

# **Determinants, contexts, and measurements of customer loyalty**

A dissertation presented

By

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## Abstract

In this thesis I address three research questions related to the process of consumers' judgment and decision making (JDM) and in particular customer loyalty. The underlying assumption is that consumers use inputs (determinants) in forming judgments or making decisions. These determinants can be diverse, ranging from consumer perceptions to objective factors. Further, the context in which economic exchanges take place also influences the JDM process. In addition, various measures are used to capture consumer JDM outcomes, which can cause consumer to process information in different ways.

The first research question is about how contexts influence the salience (i.e., relevance, importance) of determinants used in JDM. In particular, the determinants I focus on are costs associated with products or services as they reflect the value of economic exchanges between consumers and companies. There are several cost dimensions available to consumers as inputs in JDM and a proposition is developed with regards to which cost dimension is more salient.

The second research question addresses how determinants differ in their influence on customer loyalty. Loyalty is frequently measured by asking customers to forecast their future behavior, with two commonly used forms: intentions and expectations. I build on the difference between intentions and expectations to propose that determinants of loyalty differ in whether they are inward-looking (more control), such as satisfaction and attitude towards switching, or outward-looking (less control), such as trust and switching cost.

The third research paper of this thesis explores further how determinants influence customer loyalty. A concept of a counterbalance effect is introduced, when two causal pathways exist between determinants and loyalty and have opposite effects (positive, negative). A counterbalance effect can cause the total effect to diminish, or that either of the two causal pathways dominates and therefore both a positive and a negative effect can be found. The counterbalance effect provides a novel explanation for some of the discrepancies found in the literature about the effects of loyalty determinants.

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# Chapter 1

## Introduction

### **Subject matter and structure of this thesis**

Consumers frequently form judgments and make decisions when interacting with companies in the marketplace. Consumer judgments represent how they perceive different dimensions of economic exchanges, such as satisfaction with a product or service, perceived value for money, or trust in a specific company. Consumer decisions lead to actions, such as purchasing a product, upgrading a service, or changing a provider.

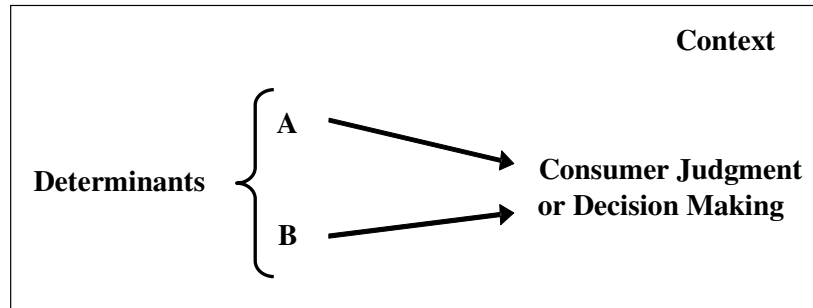
Judgments and decisions that consumers make impact relationships in the marketplace. Companies therefore strive to understand the process of judgment and decision making (JDM) as well as the factors that influence it. With this knowledge companies can better manage relationships with their customers, optimize the use of resources, and develop new products and services. Understanding consumer JDM is important also for policy makers and governments as they can use it to improve public services as well as to protect consumers.

In this thesis I address three research questions related to the process of consumers' JDM. All three topics share a common framework (Figure 1.1), based on the idea that consumers use inputs (determinants) in forming judgments or making decisions. These determinants can be diverse, ranging from consumer perceptions to objective factors. In addition, the



context in which economic exchanges take place also influences the consumer JDM process.

Figure 1.1: Basic framework of consumer JDM



There are many different judgments that consumers can form and many decision they can take. The research questions in this thesis center primarily on customer loyalty as the outcome of consumer JDM process. Loyalty can be measured both as a behavior (e.g., actual act of changing a service provider), which reflects a decision, or as a perception (e.g., intention to remain loyal), which reflects a judgment.

The research papers in Chapters 2 to 4 form the core of this thesis. Even though they represent independent pieces of research, they all build on the framework presented in Figure 1.1 to analyze (primarily) consumer loyalty. The models, methods, and findings of these three chapters complement each other and provide a fuller understanding of consumer JDM with particular emphasis on loyalty. The first paper focuses on the effect of the *context* on consumer JDM, the second paper explores how using different *measures* of loyalty influences JDM process, and the third paper studies the roles that *determinants* play with regards to customer loyalty. The title “Determinants, contexts, and measurements of customer loyalty” therefore reflects the topics of all three research questions. The thesis concludes with references and appendices related to specific chapters.

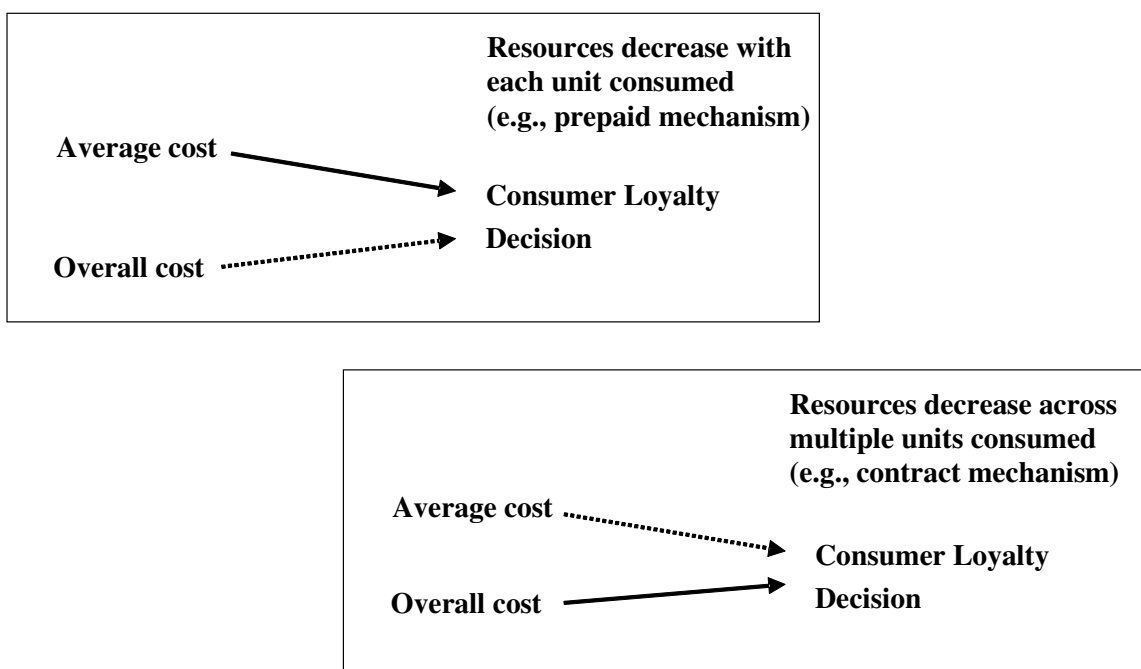
## **Chapter 2: It matters how you pay: Cost type salience depends on the payment mechanism**

The first research question is about how contexts influence the salience (i.e., relevance, importance) of determinants used in JDM. In particular, the determinants I focus on are

costs associated with products or services as they are one of the key inputs in JDM, reflecting the value of economic exchanges between consumers and companies.

In simple economic exchanges the cost used as an input in JDM is straightforward, e.g. a price of a book purchased in a bookstore last week. However, in certain contexts with sequential consumption (e.g., mobile phone services) different dimensions of costs can be salient to consumers, e.g. the average cost per unit of consumption (a phone call) or the overall cost aggregated over a number of consumption units (monthly cost of calls).

Figure 1.2: Salience of average and overall cost differs between payment mechanisms



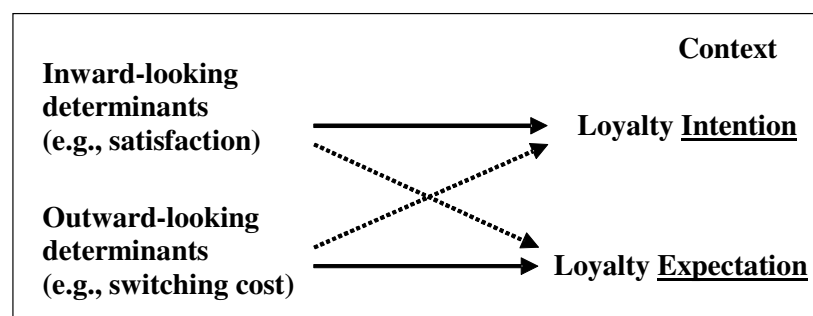
It is proposed that the salience of cost dimensions (average, overall) depends on the payment mechanism used (Figure 1.2). When consumer resources decrease with each unit consumed, then the average cost is more salient in JDM. However, when consumer resources decrease across multiple units consumed, then the overall cost is more salient. The proposition is supported in three distinct studies: a survey with metro commuters, a field study in mobile phone services, and a controlled experiment within a skiing context.

### Chapter 3: Using the Intentions and Expectations perspectives to explore the influence of determinants of loyalty

The second research question addresses how determinants differ in their influence on consumer JDM. The particular consumer behavior that I study is customer loyalty to a specific company. Despite numerous studies addressing the influence of determinants of loyalty, there is still no agreement about what roles they play with regards to loyalty. Different determinants have been proposed as central, such as satisfaction, trust, and switching costs.

However, loyalty is frequently measured by asking customers to forecast their future behavior, with two commonly used forms: intentions and expectations. Previous research has suggested that the intentions perspective is more inward-looking, focusing on reasons and motivation for future behavior, while the expectations perspective is more outward-looking, focusing on factors beyond the individual's control. I build on this difference between intentions and expectations to propose that determinants of loyalty differ in whether they are inward-looking (more control), such as satisfaction and attitude towards switching, or outward-looking (less control), such as trust and switching cost (Figure 1.3).

Figure 1.3: Intentions and expectations perspectives to understand roles of determinants

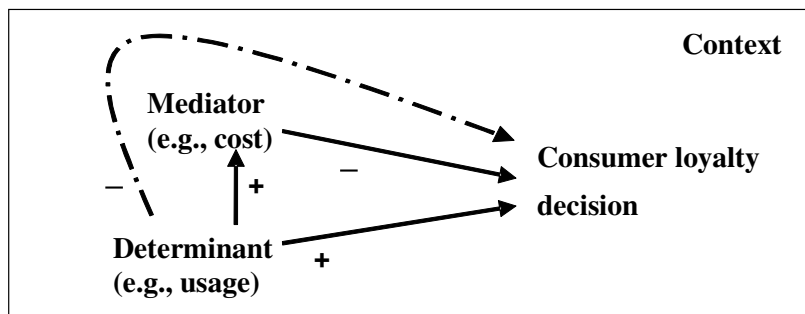


A study is designed, where the following determinants are collected: satisfaction, trust, switching cost, and attitude towards switching, while loyalty is measured with both intentions and expectations questions. Satisfaction and attitude towards switching are found to be better predictors of loyalty intentions and thus supported as inward-looking determinants. Switching costs and trust are on the other hand better predictors of loyalty expectations and thus supported as outward-looking determinants.

#### Chapter 4: Counterbalance effect of determinants of loyalty: Usage and Satisfaction

The third research paper of this thesis explores two further issues related to how determinants influence customer loyalty. Although research has identified different possible determinants of customer loyalty, the nature of their influence is still unclear. First, for some determinants there is no agreement whether their effect on loyalty is positive or negative, like for example usage of services or products. Second, for some other determinants, such as customer satisfaction, there is an overall consensus about their influence; however the proposed effect is sometimes empirically supported and other times the effect is not found.

Figure 1.4: Counterbalance effect of usage on loyalty, when usage increases variable cost



When researching determinants, it is typically assumed that they have a simple and direct effect on loyalty. In this paper, multiple causal pathways (direct and indirect) are explored between loyalty and its determinants (Figure 1.4). Further, a concept of a counterbalance effect is introduced, which is a consequence of a situation when the two causal pathways have opposite effects (positive, negative). A counterbalance effect can cause the total effect to diminish, like in the case of satisfaction, or that either of the two causal pathways dominates and therefore a positive or a negative effect is found, as in the example of usage.

The proposed counterbalance effect is tested with two determinants of loyalty: usage and satisfaction. Usage is found to have a positive direct effect on loyalty and a negative indirect effect mediated through costs. Satisfaction is found to have a positive direct effect on loyalty and a negative indirect effect mediated through the variable of marketplace satisfaction.

## **Chapter 2**

# **It matters how you pay: Cost type salience depends on the payment mechanism**

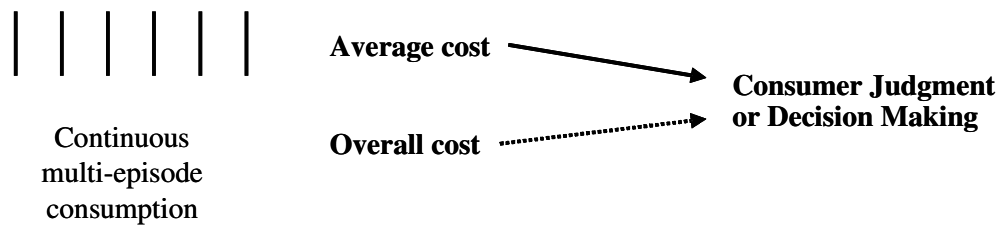
### **2.1. Introduction**

Costs associated with products or services represent one of the key inputs used by consumers in judgment and decision making (Heath and Soll, 1996; Bolton and Lemon, 1999; Soman, 2001). They reflect the value of economic exchanges and are therefore important for consumers. Understanding the effects of past costs can help companies predict and possibly influence consumers' decisions (e.g., loyalty, upgrade) and judgments (e.g., satisfaction). This in turn has a direct effect on the bottom line financial performance.

A cost is said to be salient (i.e., relevant, important) to consumers when they respond to changes in the level of that specific cost (Serman, 1989). In the case of simple economic exchanges the candidate for the salient cost is straightforward, e.g. a price of a book purchased in a bookstore last week. However, many economic exchanges are more complex with sequential consumption episodes and embedded payment mechanisms. For example, mobile phone services are used on a continuing basis and can be paid by a contract or a prepaid mechanism. Further examples are found in commuting, internet service, retail banking, gyms, and theater. Therefore, within the sequential economic

exchanges different dimensions of cost can be salient to consumers. For example, when saying that the mobile phone service is expensive consumers could base this judgment on their average cost per phone call or their monthly cost of calls. Similarly, regarding commuting one can think of a cost per ride or cost over a certain period of time (e.g., month). We define *average cost* as a cost per unit of consumption, which can be a product unit, a time unit, an event, or an action. *Overall cost* is defined as a cost aggregated over a number of units of consumption, products, time, or events.

Figure 2.1: Salience of average and overall cost in sequential economic exchanges



In this paper we extend previous research by proposing that different cost dimensions (average, overall) can be salient to consumers and that this depends on the payment mechanism used (Figure 2.1). For example, when prepaid mobile phone services consumers refill their prepaid mobile accounts, they transfer financial resources to their mobile accounts. Each time they use the service, the resources in their prepaid mobile account decrease. On the other hand, when consumers with contracts use the service, they only increase their liabilities towards the service provider, while their resources decrease once the monthly bill is being paid.

Previous research has shown that a decrease in consumers' resources attracts their attention and therefore makes the experience more salient (e.g., Prelec and Loewenstein, 1998; Thaler, 1999; Soman and Lam, 2002). Building on this, we suggest that in payment mechanism, where consumer resources decrease with each unit consumed (e.g., prepaid payment mechanism), the average cost is more salient. On the other hand, when consumer resources decrease across multiple units consumed (e.g., contract payment mechanism), then the overall cost is more salient

Understanding which cost dimension is more salient can help companies better manage customer perceived costs. For example, mobile phone service providers often offer discounts for consumers, which are directed to either the average cost per phone call or to the overall monthly cost. From the providers' perspective these costs could be seen as interchangeable; however consumers can think of them as not being equally important.

The paper is organized as follows. First, we review previous literature on costs, payment mechanisms, and consumer judgment and decision making, from which we derive the central proposition about the salience of types of costs. Then we present three empirical studies which test the proposition: a survey with metro commuters, a field study with users of mobile phone services, and a controlled experiment in a skiing trip context. The paper concludes with clarifying our contributions to theory, managerial implications, limitations, and directions for future research.

## **2.2. Theory and propositions**

### **2.2.1. Types of costs, consumer judgment and decision making**

When being involved in economic exchanges with companies, consumers frequently make decisions and judgments using different cues as inputs. A cue is said to be salient (i.e., relevant, important) to consumers when they respond to changes in the level of that specific cue (Serman, 1989). Previous literature has identified a number of cues that are salient to consumers, such as cost and quality. Understanding which cues are more salient helps companies in managing relationships with their customers in terms of customer value and loyalty.

