

# **Modeling Equity, Satisfaction and Loyalty in Business-to-Consumer Markets**

Line Lervik Olsen

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**Norwegian School of Management**  
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Line Lervik Olsen:  
*Modeling Equity, Satisfaction and Loyalty in Business-to-Consumer Markets*

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## **Abstract**

The link between customer satisfaction and loyalty has had a tremendous impact on managerial decision-making and academic works over the years. Despite the lack of empirical research supporting this link, its existence seems to be assumed, independent of place and time. Across customer loyalty studies, however, the achieved explained variance in the customer loyalty construct is typically rather low, indicating other possible explanations than customer satisfaction to account for customers' loyalty to service providers.

At the same time, we observe that customers' demands are changing at an increasingly high pace; customers now expect to interact with service providers in a multitude of ways simultaneously, posing new challenges to service managers striving to establish and maintain a loyal customer base. Triggered by marketing's shift in focus from a transaction to a relationship orientation, this development has further escalated due to the rapid infusion of new technology into service industries, demonstrating as such the need to explore alternative determinants of customer loyalty in various situations.

In the literature, alternative determinants or intervening variables have been classified as intra-psychological, contextual or situational factors; in this dissertation, we investigate such alternative determinants and intervening variables in order to explain customer loyalty in various situations. The overall research objective of the dissertation has been, then, to gain insight into the consequences for customer satisfaction and loyalty modeling of these rapidly changing customer demands, to develop models accordingly, and to test these models empirically.

Our approach resulted in five studies conducted in different service industries, with data collected through the Norwegian Customer Satisfaction Barometer survey and related research projects. A set of hypotheses was developed for each study and, overall, general support has been found for our hypotheses. More specifically, we have:

- ✓ identified the effects of relative attractiveness today and tomorrow on repurchase intentions;
- ✓ identified the role that customer perceived equity plays in customer satisfaction and loyalty modeling;
- ✓ learned from, adapted to and improved customer satisfaction models in response to the changing environment, and suggested a new and improved customer satisfaction model;
- ✓ increased the explain variance in the loyalty construct;

- ✓ distinguished between complainers and non-complainers in modeling, while identifying the respective cognitive processes underlying customer loyalty; and
- ✓ developed and tested models grasping the antecedents and consequences of three different types of relationships customer engage in with service providers.

Our findings have clear implications for service managers striving to maintain a loyal customer base. They could well serve as guidelines when modeling, measuring and tracking customer loyalty in service organizations, and should in the least be considered when new service delivery systems are designed or existing ones improved. Finally, several avenues for future research have been identified, regarding in particular the need for research on business-to-consumer relationships.

**This research project was funded by the Norwegian Research Council.**

## **Acknowledgements**

This dissertation is the result of a research interest that started in the mid-90's when I was writing my Master of Science thesis at the Norwegian School of Hotel Management. Motivated by my own experience in the hotel industry, my initial focus of attention was hotel employees' ability to understand their customers; I investigated, specifically, the impact of the internal service environment on employees' ability to recognize satisfying service from the customers' point of view. Findings indicated that there were differences across groups of hotel employees concerning how well they knew their customers, differences that could be traced back to the internal service environment.

After completing the thesis, I chose to teach hospitality rather than practise it. I moved to Finnmark, the northern-most county in Norway and started working at the only other hotel school in Norway at the time, Finnmark College. I was hired as Assistant Professor by one of my former professors, Dr. philos Svein Larsen, who soon became a wonderful mentor to me and helped me get my academic career off to a good start. He was the one to introduce me to the world of scientific research by co-authoring conference papers with me, as well as first suggesting the idea of embarking on a doctoral degree. I am very thankful for that.

I heard about the Norwegian Customer Satisfaction Barometer (NCSB) initially in 1996. Associate Professor Tor Wallin Andreassen from the Norwegian School of Management was on the news presenting the Norwegian Customer Satisfaction Prize to Braathens and Esso. Intrigued by the idea that such a research program was going on in Norway, I had no doubts about applying when they advertised their doctoral scholarships. In this connection, I met Tor for a very brief but most inspiring discussion about customer relations in business-to-consumer markets; based on my research interests, Tor encouraged me to apply for the scholarship as well as recommending me to the faculty involved in the decision process. He has been my main advisor ever since and we have worked together on various research projects. I owe Tor great thanks for his ongoing support.

