize customer share. Although customers may be satisfied with the focal firm's offering, they may be equally satisfied with competing offerings from other suppliers. This again limits the explanatory power of satisfaction and payment equity. In contrast, affective commitment seems less vulnerable to new experiences in the relationship; it is also unlikely that customers will consider themselves committed to multiple suppliers. Instead of satisfaction and payment equity being considered direct antecedents of customer retention and customer share development, they should be considered variables that shape commitment (e.g., Morgan and Hunt 1994).

A second notable finding is that RMIs can influence customer retention and customer share development. Direct mailings with a "call to action" are suitable to enhance customer share over time. Loyalty programs that provide economic rewards are useful both to lengthen customer relationships and to enhance customer share. Bolton, Kannan, and Bramlett (2000) report that loyalty programs for credit card customers have a strong, positive effect on customer retention; however, no studies have yet considered the effect of loyalty programs and direct mailings on customer share development. The repeatedly reported positive effect of the loyalty program counters the contention of Dowling and Uncles (1997, p. 75) that "it is difficult to increase brand loyalty above the market norms with an easy-to-replicate 'add on' customer loyalty program."

The third relevant finding pertains to the explanatory power of both CRPs and RMIs. For both customer retention and customer share development, past customer behavior explains the largest part of the variance (CRPs and RMIs are responsible only for approximately 10% of the total explained variances in both the customer retention and the customer share development models). This finding seems to support the claims of skeptics of CRM that there is not much a firm can do to affect customer loyalty in consumer markets (Dowling 2002). During reflection on the results of the customer share development model, it might also be perceived that Ehrenberg's (1997, p. 19) remarks on the antecedents of market share also hold for the antecedents of customer share development; in particular, his claim "that most markets are near stationary and that everybody has to run hard to stand still" might also be applicable to customer share development. In the short run, my results point to the effect of RMIs as only marginal. For example, stopping direct mailings for one year may not necessarily severely harm customer share development in that year. In a long-term perspective, the effects might be different. The effect of both CRPs and RMIs on customer purchase behavior could result in

increased relationship age, increased customer shares, and purchases of certain additional products or services (e.g., car insurance, life insurance). Some of these variables positively affect customer retention and customer share development in later stages of the customer relationship.

### ***Differences Between the Antecedents of Customer Retention and Customer Share Development***

Another research objective was to examine whether the antecedents of customer retention and customer share development are different. Theoretically, there is a clear distinction between relationship maintenance and relationship development; however, this has not been empirically investigated. Unfortunately, a statistical comparison of the coefficients in the customer retention model and customer share development model is not possible (Franses and Paap 2001, Ch. 4). Thus, the only possible comparison is whether the significant predictors are different. The results show that the significant variables (see Table 6) are remarkably consistent across the two models (i.e., affective commitment and loyalty programs are significant predictors of both customer retention and customer share development). The only exception is the interaction effect between satisfaction and relationship age.

However, with consideration of the effect of the past customer behavior control variables, there are some differences. For example, whereas high prior customer share has a positive effect on customer retention, it has a negative effect on customer share development. Likewise, relationship age has a positive effect on customer retention but no effect on customer share development. The latter results confirm that different variables affect customer retention and customer share development. However, from a CRM perspective, this difference is not as important as it seems, because the same CRM variables affect both customer retention and customer share development.

### ***Management Implications***

This research provides implications for effective management of customer relationships. First, if managers strive to affect customer retention, they should focus on creating committed customers. In addition, a loyalty program with economic incentives leads to greater customer retention. These results contrast with recent recommendations that creating close ties with customers is a better strategy for enhancing customer loyalty than using economically oriented programs (Braun 2002); firms should do both. Both affective commitment and economically oriented RMI programs (direct mailings and loyalty programs) enhance customer retention and customer share development. Enhancing satisfaction and using attractive pricing policies can also increase affective commitment. Other Type II RMIs, such as affinity programs and other socially oriented programs, may help as well (Rust, Zeithaml, and Lemon 2000). If firms strive for immediate results, economically based loyalty programs and direct mailings are preferable.