When using the cost information consumers need to come up with a mental representation of the past cost which answers the question "How much is this costing me?" (Prelec and Loewenstein, 1998; Soman, 2001; Soman and Lam, 2002). With simple transactions, such as buying a book in a bookstore, the salient cost is simply the cost of the book. However, many economic exchanges are complex with sequential consumption episodes and

embedded payment mechanisms, examples of which were discussed in the introduction to this paper. Within these sequential economic exchanges there are different types of costs that consumers can find relevant.

In this paper two types of cost are explored. *Average cost* is a cost defined per unit of consumption, which can be a product unit, a time unit, an event, or an action. *Overall cost* is a cost aggregated over a number of consumption units, products, time, or events. Choosing the unit of consumption to which the average cost refers, depends on a specific product/service category (Prelec and Loewenstein, 1998). For example, for mobile phone services the consumption unit could be a phone call, while for commuting it could be one ride. In the field of economics a typical cost type used in analysis is the marginal cost. However, in many sequential economic exchanges the marginal costs can differ across units consumed (e.g., each phone call can have a different cost) and therefore the average cost is reflecting the cost per unit. In addition to this, in the case of flat rate tariffs the marginal cost is zero, while the average cost captures the cost assigned to each unit consumed.

### **2.2.2. Payment mechanisms**

In modern economies consumers can pay in many different ways. Cash and credit cards are examples of general payment mechanisms. They can be used across different products and services and do not form a part of an offering. Embedded payment mechanisms on the other hand form a part of a service or a product offering. For example, mobile service providers offer a prepaid or a contract payment mechanism, while commuting can be paid for by using a per-ride ticket or a monthly ticket. Further examples of embedded payment mechanisms can be found in other contexts such as gyms, renting movies, and theatre.

Recent research on payment mechanisms features two distinct streams. The *first* stream focuses on how consumers choose different payment mechanisms (e.g., Prelec and Loewenstein, 1998; Miravete, 2003; Della Vigna and Malmendier, 2006; Lambrecht and Skiera, 2006). Prelec and Loewenstein (1998) have shown that when purchasing a durable (e.g., a washing machine) consumers are more willing to take a loan, however, when purchasing a vacation they prefer to prepay. The reason is that consumers try to match the



payment mechanism with a consumption pattern. Lambrecht and Skiera (2006) have identified several consumer characteristics which influence the choice of a specific payment mechanism. These characteristics are the desire to control costs, overestimation of consumption, and the aversion for increasing costs. Therefore, both context and consumer characteristics need to be scrutinized when exploring the effect of payment mechanisms on the salience of cost.

The *second* stream of research focuses on the effects of a specific payment mechanism *after* the choice for a payment mechanism has been made. Prelec and Simester (2001) have shown that people are willing to pay more when instructed to pay with a credit card than when paying with cash. The reason is that consumers are willing to accept a higher amount of liability (credit card) compared to a resource decrease (cash). It has also been proposed that paying with cash attracts consumers' attention more than paying with credit cards and consequently consumers remember costs better when paying with cash (Soman, 2001). This paper contributes to this second stream of research, dealing with the effects of payment mechanisms after a choice of payment mechanism has been made.

### **2.2.3. Consumer resources, attention, and salience of costs**

The link between consumer resources, consumption, and consumer attention is first explained in the context of mobile phone services. Consumers, who pay for mobile phone services with a prepaid mechanism, first transfer resources to their mobile accounts. With each usage their resources in the prepaid mobile account decrease. On the other hand, when contractual consumers use the service they increase their liabilities (debt) towards the service provider and their resources get decreased when paying the monthly bill.

In such sequential economic exchanges, each time a unit is consumed (e.g., one phone call) one of the following occurs:

- (i) a decrease in *consumer resources* (consumer assets in various accounts, such as bank accounts and accounts related to specific services or products),
- (ii) an increase in *consumer liabilities* (consumer debt with regards to services, products),
- (iii) no change to consumer resources or liabilities (e.g., in the case of flat rates)

Previous research has shown that of all three outcomes above, consumers pay the most attention to a decrease in resources (Prelec and Loewenstein, 1998; Gourville and Soman, 1998; Prelec and Simester, 2001; Soman, 2001; Soman and Lam, 2002). Therefore, when a cost type is linked to a decrease in resources it is more salient than when linked to the other two outcomes (Thaler, 1999; Soman and Lam, 2002).

This is similar to the findings related to the difference of paying with cash (a resource decrease) versus credit cards (a liability increase). Prelec and Simester (2001) have found that the willingness to pay with the credit card is larger compared to paying with cash. It is important to remark that previous research has used the concepts of wealth (resources minus liabilities) and resources interchangeably.

Let us further explore the mobile phone service example. When using a prepaid payment mechanism, consumer resources decrease with each phone call (consumption unit), which in turn makes the average cost per phone call more salient. Similarly, when using a contract payment mechanism resources decrease when paying the monthly bill (across multiple consumption units), which makes the monthly cost of phone calls more salient.

Therefore, when resources decrease with each unit consumed, consumers take a *local perspective* such that the average cost becomes more salient. On the other hand, when consumer resources decrease across multiple consumption units, a *global perspective* is taken, making the overall cost more salient. Payment mechanisms differ in the moment in which consumer resources decrease and consequently influence the salience of the average versus the overall cost.

*Proposition:*

When resources decrease with each unit consumed, then the average cost is more salient.

When resources decrease across multiple consumption units, then the overall cost is more salient

### 2.2.4. Overview of the studies

We test our proposition using three service categories and their specific (existing) embedded payment mechanisms. The first study is a survey with commuters. The second study is a field study in mobile telecommunications based on customer behavior data. The third study is a controlled experiment in the context of skiing trip done with graduate students. The three studies are complementary both in terms of the context and the method. Different dependent variables are used in each of the studies in order to explore the proposition with regards to different decisions and judgments. Table 2.1 shows the classification of payment mechanisms in each of the studies together with the predictions about the more salient cost type.

Table 2.1: Summary of studies, payment mechanisms, and proposed salient cost.

Context	Payment mechanism	When consumer resources decrease with each unit consumed, then Average cost is more salient	When consumer resources decrease across a number of consumption units then, Overall cost is more salient
Study 1: metro commuting	Per ride ticket	Average cost	
	Monthly ticket		Overall cost
Study 2: mobile services	Prepaid	Average cost	
	Contract		Overall cost
Study 3: skiing trip	Daily ski tickets	Average cost	
	Multi-day pass		Overall cost

### 2.3. Study 1: Metro commuting

In this first study we explore which type of the costs is more salient with regards to *consumers' perceived value* for money, which is defined as the utility of a product or a

service as perceived by customers (Zeithaml, 1988). Perceived value is based on comparing the received benefits and the cost associated with these benefits.

The setting for this study is a survey involving metro commuters. Two embedded payment mechanisms are studied: monthly tickets and per ride tickets. The monthly ticket payment mechanism allows commuters to make as many trips as they want within one month from the date of the purchase. The commuters who pay per ride can either buy a single ticket or a bundle of ten single tickets; with each trip (ride) they spend one single ticket. We test whether salience of the average (per ride) cost and the overall (monthly) cost differ between payment mechanisms.

### **2.3.1. Research design**

The participants were 80 randomly selected metro commuters in a metropolitan area. They were surveyed when exiting one of three selected metro stations in the city centre. The respondents were told that the research was conducted for academic purposes and were not compensated for participation. Out of the 80 commuters surveyed, 33 used monthly passes and 47 were paying per ride. (The survey had been pre-tested with 35 graduate students to ensure the clarity of questions used.)

The respondents were asked to indicate the level of value for money metro commuting offers for them on a ten-point scale (*Value Initial*, 1 = “poor value”, 10 = “good value”; cf., Zeithaml, 1988). The participants were further asked how many trips they make in a typical week including weekends (*Weekly number of trips*). Next, all commuters were presented with two hypothetical situations. First, they were asked to imagine that their monthly cost of metro commuting would increase by 25 percent. Then we have asked them to indicate the level of value for money again (*Value Overall*). Second, the participants were also asked to imagine that their average cost per ride would increase by 25 percent, and to assess the value for money (*Value Average*). The order in which both hypothetical situations were presented was counterbalanced, as the order of presenting can influence outcomes (Podsakoff et al, 2003).

### 2.3.2. Analysis and results

In Table 2.2 we present the perceived value that commuters reported in each of the two conditions for each of the two payment mechanisms, before and after the hypothetical information about the cost increase were given. The first column shows values for money for the commuters paying per month and the second column shows changes for the commuters paying per trip. The increase in (overall or average) cost is perceived as a negative (disutility) from the commuters' perspective. As the commuters in the two payment mechanisms have different initial perceived value we need to take this into account when analyzing differences between the two groups. *Impact Average* is the absolute difference between the Value Average and Value Initial, while *Impact Overall* is the absolute difference between Value Overall and Value Initial.

Table 2.2: Means of perceived Value for money in hypothetical situations.

	Monthly tickets	Pay per trip
Value Initial - initial perceived value	8.2	7.9
Value Overall - overall cost increases 25%	7.0	7.6
Value Average - average cost increases 25%	7.7	7.1
Impact Overall (Value Overall – Value Initial)	- 1.2	- .3
Impact Average (Value Average – Value Initial)	- .5	- .8
N	33	47

Figures 2.2 and 2.3 show the change in the perceived value caused by the cost increase in the two presented scenarios. Figure 2.2 shows the results of the condition where the average cost was increased 25 percent and Figure 2.3 shows the results for the condition where the overall cost was increased 25 percent.

Figure 2.2: Initial value for money and value for money when *Average cost* increases

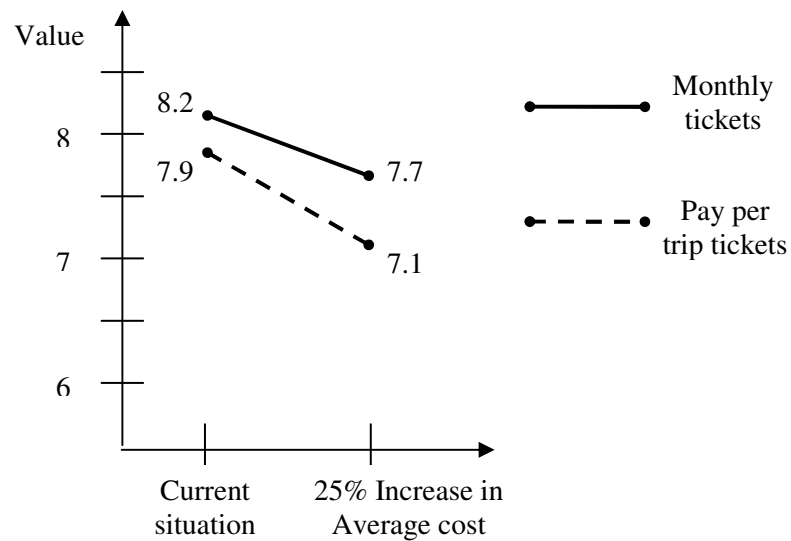
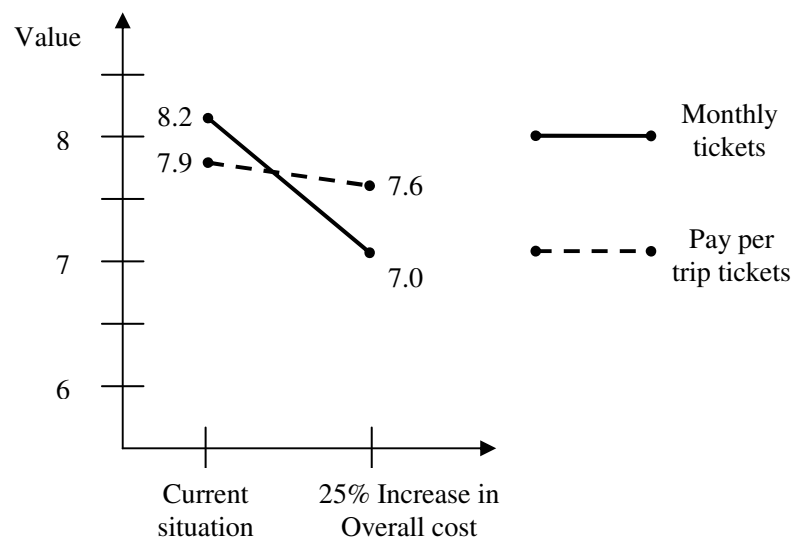


Figure 2.3: Initial value for money and value for money when *Overall cost* increases



In the condition with a 25 percent increase in the average cost, the cost information decreased perceived value to a larger extent for commuters paying per trip than commuters using monthly tickets (variable Impact Average;  $F_{1, 78} = 7.88$ ,  $p = .006$ ). Therefore, increasing the average cost has a stronger effect on the commuters paying per trip.

In the condition with a 25 percent increase in the overall cost, the cost information decreased perceived value to a larger extent for commuters using monthly tickets than

commuters paying per trip (variable Impact Overall;  $F_{1, 78} = 71.51, p < .001$ ). Increasing the overall cost has a stronger effect on the commuters with monthly tickets.

To test for the difference in cost salience between payment mechanisms, two regressions are done with the decreases in perceived value, Impact Average and Impact Overall, as the two dependent variables (Table 2.3). The linear regressions include the covariates (Initial Value, Weekly number of trips) and the control for the order effect. The variable *Pay per trip* indicates the payment mechanism of the participants and is coded 1 for the pay-per-trip commuters and 0 for the monthly-ticket commuters. *First Average Condition* variable indicates the order of the two hypothetical situations, and is coded 1 if first the average cost was changed and 0 if first the overall cost was changed.

Table 2.3: Regressions with covariates and controlling for order effect

Independent variables	Dependent variables	
	Impact Average - $\beta$ (s.e.)	Impact Overall - $\beta$ (s.e.)
Pay per trip	-.45 (.14) *	.90 (.11) *
Initial perceived value	-.29 (.07) *	-.23 (.07) *
Weekly number of trips	.05 (.01) **	n.s.
First Average Condition	n.s.	n.s.
Model (4 df; N = 80)	F = 8.46 (<.001), $R^2 = .31$	F = 28.1 (<.001), $R^2 = .60$

\* -  $p < .05$ ; \*\* -  $p < .01$ ; n.s. – not significant;  $\beta$  – reg. coefficient; s.e. – standard error

The coefficient of the Pay per trip variable is negative and significant for the variable Impact Average (Table 2.3). The commuters paying per trip react more to an increase in the average cost compared to the commuters with monthly tickets. The regression coefficient of the Pay per trip variable is positive and significant for the variable Impact Overall. An increase in the overall cost has a bigger effect on the monthly ticket commuters than the commuters paying per ride.

The variable Initial Perceived Value has a negative and significant effect on both dependent variables. This means that the commuters with a higher initial evaluation of

value for money react more to the change in either of the costs. The variable Weekly number of trips has a positive and significant effect on the variable Impact Average; however the effect on the variable Impact Overall is not significant. This means that the more frequently commuters use the metro the more they react to a change in the average cost. The order of the conditions is not significant for either of the dependent variables.

This first study provides support that there is a difference in cost type salience between consumers using different payment mechanisms. The survey of metro commuters allowed us to take the participants' currently used payment mechanisms and previous experience into account.

#### **2.4. Study 2: Mobile telecommunications**

The second study is designed to test the proposition in a field setting, using non-experimental secondary data. A context of mobile phone services is chosen as both the average and the overall cost vary across consumers. This allows us to observe the impact of costs in a natural setting without using hypothetical situations. Two embedded payment mechanisms are explored: a prepaid payment mechanism and a contract payment mechanism. The consumers that use the prepaid mechanism first need to refill their mobile account and with each usage resources are deducted from their mobile account. On the other hand, when the contract consumers use the service they increase their liabilities towards the service provider, while their resources get decreased when paying an overall monthly bill. Consumers in both payment mechanisms are charged per minute of a phone call.

The dependent variable in this second study is the variable of exiting the relationship with the service provider. It captures the consumer's action to stop using the services of the specific provider. This could happen when consumers decide to change the service provider. The difference in the salience of the average and the overall cost is tested between the prepaid and the contract payment mechanism.

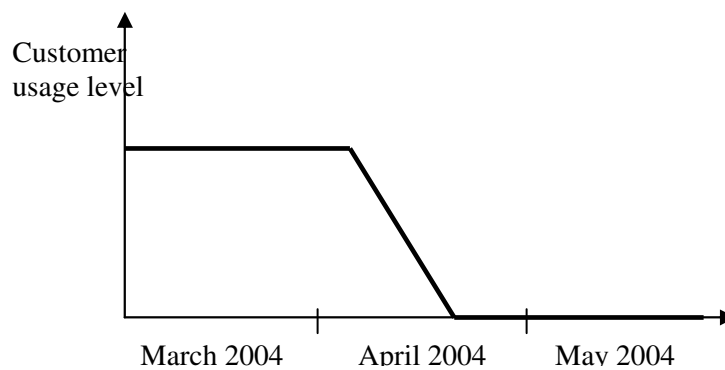


### 2.4.1. Research design

This study uses customer behavior data from the billing database of a major northern-european mobile telephone service provider. Each record within the database represents information related to one SIM card. A random sample of 9868 customers was selected by using a unique number assigned to each customer by the provider. The sampled population included all active customers (positive monthly cost) in the month of April 2004.