A couple of years into the doctoral program I had the pleasure of assisting Professor Fred Selnes on a tourism project at the Norwegian School of Management. At the time, I was about to plan my year as a visiting Ph. D. student in the US; Fred strongly advised me to go to the University of Michigan in Ann Arbor, helping me further in terms of recommending me to his colleague, Professor Michael D. Johnson at the Business School. I am

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In Ann Arbor I was soon fortunate enough to meet Michael D. Johnson and his other foreign Ph. D. students. Ever since our very first meeting at a coffee shop in Ann Arbor, Michael has been a true inspiration for me in my research. Not only did he show a great interest and belief in my projects, but he as well trained me to become a much better researcher. Furthermore, Michael has contributed significantly to the improvements of the NCSB model. His generosity is most appreciated, and I feel extremely fortunate for having the opportunity to work with Michael. I owe him tremendous thanks.

Staying in Ann Arbor for 12 months was exceptionally stimulating in other respects as well. As a visiting Ph. D. student I was able to attend any class of my preference. I seized this opportunity eagerly and had the pleasure of auditing classes given by Professors Richard P. Bagozzi, Norbert Schwartz, Frank Yates, Christie Brown and Assistant Professor Monique Fleming. I am grateful to them for allowing me to audit their classes, as well as reading my assignments, giving me feedback on my papers, and treating me as if I were one of their own students.

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I would also like to thank Ingvild Kobberstad, our Executive Officer, who has been of great support ever since my very first day at the Norwegian School of Management. Ingvild is herself a true service provider who demonstrates daily the advantages of empowerment to her colleagues and our business associates. I am very grateful for that, as well as appreciative of her sense of humor.

Associate Professor Carl Arthur Solberg deserves as well great thanks. He was Head of the marketing department when I first arrived almost five years ago, and is now back in the Chair. Carl Arthur has always been positive and supportive, but his involvement in the very final stages of my work has been invaluable. He has also been of great help to me in organizing my doctoral defense. Thank you so much.

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My humble thanks are extended to the exceptional scholars that agreed to sit on my doctoral committee. Particularly, I would like to thank my first opponent, Professor Ruth N. Bolton at Owen Graduate School of Management, Vanderbilt University, and my second opponent, Professor Sigurd V. Troye from the Norwegian School of Economics and Administration. Being such a great admirer of their work, I am honored to meet them under these circumstances; their work has been central to the development of my own interests in service marketing, an influence I have no doubt will continue in the future. I am most thankful to you both. Also I owe great thanks to the doctoral committee's chairman, Associate Professor Erik Olson at the Norwegian School of Management. It was such a great relief to know that Erik was willing to take on these responsibilities on such short notice - thanks a lot, Erik.

Finalizing this dissertation would of course not have been possible without the support of my family. Their way of believing in me, keeping up with me, as well as helping me in every respect throughout this project has been the greatest support of all. Thanks Mum, Dad and Lars.

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Line Lervik Olsen  
Sandvika, July 2002





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# **CHAPTER 1**

## **Introduction**



## Introduction

Service marketing developed as a discipline in response to the growing realization of the importance of services in the world economy (Brown et al., 1996; Rust and Oliver, 1994; Zeithaml and Bitner, 1996). The tremendous increase in service companies over a relatively short period of time changed the competitive situation in westernized countries dramatically. It soon became evident that the competitive situation was moving from a phase characterized by new service organizations in rapidly growing markets towards one characterized by stagnating service organizations in saturated markets (Andreassen, 1999; Christopher et al., 1991; Lovelock, 1996).