Second, if firms strive to maximize customer share, creating affectively committed customers using a loyalty program and sending direct mailings that provide economic incentives are recommended. However, the short-term positive effects of such approaches are rather small. This might support the claim of experts of CRM that trying to maximize customer retention and customer share development is difficult. However, this does not mean that firms should not use such strategies. In the long run, the positive effects of such strategies may be larger. The short-term small positive effects of these strategies on customer retention and customer share development could result in larger positive effects in the long run as a result of the positive effects of past customer behavioral variables, such as relationship age and prior customer share.

Third, my analysis suggests that, in general, firms can use the same strategies to affect customer retention and customer share development. Fourth, a principle of CRM is to focus efforts on the most loyal customers. However, improving share for loyal customers is much more difficult, because they have a greater tendency to reduce their shares in the future.

### **Research Limitations**

This study has the following limitations: First, it is conducted for one company in the financial services market. I chose the financial services market because it is an important segment of the economy and because there is a long tradition of customer data storage in this market, which makes it relatively easy to collect behavioral customer loyalty data. However, the financial services market has some unique characteristics. Customers purchase insurance products infrequently, and as a result changes in customer share are not observed as frequently as in other industries. Because of relatively high switching costs, switching behavior is not common. These characteristics may have limited the variance in the customer share development measure. These characteristics may also explain some of the results and may, to some extent, threaten the generalizability of the results. Thus, there is a need to extend this study to other markets, especially markets in which more switching is observed.

Second, although the study applied a longitudinal research design, the causality question remains difficult. Because of the dynamic nature of customer relationships, multiple measurements in time (including changes in CRPs) are needed in the model.

Third, modeling the effect of RMIs is rather difficult, particularly if the RMIs are self-selected or based on customers' purchase behavior. In the loyalty program I studied, customers can choose whether to become a member. It could be argued that customers who expect to purchase new services are more inclined to join. I chose not to correct for this in the analysis at this time. Further research could develop models to correct for possible endogeneity of the RMIs.

The last research limitation pertains to the measurement of payment equity. In this research, I used only two items (see the Appendix), which could have undermined the reliability of the measurement. Further research could develop more extensive scales.

### **Further Research**

Further research should focus on the following issues: First, the results show that the effect of CRPs and RMIs on customer retention and customer share is not large. Perhaps other variables, such as service calls or sales visits, are important antecedents. In addition, competing marketing variables, such as competitive loyalty programs and direct mailings, have not been included here. Further research could investigate the effect of these variables. A second avenue for further research is the effect of RMIs on CRPs and in turn on customer behavior. A simultaneous equation approach, with an appropriate test for mediating effects, would be necessary to address this issue. In this respect, the interactions between CRPs and RMIs could also be investigated. Finally, further research could develop decision support type models (using data available in customer databases and data from questionnaires) that would demonstrate the impact of various CRM strategies.

## **Appendix Description of Scales for Perceptions**

### **Commitment (Cronbach's Alpha [CA] = .77; Composite Reliability [CR] = .78)**

I am a loyal customer of XYZ.

Because I feel a strong attachment to XYZ, I remain a customer of XYZ.

Because I feel a strong sense of belonging with XYZ, I want to remain a customer of XYZ.

### **Satisfaction (CA = .83; CR = .83)**

How satisfied (1 = "very dissatisfied" and 5 = "very satisfied") are you about

- the personal attention of XYZ.
- the willingness of XYZ to explain procedures.
- the service quality of XYZ.
- the responding by XYZ to claims.
- the expertise of the personnel of XYZ.
- your relationship with XYZ.
- the alertness of XYZ.

### **Payment Equity (r = .49; CR = .88)**

How satisfied (1 = "very dissatisfied" and 5 = "very satisfied") are you about the insurance premium?

Do you think the insurance premium of your insurance is too high, high, normal, low, or too low?

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