The following variables were extracted from the database for further analysis. *Overall cost of calls* is the overall cost of all calls made in the given month, and *Other monthly costs* is the overall cost of all the other mobile services (fixed monthly cost, SMS, voicemailbox, data, etc.) used in the given month. By keeping the fixed contract fee separate from ongoing cost, a comparison is possible between the prepaid and the contract payment mechanism. *Average cost per call* was calculated from the monthly cost of calls and the number of phone calls. Further, for each customer the SIM activation date was available, which was used to calculate a variable *Length of relationship*, measuring the elapsed time from activating the mobile account. All the variables mentioned in this paragraph were measured in March 2004.

Figure 2.4: The scheme of pattern of usage when customer is exiting the relationship



The dependent variable of interest is the customer's act of exiting the relationship with the service provider. Within the contract mechanism customers need to inform the service provider that they wish to terminate the relationship. However, within the prepaid mechanism this is not necessary as customers simply stop using the service. The common characteristic of exiting is that in a specific month customers use the service, which is

followed by no service usage after exiting the relationship. The dependent variable *Exiting* has value 1 if there is a drop from using the service in March 2004 to not using the service in May in 2004 (Figure 2.4).

### 2.4.2. Analysis and results

In this section we test the proposition that payment mechanisms influence the salience of costs. As *Exiting* is a binary variable, a logistic regression is used with independent variables Average cost per call, Overall cost of calls, Other monthly costs, and Length of relationship. Two regressions are run, one for each of the payment mechanisms. All the variables are standardized.

Table 2.4: Two logistic regression models of *Exiting*

Independent variables	Dependent variable – <i>Exiting</i> - $\beta$ (e)	
	Contract customers	Prepaid customers
Average cost per call	n.s.	34 (.13) *
Overall cost of calls	.47 (.16) *	n.s.
Other monthly costs (SMS, data,etc.)	.45 (.12) *	.28 (.11) *
Length of relationship	n.s.	n.s.
N	3868	6000
Likelihood ratio Chi-Square	18.9	28.4
Correct case classification	.72	.63

\* -  $p < .05$ ; \*\* -  $p < .01$ ; n.s. – not significant;  $\beta$  – reg. coefficient; s.e. – standard error

As we can observe in the Table 2.4, the regression coefficient of the variable Average cost is not significant for the contract customers, while it is significant and positive for the prepaid customers. The prepaid customers are therefore more sensitive to the information about average cost. The variable Overall cost has a positive and significant regression coefficient for the contract customers. The effect of Monthly cost for the prepaid customers is not significant. The contract customers are more sensitive to the information about

overall cost. Costs have positive effects on exiting the relationship with the service provider, which is in line with the previous literature saying that costs are seen as negative from the customers' perspective.

In this field study further support was found for the proposition that cost type salience differs between payment mechanisms. Analysis was based on historical customer behavior data without experimental interference and hypothetical changes in costs.

This means that for contract customers the overall cost is more salient as input information in the decision whether or not to stop using the services of this provider. Customers using a prepaid system, however, seem to represent the cost of using their mobile phones in terms of average cost, and the information regarding these average cost is more salient in their decision whether or not to stop using the services of a certain provider.

## **2.5. Study 3: Skiing trip**

The results from the first two studies provide support for the difference in the cost salience between payment mechanisms. However, this difference could also be explained by various other effects: a self-selection effect (Lambrecht and Skiera, 2001), an exposure effect (Soman and Gourville, 2001), and a cognitive effort effect (Soman, 2001). Individuals with different characteristics can self-select different payment mechanisms and the observed salience effect can be due to this self-selection. The information to which individuals are exposed is normally more salient compared to the unexposed information. When cognitive effort is required to calculate the specific information, then this information is less salient. In order to control for these influences this third study is designed as a controlled experiment. A similar approach has been applied before by Prelec and Simester (2001) when controlling for external effects on the willingness to pay by credit cards versus cash.

The context of the third study is a hypothetical multi-day ski trip and builds on a similar context used by Soman and Gourville (2001). Two randomly assigned embedded payment

mechanisms were used: a daily ticket and a four-day ski pass. After “experiencing” the payment mechanisms in a computer environment, participants were presented with two independent ski trip options: one with the increased average cost and the other with the increased overall cost. Next, we have asked participants about the likelihood of choosing each of the offered ski trip options. We test whether assigned payment mechanism influences the reaction of respondents to changes in cost types (average, overall).

### **2.5.1. Research design**

The participants were graduate students at a public university in a metropolitan area and were contacted by email. Within the email there was an invitation to participate in a study for academic purposes. Out of the 223 contacted students, 74 responded to an online questionnaire (a 33 percent response rate). The respondents were not compensated for their participation.

For each of the respondents a specific internet address was generated, pointing to a self-report online form linked to his or her email address. The form was available online for a period of two weeks in April 2007, which is the time frame suggested for an online data collection by Llieva, Baron, and Healy (2002). The participants were told to imagine they have just started a four day ski trip and that each day they had to make a decision whether they want to go skiing or not. Each respondent was randomly assigned to one of the two payment mechanisms. In the first payment mechanism the participants were instructed that each day that they decide to go skiing they need to purchase a daily ticket. In the second payment mechanism the participants were told that they have purchased a four day ski pass. Respondents in both groups were informed that the cost of one day of skiing was 30 euros and the cost of four days of skiing was 120 euros.

Next, both groups were led through a computer-simulated hypothetical multi-day ski trip in order to experience the payment mechanism they were assigned to. Every “day” of skiing the participants had to make a decision whether they would go skiing or not. Between each decision related to skiing we inserted a filler task, intended to create a perception of temporally separate decisions. A four-day ski trip experience was compressed into approximately ten minutes of respondent’s time. Computer-simulated “compressed”

experiences have been shown to do a good job of simulating actual consumer experiences (Burke et al, 1992; Soman, 2001).

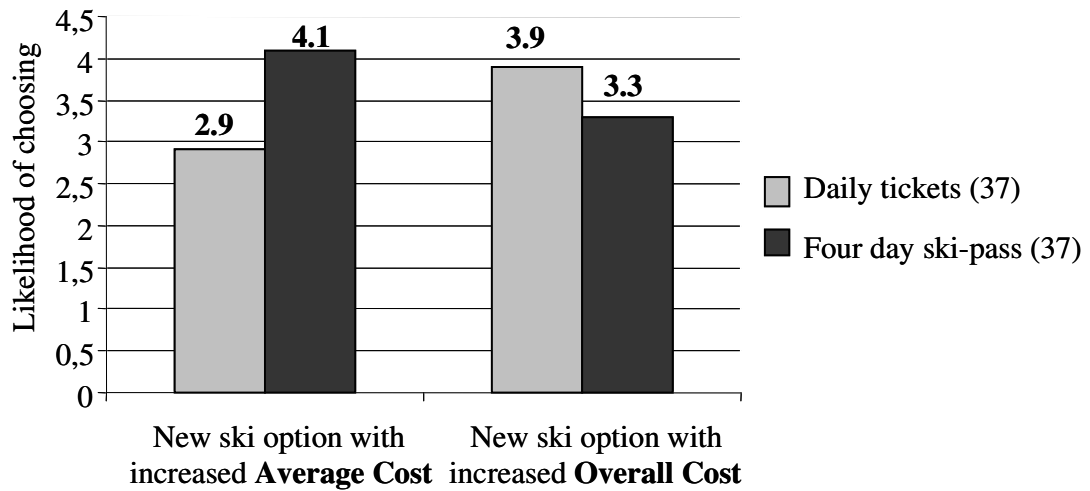
After the four-day ski experience, the participants were presented with two independent hypothetical options for skiing in the future. After being presented with each of the options they were asked about the likelihood of choosing it. The first option (a seven day ski trip) featured an increase in the overall cost (210 euros) while the average cost remained the same (30 euros per day). The variable *Increased Overall Cost* measured the likelihood that respondents would choose this option (1 = “very unlikely” and 7 = “very likely”). The second option (a three day ski trip) featured an increase in the average cost (40 euros per day) while keeping the same overall cost (120 euros). The variable *Increased Average Cost* measured the likelihood (same seven point scale as before) that the respondents would choose the skiing option with the increased average cost. The presentation order of new ski options was counterbalanced. The following variables were also collected: *Gender*, measuring the gender of the participants, and *Number of days skiing*, measuring how many days per year the participants usually go skiing.

### **2.5.2. Analysis and results**

Figure 2.5 presents the means of likelihood of choosing each of the options for each of the payment mechanisms. The option with the increased average cost is preferred by the users of the four-day ski pass compared to the users of daily tickets ( $F_{1, 72} = 8.07, p = .006$ ). The participants in the daily tickets payment are more sensitive to changes in the average cost as their resources decrease with each unit consumed (one day of skiing).

The option with the increased overall cost is preferred by the users of daily tickets compared to the four-day ski pass users ( $F_{1, 72} = 3.29, p = .074$ ). The four-day ski pass draws participants’ attention to the overall cost as resources decrease across multiple unit of consumption (days of skiing). The proposition is thus supported for the average cost as well as the overall cost.

Figure 2.5: Means of Likelihood of choosing hypothetical ski trip options under different payment mechanisms



Next, two regression analyses are done and the dependent variables are the likelihoods to choose the options with Increased Average Cost and Increased Overall Cost (Table 2.5). The regressions include the covariates (Number of days skiing, Skier, and Gender) as well as the order of the hypothetical future skiing options. The assigned payment mechanism is recorded with the variable *Daily ticket*, which has the value of 1 in the case of the daily ticket payment and 0 otherwise. Further, the variable *Skier* has the value 1 if the respondent normally spends more than zero days per year skiing and 0 otherwise. The variable *Increased Average Cost First* indicates the order of the two conditionings and has the value 1 when the option with increased average cost is first and 0 if the order is reversed.

The variable *Daily ticket* has a negative effect of on the likelihood to choose the option with the Increased Average Cost. This implies that the increased average cost is less attractive for the daily tickets holders compared to the four-day ski pass holders. Therefore, the daily ticket holders are more sensitive to information about the average cost compared to the four-day ski pass holders. The variable *Daily ticket* has a positive effect on the variable Increased Overall Cost. The four-day ski pass holders are more sensitive to an increase in the overall cost.

Table 2.5: Two regression models including covariates and order effect

Independent variables	Dependent variables	
	Average Cost ( $\beta$ , s.e.)	Overall Cost ( $\beta$ , s.e.)
Intercept	2.58 (.68) **	2.48 (.76) **
Daily ticket	- 1.05 (.35) *	0.93 (.39) *
Number of days skiing	.12 (.03) **	.15 (.03) **
Skier	1.09 (.35) *	.79 (.37) *
Increased Average Cost First	1.17 (.35) *	- 1.05 (.35) *
Gender	n.s.	n.s.
Model (5 df; N = 74)	F = 9.56, R <sup>2</sup> = .39	F = 7.03, R <sup>2</sup> = .33

\* -  $p < .05$ ; \*\* -  $p < .01$ ; n.s. – not significant;  $\beta$  – reg. coefficient; s.e. – standard error

The existing participants' motivation for skiing is measured in terms of whether they ski at all as well as in terms of the average number of days they ski in a typical year. The motivation has a positive effect on the likelihood of choosing either of the offered future skiing options.

In this third study we can observe a significant and strong order effect which was not present in the first study. This difference can be explained by having used different dependent variables. In the metro study both dependent variables have measured the value judgments in the case of the cost increase, while in the ski trip study the dependent variables have measured the likelihood of choosing new ski trips. When choosing the second ski option, participants could have taken into account the budgetary constraint based on choosing the first option.

The effect of payment mechanisms on the cost salience is supported even when controlling for several other possible effects: a self-selection effect (a randomized design was used), an exposure effect (both cost types were presented simultaneously), a cognitive effort effect (the relation between average and overall cost was simple), and an effect of ecological factors (previous motivation and experience of the respondents was taken into account).

## **2.6. General discussion**

### **2.6.1. Contribution to theory**

In this paper we focused on economics exchanges with sequential consumption episodes, within which we addressed the salience of cost types in consumer judgment and decision making. We developed a proposition that the payment mechanism used influences the salience of different types of costs. The underlying reason is that payment mechanisms differ in whether resources decrease with each unit consumed (e.g., prepaid mobile) or across multiple units consumed (e.g., contract mobile). In the case, when resources decrease with each unit consumed, then consumers take a local perspective and consequently the average cost becomes more salient. However, when resources decrease across multiple units consumed, then a global perspective is taken with the overall cost being more salient. The proposition was supported across three diverse studies: a survey in metro commuting, a field study in mobile phone services, and a controlled experiment within a skiing trip context.

When modeling consumer's utility as a function of gains and losses, prospect theory deals explicitly with the influence of changes in costs (Kahneman and Tversky, 1979; Thaler, 1999). This model has two key elements; the first one is that there is only one dimension of cost included and the second one is that changes in costs are compared to a reference point. Our study shows that different cost dimensions can be relevant to consumers and each of them can have its own reference point. This indicates that in certain contexts the reference cost is not one-dimensional as implicitly assumed before (Kalyanaram and Winer, 1995; Kahneman and Tversky, 1979). A possible extension would be to define the utility function over a multidimensional cost space to allow for multiple cost dimensions and reference points.

Previous research has suggested that when consuming prepaid services or products, consumers do not feel that they are using their resources (e.g., Prelec and Loewenstein, 1998). In this paper we claim that in some contexts, like metro commuting or mobile phone services, a prepaid consumption is not necessarily considered as free. This paper thus builds on Shafir and Thaler (2006) who have proposed that in some cases (e.g., gym



membership or wine) advance purchases are perceived as investments. This dilemma is also linked to researchers interchangeably using the concepts of consumer resources and consumer wealth (resources – liabilities). However, simple financial transactions just create shifts in consumer resources and do not decrease consumer wealth. It is the consumption which can reduce resources or increase liabilities and thus influence wealth. Focus should therefore move from observing pure financial transaction to consumption episodes.

### **2.6.2. Managerial implications**

Our findings suggest that payment mechanisms influence the salience of types of costs (average, overall). In the case when the average cost type is more important, companies should focus on managing this cost dimension. For example, in the prepaid mobile services free calls would be offered instead of offering a percentage reduction when refilling the mobile account. On the other hand, when the overall cost is more important this should be the cost dimension to manage. Again, in the mobile phone services context the contract customers should be offered discounts on their monthly bills instead of a free usage of services. These two examples are aimed at increasing customer loyalty. However, these findings should be placed within the context of a specific industry as well as a specific company. In addition, practitioners need to take into account that simultaneous marketing actions are frequently being run which are aiming at different goals.

Managers should be aware that the payment mechanism is influencing how consumers process the cost information. Therefore, the choice and the design of payment mechanisms play an important role when developing new services or products. In addition, understanding the differences between payment mechanisms can provide an insight about how to attract competitors' customers as well as how to increase the loyalty of own customers.

Many companies collect data about their customers' choices and behavior as a part of their business processes or in an effort to develop knowledge about their customers. These data are used to build different predictive models, such as retention (loyalty), cross- and up-sell models. Costs are also included in these models as independent variables and were shown

to have important role. Therefore, knowing, which cost type is more important, can help improve the predictive accuracy of the above mentioned models.

### **2.6.3. Limitations and future research**

The research done in this paper faces several limitations which also represent future research opportunities. The richness of payment mechanisms and the specifics of economic exchange contexts would require further investigation in terms of generalizing these findings. Even though this paper covers three distinct contexts, there might be some structural differences of importance and tests in other consumption contexts are needed.

In certain contexts companies have developed complex payment mechanisms. An example are recent marketing promotions for internet services, where the initial months are priced at a much lower rate (e.g., 9 Euros) followed by an actual monthly rate (e.g., 57 euros). Another example is found in loans related to cars which are frequently based on a three tier payment: an initial sizeable payment (e.g., 9000 euros), followed by smaller monthly payments (e.g., 300 euros), and in the end again a sizeable payment (e.g., 8000 euros.). Future research could address how to further develop the proposition in order to account for these complex payment mechanisms.

To conclude, payment mechanisms represent the way resources flow from the consumer to the company providing services or products. A variety of payment mechanisms are continuously being introduced to the market to match the nature of services and products as well as to facilitate their consumption. Recent research has contributed significantly to our understanding of payment mechanisms and their effects, which is important for consumers, marketers, and also policy makers. The findings in this paper thus extend the knowledge in this area and open several interesting directions for future research.