Reflecting this intense competition, marketers' focus shifted from offensive to defensive marketing strategies (Fornell et al., 1996); marketers were now aiming to turn existing customers into loyal ones in order to ensure future income through a stable customer base and reduced marketing costs (Berry, 1983; Grönroos, 1991, 1994; Zeithaml and Bitner, 1996). This shift in focus was echoed by academics who dedicated extensive attention to topics such as quality management, service quality and customer satisfaction (Brown et al., 1996). In numerous publications from this époque, customer satisfaction was treated as the necessary premise for customer retention and had therefore to be moved to the forefront of marketing (Rust and Zahorik, 1993). In retrospect, the link between customer satisfaction and retention became the cornerstone of both service and relationship marketing, bearing an incredible impact on managerial decision-making and academic work (Hennig-Thurau and Klee, 1997).

Consequently, customer satisfaction and loyalty programs mushroomed (Christopher et al., 1991; Bolton et al., 2000), and the evolution of the national satisfaction barometers began in countries such as Sweden (Fornell, 1992), the US (Fornell et al., 1996) and Norway (Johnson et al., 2001).

Below, some results from the Norwegian Customer Satisfaction Barometer (NCSB) are presented, complemented by results from the first Pan-European customer satisfaction survey conducted by the European Customer Satisfaction Index (ESCI). The results demonstrate how customer satisfaction and customer loyalty have developed in Norway over the years as well as how satisfied and loyal other Europeans consumers are compared to Norwegians.



## Customer satisfaction and customer loyalty trends in Norway

Table 1.1: Customer satisfaction by industry from 1996 to 2002

Industry	1996	1997	1998	1999	2000	2001	2002
Retail banking	75	74	66	70	69	67	66/83
Gas stations	79	NA	70	72	69	67	69
Transportation	74	NA	NA	63	69	68	69/78

Source: The Norwegian Customer Satisfaction Barometer, scale 0-100.

Table 1.1 presents average customer satisfaction ratings across three industries in Norway: retail banking, gas stations and public transportation. The results indicate that customer satisfaction has declined in all three industries during this period (1996-2002), although we do see indications in retail banking and the transportation industry that this trend is turning. To illustrate this change, we have included two different scores on average satisfaction: the first shows how traditional banks ranked, while the latter score represents a relatively new Internet-based bank, ScandiaBanken.no, unexpected winner of the Norwegian Customer Satisfaction Barometer Prize in 2002. A parallel development is as well taking place in the transportation industry; again, the first score in Table 1.1 reflects the performance of traditional transportation companies, while the second includes the score of a relatively new company, Flytoget AS, chartering passengers to the airport outside Oslo. Flytoget AS ranked as the best in their industry and fifth overall of the 118 companies included in the Norwegian Customer Satisfaction Barometer List, 2002.

What, then, distinguishes these companies from traditional ones? Our observations indicate thus far that the management of these companies “walk as they talk”; that is, that these organizations are able to realize their customer orientation priorities with all their implications, as their organizational structures are less hierarchical and more flexible than in more traditional companies. We do not see this development in the gas station industry - companies here, rather, seem to be perceived by customers as very similar to each other, resulting in a relatively stable score on customer satisfaction. The scores on customer loyalty as operationalized by repurchase intentions are summarized for the respective companies during the same period, in Table 1.2 below.

*Table 1.2: Customer loyalty by industry from 1996 to 2002*

<b>Industry</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>
Retail banking	79	90	84	75	80	77	76/87
Gas stations	80	NA	86	71	80	79	78
Transportation	72	NA	NA	59	81	76	77/82

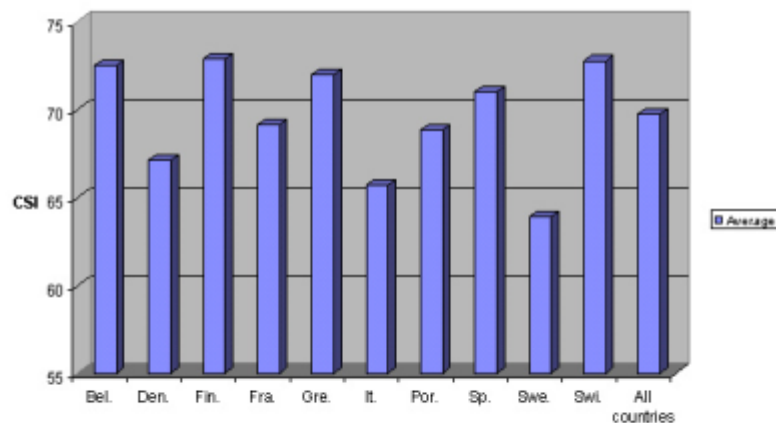
Source: The Norwegian Customer Satisfaction Barometer, scale 0-100.