## **Chapter 3**

# **Using the Intentions and Expectations perspectives to explore the influence of determinants of loyalty**

### **3.1. Introduction**

The field of marketing has come to a consensus that understanding and maintaining customer loyalty is critical for companies' financial performance (Reichheld, 1996; Zeithaml et al, 2006). However, there is still a lack of agreement about the influence of determinants of loyalty and various have been proposed as central, for example, satisfaction, trust, and switching costs (Szymanski and Henard, 2001; Morgan and Hunt, 1994; Burnham, Frils, and Mahajan, 2003). When managers aim to maintain customer loyalty, they are faced with many candidates for the focal determinant. For example, they could decide to invest in keeping customers satisfied or could decide to design contracts and procedures to increase customer switching costs. However, the determinants chosen by managers differ in how they influence loyalty. Therefore, a misunderstanding, about what roles determinants play, can lead managers to focus on the less relevant determinants and use resources without achieving desired results. In this paper we propose a way to distinguish how different determinants influence customer loyalty, which could represent a competitive advantage for companies.

When studying customer loyalty and its determinants, researchers frequently measure loyalty by asking customers to forecast their future behavior. There are two ways of forming questions about customer forecasts that are commonly used: intentions (e.g., “Do you *intend* to be loyal to a specific provider?”) and expectations (e.g., “Do you *expect* to be loyal to a specific provider?”). Previous research about individual forecasting has suggested that asking about intentions or expectations differs in terms of how individuals think about future events and behaviors (Warshaw and Davis, 1985). Intentions measure a conscious intention based on determinants which are under the respondent’s control, such as motivation, attitudes, abilities, or beliefs. Expectations on the other hand measure a self-prediction of one’s own future, which takes into account factors beyond the individual’s control. These external factors include the ease or difficulty of performing the behavior as well as the anticipated obstacles.

The following example further illustrates the difference between intentions and expectations: “I intend to lose weight” and “I expect to lose weight”. Individuals might have a motivation or a reason to lose weight which is expressed in the intentions form. However, they are also aware that there are influential factors beyond their control, which are expressed in the expectations form. These external factors additionally prevent individuals from losing weight and include eating out as well as choices of other people. Using intentions or expectations question triggers different cognitive processes and consequently consumers use different sources of information to construct forecasts of future behavior (Sheppard, Hartwick, and Warshaw, 1988; Bettman, Luce, and Payne, 1998).

We build on this difference between intentions and expectations to explore the roles of determinants in forecasting loyalty. A study is designed to measure loyalty and its determinants. As measures of customer loyalty we use both the loyalty intentions questions and the loyalty expectations questions. The selected determinants are four commonly used predictors of loyalty: customer satisfaction, trust, attitude toward switching, and financial switching costs. We hypothesize that these determinants differ in terms of what control consumers have over them, with *inward-looking* determinants having a higher level of control and *outward-looking* determinants having a lower level of control. Exposing consumers to the intentions and expectations perspectives enables us to test the inward or the outward-looking nature of determinants.

In the next section, we present in more detail the conceptual difference between the intentions and expectations perspective. Further, we discuss selected determinants (satisfaction, trust, switching costs, and attitude towards switching) and their effects on customer loyalty. Based on previous findings we develop hypotheses about how these determinants influence loyalty intentions and loyalty expectations. Next, the research design is presented with a survey as a means of collecting multiple items for each of the variables used. Based on the hypotheses, a structural equation model is proposed and tested with other models for the effects of the determinants. In the end, conclusions, managerial implications, and limitations are discussed.

## **3.2. Theory and hypotheses**

### **3.2.1. Customer loyalty and its determinants**

A number of different determinants of loyalty have been proposed in the literature, grounded in theory and supported with empirical studies. Determinants of loyalty can be divided into two groups, the perceptual determinants (e.g., satisfaction, trust) and the behavioral determinants (e.g., the number of items purchased). The group of perceptual determinants has recently received an increased attention compared to the behavioral determinants. There is also a consensus in the field of marketing, that the effects of the behavioral determinants are mediated through the perceptual ones. In addition, hypotheses about the effects of perceptual determinants can be generalized across product and service categories. However, in many situations the behavioral determinants are the only data managers have about their customers, collected either through loyalty programs or information systems supporting operational processes.

Despite numerous studies, we still do not have a full understanding of how determinants influence loyalty and which are the central ones that managers should focus on (Brady et al, 2005). In this study, we have selected a group of four commonly used perceptual determinants: customer satisfaction, trust, customer switching costs, and attitude towards

switching (Szymanski and Henard, 2001; Morgan and Hunt, 1994; Burnham et al, 2003; Bansal and Taylor, 1999). The aim is to further explore the nature and influence of these selected determinants. In the following sections, the intentions and expectations perspectives are presented, based on which we discuss each of the determinants and develop related hypotheses.

### **3.2.2. The intentions and expectations perspective**

As mentioned earlier, we use two different forms of questions to measure consumers' loyalty forecasts: intentions and expectations. The purpose is to expose consumers to different perspectives on loyalty, which are hypothesized to influence the process of constructing forecasts. The differing effects of these two forms are based on a Warshaw and Davis's (1985) proposition that intentions and expectations differ as measures of forecasts. *Intention* is defined as a statement of conscious intention, while *expectation* is a self-prediction of one's own future behavior. Apart from the weight loss example in the previous section, further examples can be found with regards to consumer decisions. When consumers say that they intend to switch their internet service provider or change to a new car, they focus on their current situation and the reasons for the intended action. However, when they express their expectation about switching the internet service provider or a changing to a new car, they take into account additional external factors. An example of a positive external factor could be a potential attractive offer from a competitive provider; while an example of a negative external factor might be the information about the additional cost (e.g., taxes) associated with purchasing a new car.

Individuals can therefore take two different perspectives on their future behavior. Within the *intentions perspective* they tend to focus on a conscious intention to perform future behavior. The resulting forecast is mainly based on the factors under the respondent's control, such as the reasons (motivation) to perform the behavior and the attitude towards performing the behavior (Warshaw and Davis, 1985; Ajzen, 1991; Soderlund, 2003). We shall call these the inward-looking factors. The *expectations perspective* is however based on a cognitive appraisal of the factors which are beyond respondent's control. Examples of these outward-looking factors include the obstacles and risk associated with performing the behavior (Warshaw and Davis, 1985; Ajzen, 1991).

The loyalty intentions (e.g., “I intend to be a loyal customer.”) and the loyalty expectations (e.g., “I expect to be a loyal customer.”) are frequently and interchangeably used to measure customers’ forecast of their future loyalty behavior. Based in earlier discussion, the two measures of loyalty forecasts are proposed to be different constructs.

*H1: Loyalty intentions and loyalty expectations are different constructs.*

### **3.2.3. The roles of determinants of loyalty**

As discussed in the previous section, loyalty intentions and loyalty expectations cause consumers to view future behavior in different ways. When forming a loyalty intention (LI) forecast, consumers focus more on the inward-looking determinants over which they have a higher level control. On the contrary, when forming a loyalty expectation (LE), forecasts focus more on the outward-looking determinants with a lower level of control. By acknowledging the inward and the outward nature of determinants, we can develop hypotheses for each of them about how well they predict loyalty intentions and expectations.

*Customer satisfaction* has been extensively studied in the marketing literature (Fornell, 1992; Oliver, 1997; Garbarino and Johnson, 1999) and has been shown to be an important determinant, positively related to loyalty. These findings have achieved a high level of awareness among practitioners and it is frequently claimed that satisfied customers are more loyal. We base the definition of customer satisfaction on Johnson and Fornell (1991) as the customer’s overall evaluation of the performance of an offering to date. Satisfaction is a judgment, constructed and internalized based on consumers’ personal experience with a service or a product. It is an evaluation of the past performance and as such it does not take into account future external factors. Bansal and Taylor (1999) as well as Soderlund and Ohman (2005) have proposed that satisfaction is an entity with a relatively high level of control and thus an inward-looking determinant. Based on the discussion in the preceding section, customer satisfaction should have more weight in the intentions perspective compared to the expectations perspective.

*H2a: Satisfaction predicts loyalty intentions better than loyalty expectations.*

*Attitude towards switching behavior* has been frequently proposed as a determinant of loyalty (Ajzen and Fishbein, 1980; Bansal and Taylor, 1999). It is defined as the degree to which a person has a favorable or an unfavorable evaluation or appraisal of the behavior in question. Bansal and Taylor (1999) have found support that attitude towards switching behavior is conceptually different from perceived behavioral control. Attitude towards future behavior therefore represents the individual's own attitude and is less based on external factors. Ajzen (1991) has proposed that attitude toward this behavior is more inward-looking and a better predictor of intentions. The hypothesized distinction in predicting the intention and the expectation forecast is thus similar to the one expressed for satisfaction.

*H2b: Attitude towards switching predicts loyalty intentions better than loyalty expectations.*

*Trust* is another determinant of loyalty which has recently received much attention and has been claimed to be a better predictor of loyalty than satisfaction (Morgan and Hunt, 1994; Burnham, Frels, and Mahajan, 2003). It is defined as the expectation held by customers that the provider is dependable and can be relied on to deliver on promises (Morgan and Hunt, 1994). When asked about the level of trust in a specific company, customers imagine future events and how the company would keep its promises or resolve problems that could occur. Trust is therefore an evaluation of the company's future performance and explicitly includes factors that go beyond the control of the respondent. We can consider trust as a positive determinant of loyalty with an outward-looking nature, which is more closely linked to the expectations perspective.

*H2c: Trust predicts loyalty expectations better than loyalty intentions.*

*Switching costs* are related to the act of switching the provider and have been shown to influence loyalty positively. Various forms of switching costs have been discussed in the literature: procedural, psychological, financial, relational, and legal (Burnham et al, 2003). In this study, the focus is on the perceived financial switching cost, which acts as a barrier for customers, decreases their switching behavior, and therefore increases their loyalty. Examples of financial switching costs are penalty fees or costs related to setting up a new service or purchasing a new product. Similarly, when changing a retailer, consumers can face an increase in the transportation cost. Financial switching costs are therefore



hypothesized to be an outward-looking factor which carries more weight in the expectations perspective.

*H2d: Financial switching costs predict loyalty expectations better than loyalty intentions.*

In this paper, we are interested in the relation between the loyalty intention, the loyalty expectation, and their relations with determinants of loyalty. The link between loyalty forecasts and actual behavior is not studied here. This has been explored and empirically tested before by Sheppard, Hartwick and Warshaw (1988), who have shown in their meta-analysis that expectations are better predictors (in terms of  $R^2$ ) of actual behavior than intentions.

### **3.3. Study analysis and results**

This section presents the study developed to test for the proposed hypotheses. First, the research design is presented together with the measures used for the constructs. Next, the measurement model is tested for convergent validity, dimensionality, and discriminant validity. Finally, we test whether determinants differ in how well they predict loyalty intentions and expectations

#### **3.3.1. Research design**

The data were collected using a paper and pencil questionnaire distributed to undergraduate students at a university in a metropolitan area. The students were approached when leaving the classroom and were asked to fill out the questionnaire for academic purposes. The participants were offered a financial incentive in the form of a lottery, in which 5 participants were randomly chosen to receive a prize of 10 euros each. There were in total 187 questionnaires distributed and 117 were returned. Three of the returned questionnaires were not completed and thus the final dataset had 114 observations. The survey questions were about mobile phone services, which were used by

all the respondents. A pre-study had been done with 32 graduate students in order to ensure the clarity of items used.

Table 3.1: Items used for constructs and tests of the measurement model

Items		Loading	Error	C	$\alpha$	VE	VS
Switching Intention							
I1	I plan to change my mobile services provider.	.81	.24	.77	.88	.73	.56
I2	I intend to start using another provider.	.69	.35	.65			
I3	I will change my provider within the next year.	.80	.23	.78			
Switching Expectation							
E1	I expect to change my provider in the future.	.78	.22	.77	.90	.73	.47
E2	How likely is that you will stay with your current mobile phone services provider?	.76	.24	.76			
E3	How likely is that you will change it in the future?	.76	.28	.71			
Satisfaction							
S1	How satisfied or dissatisfied are you with your current mobile phone services provider?	.83	.16	.84	.93	.80	.71
S2	Overall, how do you feel about it?	.86	.11	.89			
S3	How well does it meet your needs at this time?	.80	.29	.70			
Trust							
T1	I feel can trust my mobile phone services provider.	.82	.23	.77	.88	.71	.71
T2	My provider is responsive to customers' problems.	.70	.34	.65			
T3	I feel my mobile services provider is reliable.	.75	.26	.75			
Attitude towards switching							
A1	It would take me a lot of effort to choose another mobile services provider.	.64	.29	.56	.84	.61	.56
A2	I do not feel like going through the whole process of changing the mobile provider.	.76	.31	.70			
A3	Going through the process of changing to another provider would be an unpleasant experience.	.67	.32	.60			
Perceived financial switching cost							
F1	Changing my mobile provider would cost me money.	.83	.21	.84	.90	.79	.31
F2	If I choose another services provider my costs will go up.	.80	.19	.77			
F3	Changing my mobile service provider would have significant financial impact for me. *	.34	.11	.32			
Satorra-Bentler scaled $\chi^2 = 161.17$ (104 df); p-value = .000; NFI = .88; NNFI = .93; CFI = .95; RMSEA = .071 (90% interval: .048-.091); * - item F3 is not used in the measurement model							
C= Communality; $\alpha$ = Cronbach Reliability; VE=Variance Extracted; VS= Maximum Variance Shared (Fornell & Larcker test)							

The dependent variables were consumers' forecasts of switching their mobile provider in the future. The items for the constructs of switching intentions and switching expectations were measured on a ten-point scale and based on Warshaw and Davis (1985), Zeithaml, Berry, and Parasuraman (1996), and Soderlund and Ohman (2005). Satisfaction was measured using items from Fornell (1992). Attitude toward the switching was based on Bansal and Taylor (1999). Trust was measured in line with Morgan and Hunt (1994). Switching costs measured in financial terms were based on the work of Bansal and Taylor (1999), Burnham, Frels, and Mahajan (2003), and Jones, Mothersbaugh, and Beaty (2002). For all determinants of loyalty a seven-point scale was used. All the variables were cognitive, subjective variables and therefore each was measured using three items (Table 3.1). Table 3.1 also includes tests of the measurement model.

### 3.3.2. Measurement model

The variables of interest in this study are perceptual determinants, collected through a survey and each based on multiple items. Testing the relations between variables is based on a structural equation modeling. The difference in the switching intentions and the switching expectations constructs (hypothesis H1) is explored by testing the measurement model: convergent validity test, dimensionality test, and discriminant validity test (Kline, 1998). Testing the hypotheses H2a to H2d is based on comparing how selected determinants influence different dependent variables (intentions and expectations). The comparison is based on the fit of structural models.

Table 3.2: Correlations of study constructs (the data are standardized)

	X1	X2	X3	X4	X5
X1 - Switching Intention					
X2 - Switching Expectation	.67				
X3 - Satisfaction	-.83	-.47			
X4 - Attitude towards switching	-.20	-.26	-.43		
X5 - Trust	-.78	-.56	.83	-.32	
X6 - Perceived financial switching cost	-.45	-.65	.11	.20	.05

The correlations of the constructs are reported in Table 3.2. The exploratory factor analysis is done, using the principal component analysis and the varimax rotation. The Cronbach's alpha supports the reliability of the constructs with values between .84 and .93 (Table 3.1). The F3 item for the perceived financial switching cost construct has a low loading (.34) and a low communality (.32) compared with other items in the factor analysis. The measurement model without the item F3 has a significantly better fit and this item is removed from further analysis. By examining the items F1, F2, and F3, we can observe that the items F1 and F2 measure the absolute impact of switching costs, while F3 measures the impact relative to respondents' overall wealth. The switching costs in absolute terms seem to matter for consumers, however compared to their overall wealth they could be perceived as not so relevant. This could explain low loadings of F3.

The convergent validity is tested with a *confirmatory factor analysis* including all the constructs (Bagozzi, Yi, and Philips, 1991). A common method factor is included as a means of accounting for random and systematic errors (Podsakoff et al, 2003). With regards to testing structural equation models, there is no consensus about which test is best for evaluating the fit of the model. Several different tests are therefore used jointly as advised by Marsh (1994). We use a chi-square test with a scaling correction to improve the approximation of the goodness-of-fit test statistics (Satorra and Bentler, 1988). An acceptable model fit is indicated when a chi-square value divided by degrees of freedom is less than 5. Next the following fit indices are also used with acceptable fits indicated by specific values: NNFI (Non-Normed Fit Index) and CFI (Comparative Fit Index) values exceeding .90 and a RMSEA (Root Mean Square Error) value less than .08 (Marsh, 1994). In Table 3.1 we can observe that the measurement model has a satisfactory fit: Satorra-Bentler scaled chi-square = 161.17 (104 df); NFI = .88; NNFI = .93; CFI = .95; RMSEA = .071 (.048-.091). Both the exploratory and the confirmatory factor analysis support the convergent validity of constructs.

The *discriminant validity* between variables exists when there is a low correlation between items measuring different variables. The following test, proposed by Fornell and Larcker (1981), is used. For each of the variables we calculate the variance extracted (VE) by the items used to measure this specific variable. Next, the variance shared (VS) of a specific variable is the highest variance shared with any other variable used in the analysis. When for a specific variable the variance extracted (VE) is larger than the variance shared (VS),

then it is sufficiently different from other variables. From Table 3.1 we can conclude that all the variables satisfy the discriminant validity test.

The validity of the construct aggregation is tested with the *dimensionality test* (Bagozzi and Edwards, 1998). Two structural models are compared; one with the switching intentions and the switching expectations modeled as a single construct (Figure 3.1) and another, where they are modeled as two different constructs (Figure 3.2). Both models also include all the other variables.

Figure 3.1: One factor model

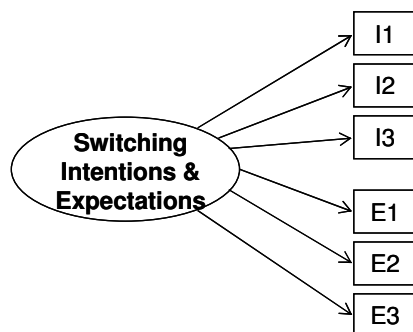
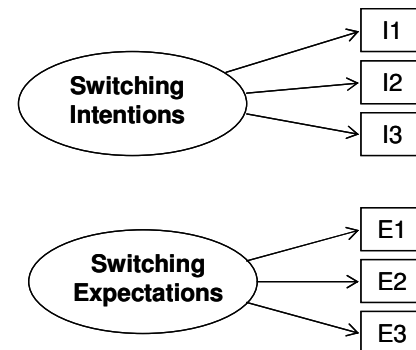


Figure 3.2: Two factor model



Comparing the fit of structural equation models is based on the standard test of a chi-square difference (Anderson and Gerbing, 1988; Brady et al, 2005). The chi-square difference is the chi-square fit statistic for one model minus the corresponding value for the second model. The difference in the chi-square statistic is evaluated against the corresponding difference in the degrees of freedom. If the chi-square difference is significant, then there is a difference in the model fit.

The single-factor model (Figure 3.1) has the following fit: Satorra-Bentler scaled chi-square = 250.80 (109 df); NFI = .79; NNFI = .83; CFI = .87; RMSEA = .11 (.090 -.125). The two-factor model (Figure 3.2) has the following fit: Satorra-Bentler scaled chi-square = 161.17 (105 df); NFI = .88; NNFI = .93; CFI = .95; RMSEA = .071 (.048-.091). The two-factor model fits the data better as the chi-square difference is significant (chi-square difference = 89.63; difference in degrees of freedom = 4;  $p < .01$ ). The measurement model is therefore supported by all three tests: the convergent validity test, the dimensionality test, and the discriminant validity test.

### 3.3.3. Structural path model with determinants of loyalty

The difference between the switching intentions and the switching expectations constructs is further tested using determinants of loyalty as the explanatory variables. Three structural models are explored, the first one with a single dependent variable (Figure 3.3), the second one with two dependent variables (Figure 3.4), and the third model with two dependent variables, however including the effect that the intentions variable has on the expectations variable (Figure 3.5). In all three models four explanatory constructs are used: satisfaction, trust, perceived financial switching cost, and attitude towards switching.

Figure 3.3: The model of determinants of loyalty and one dependent variable.

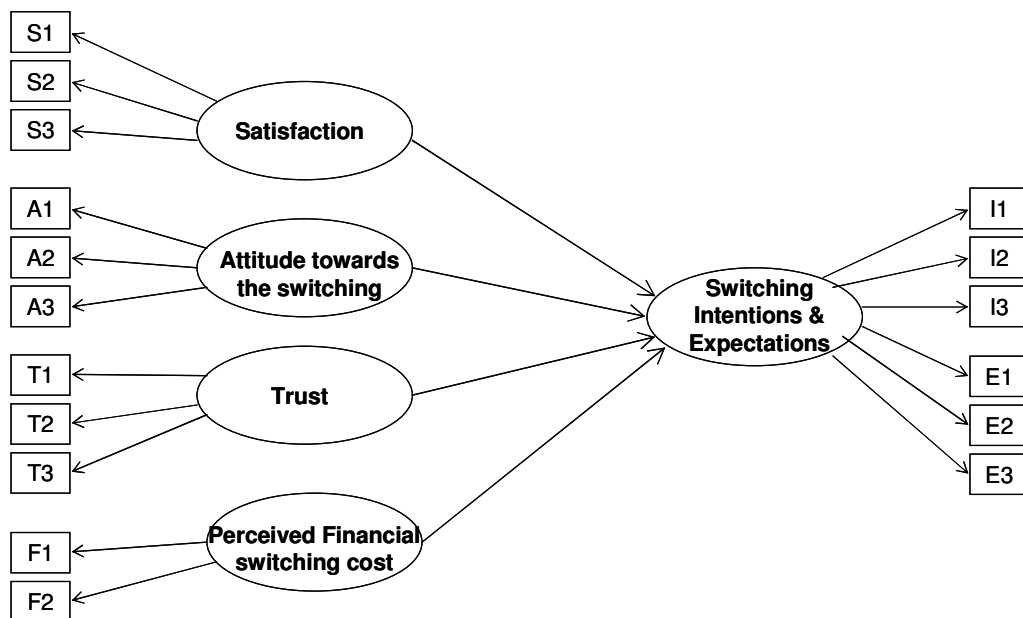


Figure 3.4: The model of loyalty determinants and two dependent variables

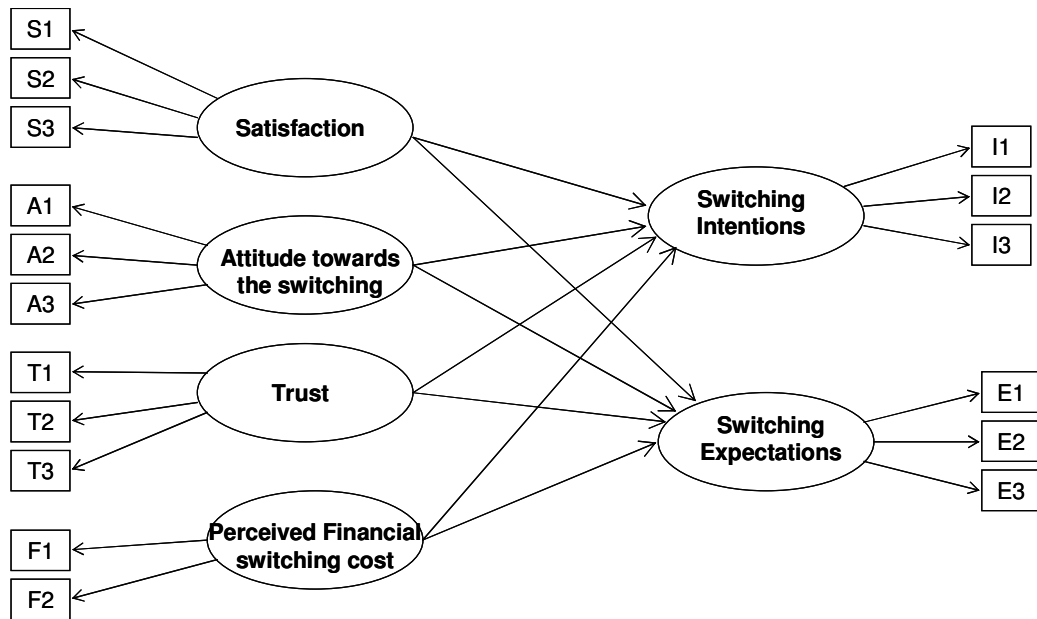
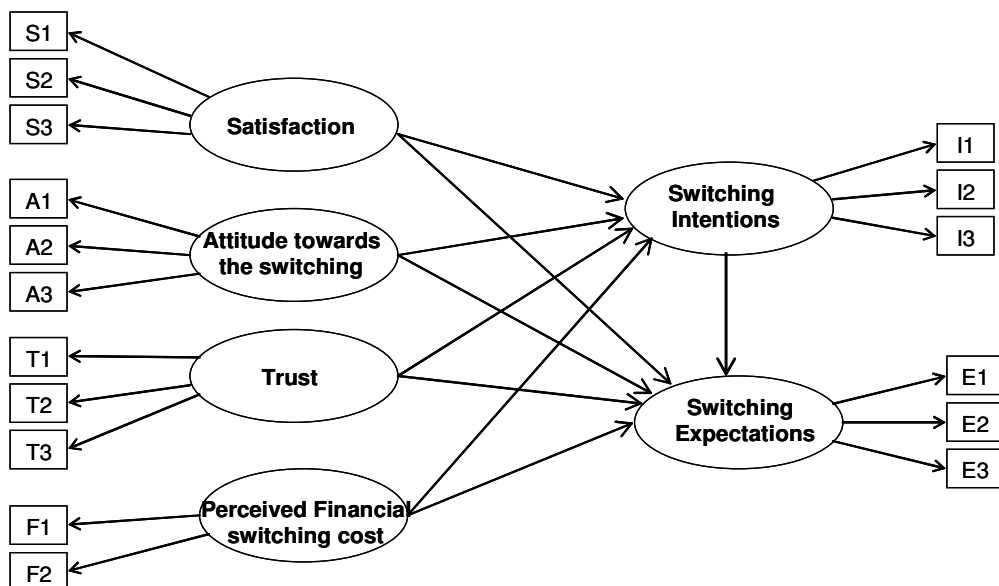


Figure 3.5: The model with two dependent variables, where intentions influence expectations



In Table 3.3 the comparison of models is done with corresponding fit indices. As we can observe the best model is the simple two dependent variables model shown in Figure 3.4. Using the difference in chi-square and the difference in degrees of freedom, the selected models are compared and the model shown in Figure 3.4 fits data significantly better than

the two models in Figures 3.3 and 3.5. Therefore, this is an additional support that intentions and expectations are different constructs.

Table 3.3: Testing models for the difference in the path coefficients

Models	Fit indices					Model fit comparison
	df	$\chi^2$	NNFI	CFI	RMSEA	
Single factor (Figure 3.3)	109	301.54	.76	.81	.110	$\Delta \chi^2 / \Delta df = 22.88^{**}$
Two factor (Figure 3.4)	104	187.13	.90	.93	.077	Best model
Two factor with interaction (Figure 3.5)	103	236.47	.85	.88	.092	$\Delta \chi^2 / \Delta df = 49.43^{**}$

\*\* - significant at  $p < .01$

Table 3.4: Direct effects of determinants of loyalty

Independent variables	Dependent variables - $\beta$ (s.e.)	
	Switching Intention	Switching Expectation
Satisfaction	-.57 (.23) **	n.s.
Attitude towards switching	-.52 (.19) **	n.s.
Trust	-.44 (.21) *	-.73 (.23) **
Perceived switching cost	-.24 (.09) **	.49 (.14) **
$R^2$	.51	.32

Overall fit indices: Satorra-Bentler scaled  $\chi^2 = 187.13$  (104 df); p-value = .000; NFI = .88; NNFI = .90; CFI = .93; RMSEA = .077 (.061-.091); \* -  $p < .05$ ; \*\* -  $p < .01$

$\beta$  – regression coefficient; s.e. – standard error

Table 3.4 shows the specific results of testing the most appropriate model, the structural model with two dependent variables (Figure 3.4). For each of the dependent variables the coefficients of determinants are shown together with their standard errors. All the studied



determinants have been previously found to have a positive effect on loyalty. The dependent variables are switching (disloyalty) forecasts and the obtained negative sign of coefficients corresponds to the literature.

### **3.3.4. Comparing coefficients between the switching intentions and expectations**

In hypotheses H2a to H2d we have proposed that the determinants of loyalty differ in how they influence the switching intentions and the switching expectations. In Table 3.3 we can observe that the coefficients between the intentions and the expectations appear to be different, which is in line with H2a to H2d. Both satisfaction and attitude towards switching have a stronger effect on switching intention than switching expectation. On the other hand, trust and perceived switching costs have a stronger effect on expectations than intentions. In order to test whether these differences in coefficients are significant, the two factor model based on Figure 3.4 is taken as the baseline model. Next, for each of the determinants a constrained structural model is constructed, where the coefficient of the specific determinant is held equal for both dependent variables. For example, the constrained model for satisfaction is based on Figure 3.4 with the constraint that the two coefficients for the switching intentions and the switching expectations are the same.

The baseline (unconstrained) model and the four constrained structural models are tested for fit and the fit indices are found in the Table 3.5. Next, the fit of each of the four constrained structural models is compared with the fit of the baseline model. The chi-square difference test provides support that the baseline model fits the data significantly better than any of the constrained models. Therefore, support is found for each of the hypotheses H2a to H2d. Based on these empirical results we can conclude that the switching intentions and the switching expectations differ in their explanatory variables.

Table 3.5: Testing models for the difference in the path coefficients

Constrained coefficient in the model (hypothesis)	df	Fit indices				Model comparison (all $\Delta$ df = 1)
		$\chi^2$	NNFI	CFI	RMSEA	
None (baseline model)	104	187.13	.90	.93	.077	Baseline model
Satisfaction (H2a)	105	257.34	.82	.85	.112	$\Delta \chi^2 = 70.21$ **
Attitude towards switching (H2b)	105	223.78	.85	.88	.093	$\Delta \chi^2 = 36.65$ **
Trust (H2c)	105	205.07	.87	.91	.088	$\Delta \chi^2 = 17.94$ **
Switching cost (H2d)	105	217.67	.86	.90	.092	$\Delta \chi^2 = 30.54$ **

\*\* - significant at  $p < .01$

### 3.4. General discussion

#### 3.4.1. Contribution to theory

The purpose of this paper is to extend our understanding of how determinants influence customer loyalty. We base our study on the difference between the intentions and expectations perspectives. A proposition was made that measuring customer loyalty with these two perspectives triggers different cognitive processes with regards to forecasting loyalty. When customers are asked about their intentions, they tend to take a more inward-looking perspective and focus on the factors that are under their control, such as their own motivation and reasons for future behavior. On the other hand, when customers are asked about their expectations, they tend to take a more outward-looking perspective and focus more on the factors beyond their control, such as the obstacles and risk associated with loyalty behavior.

We find support that determinants of loyalty differ in how they influence loyalty intentions and expectations. These differences in effects are based on the inward or outward-looking nature of determinants. Satisfaction and Attitude towards switching are more inward-looking determinants and are found to be better predictors of loyalty intentions as opposed to loyalty expectations. On the other hand, Trust and Perceived financial switching costs are more outward-looking and are found to be better predictors of loyalty expectations as opposed to loyalty intentions.

This study therefore contributes to the discussion about the roles and influence of determinants of loyalty (e.g., Oliver, 1999; Brady et al, 2005). As mentioned previously, there is still no agreement about which determinants are central to loyalty. Our results suggest that satisfaction is the most important determinant for loyalty intentions, while trust is the most important determinant for loyalty expectations. In previous research, either intentions or expectations have been used to capture forecasts and therefore differing empirical findings can be due to researchers using different measures.

Loyalty intentions and expectations have been previously proposed to be different constructs (Warshaw and Davis, 1985; Sheppard et al, 1988; Soderlund and Ohman, 2005). Here, a stronger support is provided, as they differ both in the measurement model as well as how they are influenced by determinants (Zaltman et al, 1982).

The question now remains, which of the two measures of loyalty should be used, when aiming to identify its determinants? The answer is that they can both be useful, given that it is understood that they evoke different perspectives. When loyalty behavior with few obstacles is explored, such as word-of-mouth, then the intentions perspective might provide a better insight about which determinants matter most. However, when the studied loyalty behavior is more complex and depends on external factors, such as switching the service provider, then the expectations perspective might be more suitable.

### **3.4.2. Managerial implications**

Marketing researchers interchangeably use intentions and expectations measures, which can lead to misleading findings about how determinants influence loyalty. When

measuring loyalty with an intention question, inward-looking determinants, such as satisfaction, would be supported as central. However, if loyalty expectations were used, then outward-looking determinants, such as trust and switching costs, would emerge as key to customer loyalty. Using different measures would lead to different findings and therefore different focus and actions in loyalty programs.

The intentions and expectations measures provide different views on loyalty and can both be of interest to managers. Loyalty intentions signal customer's motivation to remain loyal, which can lead to a positive word of mouth, willingness to pay more, or up-grade the service. However, companies would also like their customers to stay loyal even in the case of a bad service or a competitive offer. The construct of loyalty expectation signals this deeper commitment to the current provider. In order to achieve a higher level of loyalty expectation, companies should refocus their attention and resources to build trust with their customers as well as to increase perceived switching costs (e.g., penalty fees).

Our findings are important both for companies that are defending their customer base, typically incumbents, as well as companies trying to expand their customer base, typically new entrants in the market. The first group is working heavily on increasing satisfaction, trust, switching costs, and attitude towards switching behavior. On the contrary, the new entrants try to win customers over by decreasing switching costs and changing attitude towards switching by making it easier for customers to switch. The new entrants can also try to undermine trust in the incumbent.

### **3.4.3. Limitations and future research**

Previous research has identified that expectations are better predictors of actual behavior compared to intentions (Sheppard et al, 1988; Soderlund and Ohman, 2005). A limitation of this study is that an actual behavior was not measured. This would make the study richer and provide a further test of the relation between loyalty forecasts and behavior. Nevertheless, the focus of this study is on the relation between determinants of loyalty and forecasts of loyalty. Understanding this aspect of loyalty is important as many academics and practitioners use customer forecasts and not actual behavior to measure loyalty, draw conclusions, and make decisions.

The second limitation comes from the sample, both in terms of the small sample size as well as the student population. The hypotheses would need to be tested using a broader population and a bigger sample. Nevertheless, as the effects are found within such a homogenous group, it is proposed that they are also present in the broader population. Further studies done in other industries and countries would provide tests for generalizing the proposition.

Another important limitation is that only switching behavior was studied. Zeithaml et al (1996) have proposed that in order to gain the full picture of relevant factors in customer relationship management, one needs to study a broader set of behaviors: such as positive and a negative word of mouth, complaining, cross, and up-selling. In addition to this, effects of other determinants of loyalty would need to be explored, such as value for money, quality, cost, length of relationship, and customer characteristics (e.g. gender or age).

## **Chapter 4**

# **Counterbalance effect of determinants of loyalty: Usage and Satisfaction**

### **4.1. Introduction**

Customer loyalty remains one of the key topics on managers' agenda, driven by findings that changes in loyalty can have a big impact on a financial performance of companies (Reichheld, 1996; Zeithaml et al, 2006). Different possible determinants of customer loyalty have been identified; however their influence on loyalty is still unclear. In this paper we focus on two issues with regards to the influence of determinants. First, for some determinants, mixed empirical results involving both a positive and a negative effect have been found. An example of such a determinant is the level of customer's usage of products or services, which in some studies has been found to have a positive effect on loyalty, while in others the supported effect was negative. Second, for some other determinants there is a consensus about how they influence loyalty, however their effect is not always found. An example of the later is customer satisfaction which has a positive effect on loyalty, however many studies have found that satisfied customers are not necessarily loyal.

This uncertainty about the effects of determinants can cause problems for companies. Consider a situation, where managers intend to influence a determinant, which has been found to have both a positive and a negative effect on loyalty. An effort to increase loyalty could turn out to have the opposite effect and actually cause loyalty to decrease. In other situations, intentions to increase loyalty can be fruitless and the associated costs then lead to a negative financial impact.

Figure 4.1: An example of a counterbalance effect of usage in the case of variable costs

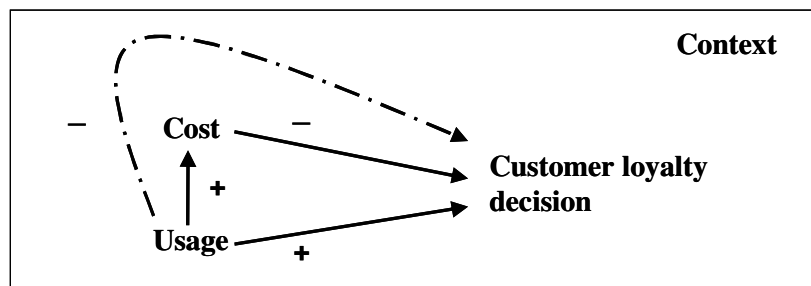


Figure 4.1 shows an example of a mobile phone service usage as a determinant of loyalty. Mobile phone service usage by itself is beneficial for consumers and thus has a positive direct effect on loyalty. However, in the context of mobile services there are variable costs, which are positively related to usage. Therefore, usage drives up costs, which negatively influence loyalty, and consequently usage can have a negative indirect effect on loyalty, mediated through costs.

When researching loyalty, the hypothesized influence of a determinant is implicitly assumed to be direct and to have either a positive or a negative effect. In addition, effects are typically presented in a simple manner; such as, if you influence a specific determinant, then loyalty will follow. However, economic exchanges are complex systems<sup>1</sup>, where multiple causal pathways are common between independent and dependent variables (Bagozzi, 1975; Reidenbach and Oliva, 1981, Sterman, 2000). We define a *counterbalance effect* to exist when a positive and a negative effect coexist, with one being direct and the other indirect.

<sup>1</sup> System is defined as a set of entities, real or abstract, comprising a whole where each component interacts with or is related to at least one other component (Sterman, 2000).

In this paper, we challenge the implicit assumption that determinants influence loyalty with simple effects. A hypothesis is proposed that some determinants have multiple causal pathways with opposite signs and thus a counterbalance effect. The causal pathways (direct and indirect) can neutralize each other and diminish the total effect, which could explain why some determinants do not always translate into loyalty. On the other hand, the direct effect could prevail in some contexts and the indirect effect in others, which could be the reason why for some determinants sometimes positive and other times negative effects are found.

In the next section, we discuss determinants of loyalty and their effects, develop the counterbalance proposition, and explain a test based on partial mediation. This is followed by testing the counterbalance effect in two distinct studies. In the first study, the effects of usage are tested with consumer behavior data. In the second study, the effects of satisfaction with the provider are tested with survey data. Next, findings and contributions of this paper are discussed and managerial implications are presented. Finally, we acknowledge the limitations related to testing the propositions as well as provide suggestions for further research.

## **4.2. Theory and proposition**

### **4.2.1. Determinants of loyalty and their effects**

Various determinants of loyalty have been identified in marketing research and can be divided into two groups: perceptual determinants and behavioral determinants (Verhoef et al, 2007). The perceptual determinants are related to how customers perceive different dimensions of a customer-firm relationship and are normally subjective constructs, such as, satisfaction, trust, perceived value, and perceived switching costs (Johnson and Fornell, 1991; Morgan and Hunt, 1994; Sirdeshmukh, Singh, and Sabol, 2002; Burnham, Frels, and Mahajan, 2003). On the contrary, the behavioral determinants are consequences of customer actions and can be objectively measured, such as, usage, length of relationship, and number of products or services purchased (Bolton and Lemon, 1999; Keaveney and



Parthasarathy, 2001; Ganesh, Arnold, and Reynolds, 2000; Verhoef, 2003). The effects of the behavioral determinants are typically modeled as mediated through the perceptual determinants. However, understanding how behavioral determinants influence loyalty is important as in many situations these variables are the only information (from customer databases) available to companies about their customers.

Numerous studies have been dedicated to determinants of loyalty. Nevertheless, there is still a lack of a unifying framework about how determinants influence loyalty and what are the signs of their effects (positive or negative). An example of such a determinant is customer usage of products or services (Bolton and Lemon, 1999). Keaveney and Parthasarathy (2001) have found support that usage has a positive effect on loyalty. On the other hand, Prelec and Loewenstein (1998) have suggested that in product categories with variable costs, usage can have both a positive and a negative effect on loyalty. The authors however have not proposed a model nor tested for the effect of costs on loyalty. For some other determinants, there is an agreement on how they influence loyalty, however their effects are not always found to be significant. For example, loyal customers are typically satisfied; however satisfied customers are not necessarily loyal (Oliver, 1999). Usage and satisfaction are the two determinants of loyalty studied in this paper and are further discussed in the next sections, where each of the studies is explained in more detail.

#### **4.2.2. Complexity of economic exchange systems**

A system is defined as a set of components, real or abstract, where each component interacts with or is related to at least one other component (Serman, 2000). Each system can have various subsystems, depending on where researchers put the boundaries of the studied subsystem. Serman (2000) has proposed that there are two types of complexities found in systems: a detail complexity and a dynamic complexity. The detail complexity is related to which components are in the system, while the dynamic complexity is related to the dynamic structure between the components.

An economic exchange system consists of a customer and a company, including flows of goods or services and related financial compensations. Economic exchanges have been proposed to be complex systems, both in terms of their dynamics as well as the factors that

influence them (Boulding, 1956; Bagozzi, 1975; Coleman, 1986; Reidenbach and Oliva, 1981; Cronin et al, 2000; Brady et al, 2005).

There are two interrelated perspectives to account for the detail complexity in economic exchanges when loyalty and its determinants are explored. First, some researchers propose that an existing determinant has several different subdimensions, which are proposed to be different construct. For example, Ganesh, Arnold, and Reynolds (2000) have proposed that there are two types of involvement: a purchase and an ego involvement. Similarly, Burnham, Frels, and Mahajan (2003) have suggested three types of switching costs: a financial, a procedural, and a relational switching cost.

Second, the detail complexity can be also addressed by redefining the boundaries of the studied system and thus including additional determinants of loyalty. For example, Mittal, Tsiros, and Kumar (1999) have studied a consumption system consisting of two subsystems, a product (car) subsystem and a service (car repair service) subsystem. These two subsystems are closely linked and consumers were found to attribute the outcomes in one subsystem to factors in the other subsystem. In particular, satisfaction with the car was found to have a positive effect on loyalty to the car repair service. On the other hand, satisfaction with the car repair service had a positive effect on loyalty to the same car brand.

When it comes to the dynamic complexity there are three types of effects frequently proposed: moderating effects, mediating (indirect) effects, and non-linear relations. For example, customer characteristics have been found to moderate the effect satisfaction has on loyalty (Mittal and Kamakura, 2001; Homburg and Giering, 2001); the variable satisfaction influences loyalty with different strengths for each gender. Further, the variable trust has been found to mediate the effect of satisfaction (Garbarino and Johnson, 1999; Sirdeshmukh, Singh, and Sabol, 2002). Trust as a determinant of loyalty mediates the indirect effect that satisfaction has on loyalty. In addition, recent research has emphasized the non-linear relation influence of some determinants of loyalty, such as customer characteristics and satisfaction (e.g., Mittal and Kamakura, 2001; Homburg, Koschate, and Hoyer, 2005).

### 4.2.3. Counterbalance proposition

In complex systems, multiple causal pathways are common between independent and dependent variables (Sterman, 2000). This coexistence of multiple effects is possible when apart from a direct effect there is also an indirect effect, mediated through another variable. However, these causal pathways can have opposite effects (positive and negative) on the dependent variable, which is termed a *counterbalance effect*. The counterbalance effect takes into account an indirect (mediated) effect and is therefore classified as a dynamic complexity phenomenon. An example of a counterbalance effect of usage was discussed in the introduction to this paper. In particular, usage has a direct positive effect on loyalty and when linked to a variable cost, it can have an indirect negative effect, mediated through costs. Some determinants can therefore have a counterbalance effect on loyalty. This could provide an explanation for both the incoherent sign of effects, i.e. positive and negative effects, as well the neutralized total effects, i.e. lack of effect, for some determinants.

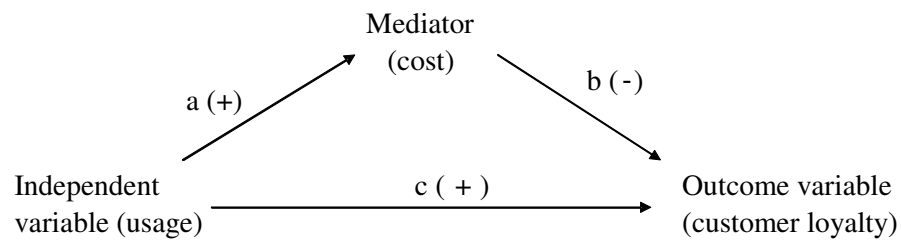
#### Research Proposition:

*Determinants of loyalty can have two simultaneous causal pathways, a direct and an indirect. These two causal pathways can have different (positive and negative) effects on loyalty, a counterbalance effect.*

### 4.2.4. Test used for the counterbalance effect

In this section we present the test for the counterbalance effect. It is based on a test for partial mediation, developed by Baron and Kenny (1986). When testing for partial mediation, models as in Figure 4.2 are explored, where an independent variable has both a direct and an indirect, partially mediated, effect. Throughout this section we use an example of mobile phone services with the following variables: usage as an independent variable, cost as a mediator, and customer loyalty as an outcome variable.

Figure 4.2: A mediating effect of an independent (usage) on an outcome variable (loyalty)



The Baron and Kenny test has three conditions, which are explained in more detail next. In the first condition, a test is done whether there is a direct effect of the independent variable on the outcome variable. This direct effect is necessary for the counterbalance effect to exist. In our example, service usage has a positive effect on loyalty as it represents a benefit for the customer. The coefficient of this effect is labeled  $c$ .

In the second condition, a test is done whether the independent variable has a direct effect on the mediator variable. This condition establishes that there is an effect that might be mediated. When a variable cost is linked to service usage, as in our example, then usage has a positive direct effect on cost. The coefficient of this effect is labeled  $a$ .

In the third condition, a test is done whether the mediator variable affects the outcome variable. The effect has to be tested including the independent variable as the second explanatory variable. In our example, usage has a positive effect on cost and cost has a negative effect on loyalty. Usage could therefore have a negative indirect effect, mediated through cost. The coefficient of the direct effect of the mediator (cost) on the outcome variable (loyalty) is labeled  $b$ .

When testing these conditions, separate coefficients for each should be estimated. There is no need for a hierarchical or a stepwise regression. The conditions can be tested by using multiple regression (OLS), logistic regression, or structural equation modeling. Regardless of which data analysis method is used, the three conditions of testing for mediation are the same.

As we can see in Figure 4.2, the indirect (mediating effect) is represented by the path going from independent variable (e.g., usage) to mediator (e.g., cost) and from mediator to outcome variable (e.g., customer loyalty). Therefore, both the direct effect of independent

variable on mediator (coefficient a) and the direct effect of mediator on outcome variable (coefficient b) have to be different from zero. This is equal to the product of coefficients a and b,  $a*b$ , to be different from zero. The value of  $a*b$ , is the indirect effect and is called the amount of mediation. To test the null hypothesis that  $a*b = 0$ , one can test that both coefficients a and b are zero; however, a single test is more common and highly recommended (MacKinnon, Lockwood, Hoffman, West, and Sheets, 2002). When going through the conditions of Baron and Kenny test, we obtain the value of the coefficient a and its standard error, labeled as  $s_a$ , as well as the value of the coefficient b and its standard error, labeled as  $s_b$ . Next, we calculate the value of  $a*b / \sqrt{(b^2*s_a^2 + a^2*s_b^2)}$  and treat the ratio as a Z test (Sobel, 1982). Other tests for mediation have been proposed, but the Sobel test is by far the most commonly reported (Shrout and Bolger, 2002).

We test the existence of the counterbalance effect with two studies. In the first study we explore the effect of usage as a behavioral determinant; while in the second study we explore the effect of satisfaction as a perceptual determinant. Both studies are explained in the next sections.

### **4.3. Study 1: Usage as a determinant of loyalty**

Usage as a determinant of customer loyalty has been included in a number of studies; however there is no unifying framework on how it influences loyalty. In addition, the empirical evidence is mixed with support for both a positive and a negative effect. For example, Keaveney and Parthasarthy (2001) have proposed that frequent usage provides customers with more accurate and realistic performance expectations and thus decreases possible dissatisfactions. They have further argued that frequent usage also increases the knowledge and the positive attitude towards a specific service or product. Therefore, customers with a higher level of usage would thus find it harder to change the product or the service they are using. This framework however does not address the relation between usage and costs. Prelec and Loewenstein (1998) have suggested that in contexts with variable costs, usage has both a positive and a negative effect on loyalty. This is because usage represents a benefit for customers and positively influences loyalty. However, in

some contexts usage increases cost and cost represents a disutility for consumers. Therefore, the higher the usage of a service or product, the higher the cost, and consequently the higher the likelihood for consumers to be disloyal.

In this first study, we explore the effect of usage on customer loyalty within a mobile phone service context. Given the variable costs within mobile services, we test the proposition that usage has a counterbalance, both a positive and a negative, effect on loyalty.

#### **4.3.1. Counterbalance conditions**

In this section three conditions are developed to test the counterbalance effect of usage. The dependent variable used here is the customers' act of exiting the relationship with their mobile service provider in a specific month (disloyalty). In the next paragraphs all three conditions for counterbalance effect are presented with this dependent variable.

When customers exit the relationship with their service provider, this represents an act of disloyalty. The variable usage has a positive effect on loyalty and therefore has a negative effect on exiting. Based on this, we develop the first Baron and Kenny condition:

*Condition 1a: Usage has a negative effect on Exiting.*

The context of mobile phone services involves variable costs. Therefore, with an increase in the service usage the customer costs increase as well. The second condition is the following:

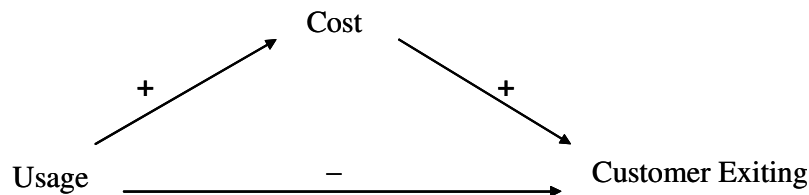
*Condition 1b: Usage has a positive effect on Costs.*

Increasing costs negatively influence customer perceived value and loyalty. Therefore, costs have a positive effect on exiting the relationship (disloyalty). Since usage has a positive effect on costs, it could have a positive indirect effect on exiting, mediated through costs.

*Condition 1c: Costs have a direct effect on Exiting and mediate a positive effect of Usage.*

If all three conditions hold, then two causal pathways exist between usage and exiting (Figure 4.3). The first is the direct causal pathway and the second one is mediated through costs. A coexistence of causal pathways with opposite effects leads to a counterbalance effect of usage on exiting.

Figure 4.3: A counterbalance effect of usage: a negative direct and a positive indirect effect



#### 4.3.2. Research design

We use customer behavior data from the billing database of a major mobile phone services provider. Each record within a database represents information related to one SIM card. A random sample of 9868 customers was chosen, using a unique number assigned to each customer by the provider. The sampling population were all active customers, defined by having a positive monthly cost in the month of April 2004.

The following variables were extracted from the database for further analysis. The variable *Usage* is the customer's monthly number of phone calls and the variable *Cost* is the monthly cost of all mobile services (calls, data, etc.). The type of payment mechanism is defined as the variable *Contract*, which has the value 1 if the customer is in a contractual relationship with the service provider and 0 if in a prepaid relationship. All the variables mentioned in this paragraph were measured in March 2004.

The dependent variable is the customer's act of exiting the relationship with the service provider. Within the contract mechanism customers need to inform the service provider that they wish to terminate the relationship. However, within the prepaid mechanism this is not necessary as customers simply stop using the service. The common characteristic of exiting is that in a specific month customers use the service, followed by zero service after exiting the relationship. The dependent variable *Exiting* is defined as having a value 1, if

there is a drop from using the service in March 2004 to not using the service in May 2004; otherwise the variable Exiting has a value 0.

### 4.3.3. Analysis and results

In this section the analysis and the results of testing the counterbalance effect are presented. Condition 1a is tested with a logistic regression on the binary dependent variable Exiting, Usage as the independent variable, and Contract as a moderating variable. The first column of Table 4.1 shows the regression coefficients with the coefficient of Usage being significant and negative. The coefficient of the variable Contract is also significant and negative, which means that the contract customers have a lower likelihood of exiting than the prepaid customers. There is no moderating effect found for the variable Contract. Condition 1a is supported as Usage has a negative effect on Exiting for both the prepaid and the contract customers.

Table 4.1: Testing a counterbalance effect of usage

	Condition 1a: Log. regression Exiting ( $\beta$ , s.e.)	Condition 1b: Linear regression Cost ( $\beta$ , s.e.)	Condition 1c: Log. regression Exiting ( $\beta$ , s.e.)
Usage	- .99 (.37) **	.81 (.01) **	- 1.40 (.42) **
Cost			n.s.
Contract	- .91 (.22) **	.24 (.01) **	- .94 (.23) **
Usage X Contract	n.s.	- .19 (.01) **	n.s.
Cost X Contract			.41 (.17) **
Model (N=9868)	$\chi^2 = 79.1$ (5 df), p < .001	$R^2 = .59$	$\chi^2 = 85.3$ (7 df), p < .001

\*\* - significant at .01; n.s. – not significant;  $\beta$  – reg. coefficient, s.e. – standard error

Condition 1b is tested with a linear regression on the dependent variable Cost, the independent variable Usage, and the moderating variable Contract (Table 4.1, second column). The variable Contract has a significant moderating effect. The coefficient of



Usage for the prepaid customers is .81 (.01) and for the contract customers is .62 (.81 - .19) (.01). Therefore, the variable Usage has a positive effect on Cost for both the prepaid and the contract customers and Condition 1b is supported.

Condition 1c is tested with a logistic regression, where Exiting is the dependent variable, Usage and Cost are the independent variables, and Contract is the moderator (Table 4.1, third column). For the prepaid customers (Contract = 0), the coefficient for the variable Cost is not significant and therefore the third condition is not supported. The coefficient of Usage is significant as well as the coefficient of the interaction between Cost and Contract. Condition 1c is supported for the contract customers.

The mediation effect for the contract customers is also tested with the Sobel statistic, which is - 4.73 and significant ( $p < .01$ ) (Sobel, 1982; Baron and Kenny, 1986). The value of  $a*b$  is therefore found to differ from zero and the mediation hypothesis is supported.

The findings of this first study are the following. The counterbalance effect of Usage on Exiting is not supported for the prepaid customers (Figure 4.4). However, for the contract customers Usage has a negative direct effect and a positive indirect effect on Exiting (Figure 4.5). We therefore find counterbalance effect to exist in one payment mechanism, while support for the other one is not found. Based on this we conclude that usage can have a counterbalance effect on customer loyalty, however it seems that the existence of the effect depends on the context.

Figure 4.4: A counterbalance effect of Usage for the Prepaid customers

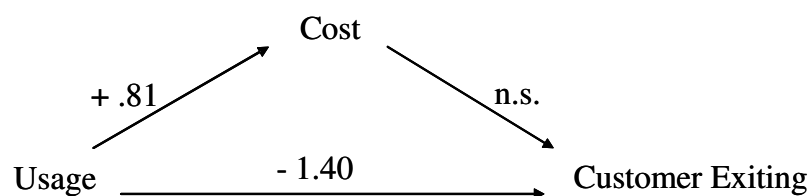
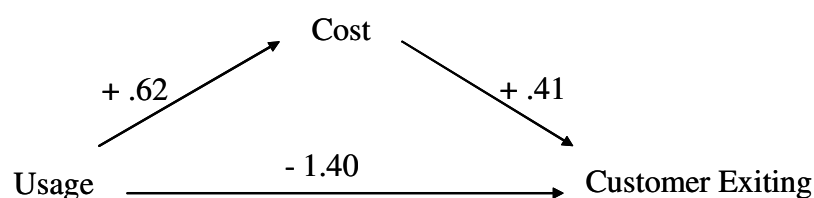


Figure 4.5: A counterbalance effect of Usage for the Contract customers



#### 4.4. Study 2: Satisfaction as a determinant of loyalty

Customer satisfaction has been studied extensively in the marketing literature and has been shown to be an important determinant, positively related to loyalty (Johnson and Fornell, 1991; Oliver, 1997; Szymanski and Henard, 2001). These results have achieved a high level of awareness among practitioners and it is frequently proposed that satisfied customers are more loyal. However, there is a puzzle with regards to satisfaction, as loyal customers are typically satisfied, but satisfaction does not universally translate into loyalty (Oliver, 1999). Jones and Sasser (1995) have also commented that “merely satisfying customers that have the freedom to make choices is not enough to keep them loyal”. Reichheld (1996) has gone further and coined the term “satisfaction trap” since of those customers claiming to be satisfied or very satisfied, between 65% and 85% defect.

Our effort to resolve the puzzle with satisfaction as a determinant of loyalty leads to a marketing literature suggesting a broader, marketplace view on customer-firm relationships. It has been suggested that customers are seldom isolated from the marketplace information, including the information about competitors and partners (Oliver, 1999). In addition, customers form opinions about different providers in the market as well as opinions about how a specific marketplace is functioning (Coleman, 1986; Wright, 2002).

The effect that satisfaction has on customer loyalty is typically studied within a customer-firm (dyadic) subsystem, which is implicitly assumed to be complete. The need to go beyond the customer-firm subsystem to understand customer loyalty has been explicitly proposed by Mittal, Kumar, and Tsiros (1999). In this study, we extend the system between a customer and a provider to include an industry variable, implicitly accounting for competitors. We use the variable *marketplace satisfaction*, which measures overall satisfaction with service providers in the marketplace. The variable is based on customers' own experiences and information available from the marketplace, such as advertising and word of mouth (Nijssen, Singh, Sirdeshmukh, and Holzmueller, 2003). This process takes place over time and is adjusted both for new experiences and new information. Marketplace satisfaction can also be thought of as satisfaction with a prototypical firm in a specific industry (Crawford, Sherman, and Hamilton, 2002). Nijssen et al (2003) have

included industry variables in studying determinants of loyalty; however they have not explored whether marketplace satisfaction is a (partial) mediator of a relation between satisfaction with a specific provider and loyalty.

In this paper, we hypothesize that marketplace satisfaction mediates the effect of satisfaction and creates an indirect causal pathway, resulting in a counterbalance effect. This mechanism and the conditions related to the counterbalance test are explained in more detail in the next section. Survey data from mobile telecommunications customers are used to test this proposition.

#### **4.4.1. Counterbalance conditions**

In this second study the mobile phone services context is explored with the dependent variable customer's *switching intention* (disloyalty). All the conditions for the counterbalance test are formed with this dependent variable.

Numerous studies have theoretically proposed and empirically supported a positive direct effect of satisfaction on loyalty (Szymanski and Henard, 2001). Satisfaction therefore has a negative direct effect on switching intentions (disloyalty).

*Condition 2a: Provider Satisfaction has a negative effect on Switching Intentions.*

Marketplace satisfaction emerges as a result of customers aggregating their own experiences and other information from the marketplace. Customers' evaluation of the current relationship with the provider influences their satisfaction with the market in general. We hypothesize that satisfaction with the current provider has a positive effect on marketplace satisfaction.

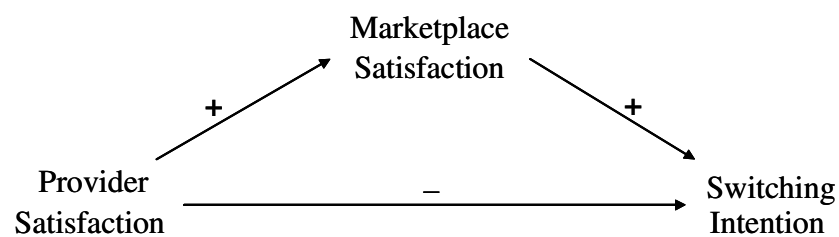
*Condition 2b: Provider Satisfaction has a positive effect on Marketplace Satisfaction.*

Marketplace satisfaction measures the evaluation of the marketplace in general. If the overall evaluation of the marketplace is good, than all other things being equal, this implies a better evaluation of other service providers in the market. A positive evaluation of the marketplace would make the competitors look more attractive and thus would have a positive effect on switching intentions.

*Condition 2c: Marketplace Satisfaction has a positive effect on Switching Intentions and mediates a positive indirect effect of Provider Satisfaction.*

If support is found for all three conditions, then two causal pathways exist between provider satisfaction and switching intention (Figure 4.6). The first is the direct causal pathway and the second one is mediated through marketplace satisfaction. A coexistence of causal pathways with opposite effects leads to a counterbalance effect of the variable usage on the variable exiting.

Figure 4.6: A counterbalance effect of Provider Satisfaction on Switching Intention



#### 4.4.2. Research design

The variables of interest in this study are perceptual determinants of loyalty and were collected using a survey, measuring three items for each of the constructs (Table 4.2). A paper and pencil questionnaire was distributed to undergraduate students at a university in a metropolitan area. The students were approached when leaving the lecture room and were asked to fill out the questionnaire for academic purposes. The participants were offered a financial incentive in form of a lottery, in which 5 participants were randomly chosen to receive a prize of 10 euros each. There were in total 187 questionnaires distributed and 117 were returned. Three of the returned questionnaires were not completed and thus the final dataset had 114 observations. The survey questions were related to mobile phone services, which were used by all the respondents. A pre-study had been done with 32 graduate students in order to ensure the clarity of items used.

The first two columns of the Table 4.2 present the items used in for measuring constructs in this study. The rest of Table 4.2 shows the results of testing the measurement model, which are discussed in the next section.

Table 4.2: Variables, their items, and testing the measurement model

Items	Constructs	Loading	Error	C	$\alpha$	VE	VS
Switching Intentions							
I1	I plan to change my mobile service provider.	.91	.24	.77	.88	.73	.56
I2	I intend to start using another provider.	.77	.35	.65			
I3	I will change my provider within the next year.	.86	.23	.78			
Provider Satisfaction							
S1	How satisfied or dissatisfied are you with your current mobile phone service provider?	.92	.16	.84	.93	.80	.71
S2	Overall, how do you feel about your service provider?	.95	.11	.89			
S3	How well does it meet your needs at this time?	.82	.29	.70			
Marketplace satisfaction							
M1	People are generally happy with the mobile phone service providers.	.68	.29	.61	.84	.70	.58
M2	In general mobile phone service providers treat customer correctly.	.78	.31	.73			
M3	In general mobile phone service providers solve customer problems efficiently.	.73	.32	.67			
$\chi^2 = 48.24$ (24 df); p-value= .002; NFI= .93; NNFI= .95; CFI= .96; RMSEA= .70 (.51-.93)							
C= Communality; $\alpha$ = Cronbach Reliability; VE=Variance Extracted; VS= Max. Variance Shared							

The focal dependent variable in this study is related to customer loyalty. Zeithaml, Berry, and Parassuraman (1996) define customer loyalty intention as “an intention to perform a diverse set of behaviors that signal a motivation to maintain an ongoing relationship with the focal firm, including allocating a higher share of the category wallet to the specific service provider, engaging in positive word of mouth, and repeat purchasing”. We however focus on the intention that customers will switch their service provider, which therefore represents a disloyalty intention. The specific variable *Switching Intentions* is measured using three items on a ten-point scale proposed by Zeithaml, Berry, and Parasuraman (1996) (Table 4.2).

Johnson and Fornell (1991) have defined customer satisfaction as a customer's overall evaluation of the performance of an offering to date. *Provider Satisfaction* was measured using three items on a seven-point scale building on Fornell's (1992) study (Table 4.2).

The variable *Marketplace Satisfaction* measures how are customers satisfied with the marketplace in general. The chosen items were based on Fornell et al (1996) and Nijssen et al (2003). There were three items used on a seven-point scale (Table 4.2).

#### 4.4.3. Measurement model

The variables used in this second study are measured with multiple items and therefore the conditions for the partial mediation are tested by fitting structural models. However, first the measurement model needs to be tested for a convergent and a discriminant validity (Table 4.2). The exploratory factor analysis is based on the principal component analysis and the varimax rotation. The obtained Cronbach's alphas range from .84 to .94 and support the convergence of items for each of the constructs. The confirmatory factor analysis provides additional support for the fit of the measurement model with the following fit indices:  $\chi^2 = 48.24$  (24 df); p-value = .002; NFI = .93; NNFI = .95; CFI = .96; RMSEA = .070 (0.51-.093). An acceptable model fit has  $\chi^2 / df$  less than 5, NNFI (Non-Normed Fit Index) and CFI (Comparative Fit Index) values exceeding .90 and RMSEA (Root Mean Square Error) values less than .08 (Marsh, 1994). The convergent validity is therefore supported both by the exploratory and the confirmatory factor analysis.

The *discriminant validity* between variables exists when there is a low correlation between items measuring different variables. The following test, proposed by Fornell and Larcker (1981), is used for discriminant validity. For each of the variables the variance extracted (VE) is calculated, which is the variance extracted by the items used to measure this specific variable. Next, the variance shared (VS) of a specific variable is the highest variance shared with any other variable used in the analysis. When for a specific variable the variance extracted (VE) is larger than the variance shared (VS), then it is sufficiently different from other variables. From Table 4.2 we can conclude that all the variables satisfy the discriminant validity test.

#### 4.4.4. Testing the counterbalance effect

The starting point for testing the counterbalance effect is the structural model shown in Figure 4.7. Next, for each of the three conditions we explain the corresponding sub-model of the basic model in Figure 4.7. Condition 2a is tested with a sub-model where Switching Intention is the dependent variable and Provider Satisfaction is the independent variable. For Condition 2b a sub-model is used with Marketplace Satisfaction as the dependent variable and Provider Satisfaction as the independent variable. The third model, used to test Condition 2c, includes Switching Intention as the dependent variable, Provider Satisfaction as the independent variable and Marketplace Satisfaction as the mediator.

Figure 4.7: Overall structural model of the counterbalance effect of Provider Satisfaction

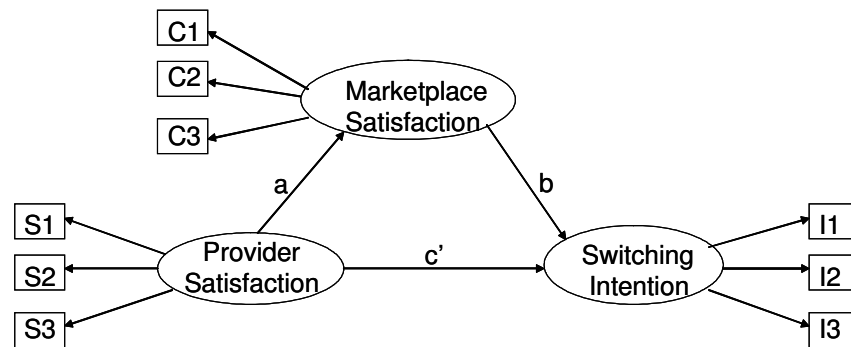


Table 4.3: Testing Conditions 2a and 2b ( $\beta$  – regression coefficient; s.e. – standard error)

Independent Variable	Dependent variables	
	Condition 2a ( $\beta$ , s.e.) Switching Intention	Condition 2b ( $\beta$ , s.e.) Marketplace Satisfaction
Provider Satisfaction	- .66 (.09) **	.40 (.08) **
Overall fit indices	NFI=.93; NNFI=.92; CFI=.94; RMSEA=.61(.42 -.79); p < .05	NFI=.95; NNFI=.94; CFI=.97; RMSEA=.50 (.36 -.70); p < .05

\*\* - significance at .01

Tests for Conditions 2a and 2b are reported in Table 4.3. We can observe from the overall fit indices that both structural models provide a satisfactory fit. The effect of Provider

Satisfaction on Switching Intention is significant and negative and therefore Condition 2a is supported. In addition, the effect of Provider Satisfaction on Marketplace Satisfaction is also significant and positive and thus Condition 2b is supported.

Table 4.4: Testing Condition 2c ( $\beta$  – regression coefficient; s.e. – standard error)

Dependent Variables	Independent Variables	Direct Effect $\beta$ (s.e.)	Indirect Effect $\beta$ (s.e.)	Total Effect $\beta$ (s.e.)
Switching intention	Provider Satisfaction	-.84 (.11) **	+.18 (.06) *	-.66 (.08) **
Switching intention	Marketplace Satisfaction	.43 (.17) **	-	.21 (.10)
Marketplace Satisfaction	Provider Satisfaction	.42 (.08) **	-	.42 (.05) **
Fit indices	NFI= .90; NNFI= .92; CFI= .93; RMSEA= .74 (.59 - .89), $p < .05$			

\*\* - significance at .01

Table 4.4 shows the results of testing Condition 2c, based on the overall model in Figure 4.7, and with a satisfactory model fit. The direct effect of Provider Satisfaction on Switching Intention is negative and significant - .84 (.11), while the indirect effect is positive and significant .18 (.06). Marketplace Satisfaction has a positive and significant effect on Switching Intention .43 (.17). A partial mediation with differing signs of effects is therefore supported and consequently also a counterbalance effect. In addition, we test the partial mediation effect with the Sobel test and the appropriate statistic is 2.28 with a significant p-value of .02. Condition 2c is therefore supported.

The findings of this second study are the following. We find support for all three conditions of the Baron and Kenny test for partial mediation. The counterbalance effect is supported as the direct and indirect causal pathways have opposite signs of effect. The corresponding coefficients of direct and indirect effects are shown in Figure 4.8.



Figure 4.8: A Counterbalance effect of Provider Satisfaction on Switching Intention



## 4.5. General discussion

### 4.5.1. Contribution to theory

With this study we aim to contribute to a better understanding of how determinants influence loyalty. As mentioned earlier, there are two types of issues related to this topic. For some determinants of loyalty, mixed empirical evidence is found with support for both positive and negative effects. For other determinants, their effect has sometimes been supported and other times not. We propose an explanation of these two issues by taking a perspective of dynamic complexity. A concept of a counterbalance effect is introduced, which refers to a situation, when two causal pathways with opposite signs of effect exist between a specific determinant and loyalty. The underlying mechanism is that one of the causal pathways has a direct effect and the other an indirect effect. In the presence of a counterbalance effect, either of the two causal pathways can dominate and therefore a positive or a negative effect can be found, as in the example of usage. In other cases, one of the pathways is typically dominant, however sometimes the other pathway neutralizes the total effect, for example the effect of satisfaction.

In order to explore the existence of a counterbalance effect, we have selected two determinants of loyalty: usage and satisfaction. The effect of usage was tested with behavioral data, while for satisfaction survey data was used, where each variable was measured with multiple items. For usage a partial support was found for a counterbalance effect on loyalty. This is because for the contract payment mechanism the support was found and for the prepaid payment mechanism the effect was not supported. However, the

counterbalance effect is based on how usage is related to costs and how costs are related to loyalty. As payment mechanisms influence these relations, they could also influence whether usage has a counterbalance effect. The underlying explanation can be based on the salience of cost types explored in Chapter 1 of this thesis.

Marketing theory has proposed a positive direct effect of satisfaction on loyalty, which however, has not been always empirically supported. Our proposition to resolve this puzzle is that satisfaction has a counterbalance effect on loyalty. In order to test this proposition, we have extended the studied system to include an industry variable: marketplace satisfaction. The indirect effect of satisfaction was hypothesized and found to be mediated through marketplace satisfaction. This finding therefore provides an explanation of why satisfaction does not necessarily lead to loyalty. Even though a negative causal pathway was identified, it is not very unlikely that the total effect of satisfaction would be reversed to negative. Syzmanski and Henard (2001) have not found a single study in their meta-analysis, where satisfaction would have a negative effect on loyalty. When testing the effects of satisfaction, we have in addition to the dynamic complexity (mediation) also taken into account the detail complexity (industry variable).

#### **4.5.2. Managerial implications**

Managers aim to keep customers loyal as a part of their efforts to improve companies' financial performance. Therefore, it is important for them to understand how determinants (in their sector) relate to loyalty. One of the main purposes of this paper is to raise awareness among managers about the dynamic complexity between determinants and loyalty. Too frequently the influence of determinants has been presented in a simple way, i.e. if you influence a specific factor then loyalty will follow. However, economic exchanges are complex systems and as a consequence determinants can have a counterbalance effect on loyalty. This can either cause the total effect to diminish, like in the case of satisfaction, or can lead to evidence for differing signs of effect, like in the case of usage.

By examining the dynamic structure of an economic exchange system, managers can understand how and when counterbalance effects occur. In the case of usage, the effect

depends on how usage is related to costs. This relation is influenced by the design of the payment mechanism and also differs between customers. Therefore, the existence of a counterbalance effect depends on choices of managers as well as choices and behavior of consumers. Managers should pay particular attention to determinants of loyalty, for which both a positive and a negative effect is possible. The reason is the danger that influencing such determinants, in an effort to increase loyalty, can actually cause loyalty to decrease.

Satisfaction could also influence loyalty in a context dependent way. One of the key contextual factors could be the interdependence between satisfaction with a specific provider and satisfaction with the marketplace in general. This link could be sector specific, could depend on the similarity between providers, and also how customers perceive the sector in general. The variable satisfaction has been normally found to have either a positive or no effect on loyalty and therefore managers do not risk decreasing loyalty with their intentions to increase it. However, running these marketing activities is costly both in terms of managers' attention and resources deployed. Therefore, when no effect on loyalty is achieved, then the efforts to increase satisfaction can have a negative effect on company's financial performance,

#### **4.5.3. Limitations and future research**

A major limitation of this paper is that we have only explored the mobile phone services. This sector has some distinct characteristics, which could influence the findings in this paper. The core services offered (calls, SMS, data, etc.) are standardized and do not differ between providers. This could lead consumers to perceive providers as similar and thus form the basis of the counterbalance effect of satisfaction. Testing the counterbalance effect in other sectors is therefore needed.

Another limitation of this paper is that only two of all the possible determinants of loyalty are studied. Other common determinants would have to be tested, both behavioral and perceptual, such as trust, value for money, switching costs, quality, and customer characteristics (e.g., gender or age). For each of these determinants, first, multiple causal pathways would need to be identified grounded in theory and supported in previous studies. Next, direct and indirect effects would have to be tested whether they are positive

or negative. Further research would also need to include a broader set of loyalty behavior as a dependent variable; such as positive and negative word of mouth, complaining, cross, and up-selling.

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## **A Appendix to Chapter 2**

## A.1 Appendix for study 1: Metro commuting

Estudio sobre los hábitos de consumo en el metro

1. Utiliza usted el metro frecuentemente? Si No

2. Que tipo de billete utiliza usted normalmente?

a) Abono mensual b) Bono 10 Viajes c) Billete sencillo d) Otro

3. Cual es su gasto mensual en billetes/abono de metro? \_\_\_\_\_

4. Cuantos viajes hace usted por semana (incluido el fin de semana)? \_\_\_\_\_

5. Por el precio que le cuesta viajar en metro, usted diria que viajar en metro tiene un

Valor malo	1	2	3	4	5	6	7	8	9	10	Valor bueno
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6. Imaginese que su gasto mensual aumentase un 25%. Usted diria que viajar en metro tiene un

Valor malo	1	2	3	4	5	6	7	8	9	10	Valor bueno
------------	---	---	---	---	---	---	---	---	---	----	-------------

7. Imaginese que su gasto medio por viaje aumentase un 25%. Usted diria que viajar en metro tiene un

Valor malo	1	2	3	4	5	6	7	8	9	10	Valor bueno
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English translation of the Metro commuting survey document used

Study about the usage habits of metro commuters

1. Do you use metro regularly?      Yes      No
  
2. What type of ticket do you normally use?
  - a) Monthly                      b) T10 tickets                      c) Single ticket                      d) Other
  
3. What is your monthly metro commuting cost? \_\_\_\_\_
  
4. How many trips do you do in a typical week (including weekends)? \_\_\_\_\_

5. What value for money do you think metro commuting offers?

Poor value	1	2	3	4	5	6	7	8	9	10	Good value
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6. Imagine that your total monthly cost of metro commuting would increase 25%. What value for money would metro commuting be in this case?

Poor value	1	2	3	4	5	6	7	8	9	10	Good value
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7. Imagine that your average cost per metro trip would increase 25%. What value for money would metro commuting be in this case?

Poor value	1	2	3	4	5	6	7	8	9	10	Good value
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## A.2 Appendix for study 3: Skiing trip

Daily tickets version in normal text, Four-day ski pass marked with italics where different.

The purpose of this questionnaire is to collect data for a study which will represent a part of doctoral thesis. I would like to thank you very much in advance for participating. In the questionnaire there will be some hypothetical situations for which you are asked to try to imagine and respond to questions linked to the situations.

----- new page -----

Imagine you are going skiing with your friends to Andorra. You will be staying at the ski resort for four days. You have already paid for the transport and hotel. Each day when you decide to go skiing you need to purchase a daily ski ticket. The price of one day of skiing is 30 euros, thus four days of skiing would total 120 euros. You will be skiing from inclusive Thursday to Sunday.

*(Imagine you are going skiing with your friends to Andorra. You will be staying at the ski resort for four days. You have already paid for the transport and hotel. Upon arrival you purchase a four-day ski pass. The price of the four day pass is in total 120 euros, which is 30 euros per one day of skiing. You will be skiing from inclusive Thursday to Sunday.)*

----- new page -----

### 1. DAY1: Thursday morning

You have just woken up on Thursday morning. After the breakfast you check the snow conditions at the hotel information desk. There is plenty of snow to guarantee good skiing and the weather forecast is sunny throughout the whole day.

Will you purchase a daily ski ticket today? (*Will you use the ski pass today?*)

- a) Yes

b) No

----- new page -----

## 2. DAY1: Thursday evening

After having enjoyed a nice day you decide to go out for dinner. You have located two restaurants close to your hotel with affordable prices. One is serving Italian food and the other is serving tapas.

Which restaurant will you choose?

a) Italian

b) Tapas

----- new page -----

## 3. DAY2: Friday morning

It is Friday morning. You decide to have breakfast at a cafe close to the hotel. You engage into conversation with the owner and he tells you that there will be great skiing conditions today.

Will you purchase a daily ski ticket today? (*Will you use the ski pass today?*)

a) Yes

b) No

----- new page -----

## 4. DAY2: Friday evening

It is Friday evening and you decide to explore local bars and go out for some drinks with your friends. There are several places around. Your friends can not decide whether to go to an Irish pub or to a modern club.

Which place would you prefer to go to?

a) Irish Pub

b) Club



----- new page -----

5. DAY3: Saturday morning

Even though you stayed out late last night you are up early. After a big breakfast overlooking sunny mountains you are contemplating whether to take a day off and rest or go skiing.

Will you purchase a daily ski ticket today? (*Will you use the ski pass today?*)

- a) Yes
- b) No

----- new page -----

6. DAY3: Saturday evening

It is Saturday night and you decide to have early dinner at hotel in order to have some rest for the last day of skiing. There are two options on the menu, chicken and vegetarian.

Which menu would you prefer?

- a) Chicken
- b) Vegetarian

----- new page -----

7. DAY4: Sunday morning

After a good night sleep you wake up fresh and ready to hit the slopes. Before the breakfast you check the weather forecast for today and it seems the afternoon will be cloudy with possible snow. You are discussing with your friends whether skiing will still be enjoyable today.

Will you purchase a daily ski ticket today? (*Will you use the ski pass today?*)

- a) Yes
- b) No

----- new page -----

#### 8. DAY4: Sunday evening

After spending some days in Andorra it is time for you to return home. You settle all outstanding bills. There is an option to drive directly home or stop on the way to have some food.

Which option would you prefer?

- a) Going directly home
- b) Having some food

----- new page -----

9. Some days after your return home, a friend of yours suggests going skiing again in one month's time. You would stay at the same hotel and would go to the same ski resort. However this time you would go skiing for 7 days. As before each day when you decide to go skiing you need to purchase a daily ski ticket. The price of one day of skiing is 30 euros, thus seven days of skiing would total 210 euros. The ski conditions are expected to be great.

*(Some days after your return home, a friend of yours is suggesting going skiing again in a one month's time. You would stay at the same hotel and would go to the same ski resort. However this time you would go skiing for 7 days. The seven day ski pass costs 210 euros, which is 30 euros per day. The ski conditions are expected to be great.)*

How likely are you to go skiing again for 7 days at the same ski resort?

Very Unlikely (1) .....Very Likely (7)

----- new page -----

10. Another friend of yours is suggesting a three day ski trip in two weeks' time. You would stay at the same hotel however you would go skiing to another slope. This slope has longer runs and is supposed to be more fun. As before each day when you decide to go

skiing you need to purchase a daily ski ticket. The price of one day of skiing is 40 euros, thus three days of skiing would total 120 euros. Skiing conditions are expected to be great.

*(Another friend of yours is suggesting a three day ski trip in two weeks' time. You would stay at the same hotel however you would go skiing to another slope. This slope has longer runs and is supposed to be more fun. The three day ski pass costs 120 euros, which is 40 euros per day. Skiing conditions are expected to be great.)*

How likely are you to go for this three days ski trip to a new ski resort?

Very Unlikely (1) .....Very Likely (7)

----- new page -----

11. How many days do you normally go skiing in a typical year? \_\_\_\_\_

----- new page -----

12. What is your gender?

a) Male

b) Female

## **B Appendix to Chapter 3**

## **B.1 Measures used for study constructs**

**Switching Intentions** (ten-point scale, »do not agree at all« / » agree completely«)

I1: I plan to change my mobile phone service provider.

I2: I intend to start using another provider.

I3: I will change my provider within the next year.

**Switching Expectations** (ten-point scale)

E1: I expect to change my provider in the future. ("do not agree at all" / "agree completely")

E2: How likely is that you will change it in the future? ("very unlikely" / "very likely")

E3: How likely is that you will stay with your current mobile service provider? (as above)

**Overall Satisfaction** (seven-point scale) ("very dissatisfied" / "very satisfied")

S1: How satisfied or dissatisfied are you with your current mobile phone service provider?

S2: Overall, how do you feel about it? ("very unhappy" / "very happy")

S3: How well does it meet your needs at this time? ("extremely poor" / "extremely well")

**Trust** (seven-point scale, "do not agree at all" / "agree completely")

T1: I feel can trust my mobile phone service provider.

T2: My provider is responsive to customers' problems.

T3: I feel my service provider is reliable.

**Attitude towards switching** (seven-point scale, "do not agree at all" / "agree completely")

A1: It would take me a lot of effort to choose another mobile service provider.

A2: I do not feel like going through the whole process of changing the mobile provider.

A3: Going through the process of changing the provider would be an unpleasant experience.

**Switching cost** (seven-point scale, "do not agree at all" / "agree completely")

F1: Changing my mobile service provider would cost me money.

F2: If I choose another service provider my costs will go up.

F3: Changing my mobile service provider would have significant financial impact for me.