When comparing customers' repurchase intentions in Table 1.2 to the satisfaction scores in Table 1.1, we find that customers' intentions to repurchase are generally higher than their level of satisfaction. That is, the scores on customers' intentions to repurchase are in almost all cases, with the exception of the transportation industry in 1996 and 1998 and the gas station industry in 1999, higher than the average level of customer satisfaction.

Rather than simply declining, however, the score on customers' repurchase intentions has fluctuated somewhat over the years. In the retail banking industry it seems a weak but positive trend is developing towards a more stable customer base, at least in some companies. Again, we need to provide two scores to demonstrate this finding. The scores on repurchase intentions among customers of the traditional banks are lower than those of customers of the new bank, with the same being true in the transportation industry; the more flexible and less hierarchical the organization is, the higher the degree of repurchase likelihood found among customers, a development we do not see reflected in the gas station industry.

## Customer satisfaction and customer loyalty trends in other countries

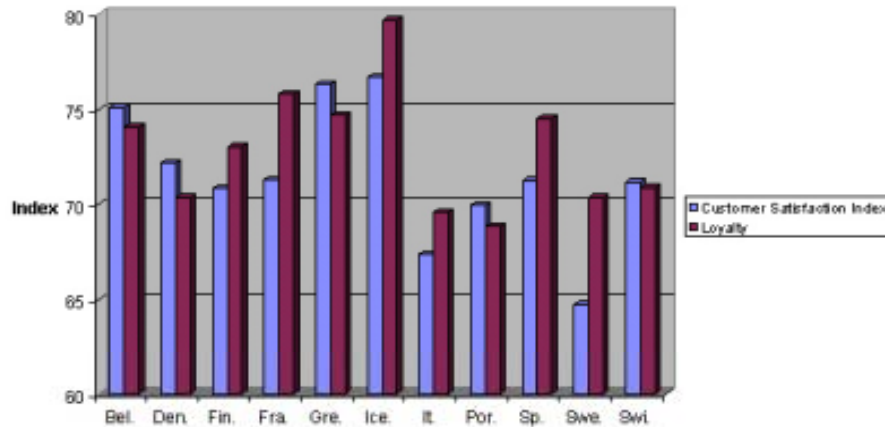
Figure 1.1: Customer satisfaction by country in 1999



Source: The European Customer Satisfaction Index (ECSI), scale 0-100.

Figure 1.1 presents an unweighted average of customer satisfaction in 10 European countries surveyed in 1999. The average level of satisfaction clearly differs between the surveyed countries; Belgium, Finland, Greece and Switzerland rank first among the 10 countries having engaged in comparative surveys on at least three of the four common service areas (retail banking, telecommunication (fixed and mobile) and supermarkets), with their national averages lying between 72 and 74 on a scale from 0 to 100. The countries with overall lower levels of satisfaction are Denmark, Italy and Sweden, with levels ranking from 64 to 67. Comparing these scores to our Norwegian results found in the 1999 column of Table 1.1, we find indications that Norwegian customers are more satisfied than other Scandinavians and Italians, while the French, Portuguese and Spanish customers fall somewhere in-between.

Figure 1.2: Customer satisfaction and loyalty by country in the retail banking industry in 1999



Source: The European Customer Satisfaction Index (ECSI), scale 0-100.

Figure 1.2, meanwhile illustrates the scores by country on customer satisfaction and customer loyalty again operationalized as intention to repurchase in the retail banking industry. The results indicate that the relationship between loyalty and satisfaction differs from country to country, with the overall loyalty index 1.4 points higher than satisfaction in retail banking in these countries. Belgium, Denmark, Greece, Portugal, and Switzerland have lower scores on customer loyalty than customer satisfaction in the retail banking industry, while the opposite is true in the remaining countries, including Norway<sup>1</sup>.

All in all, the satisfaction and loyalty scores presented above suggest that there may be factors other than customer satisfaction explaining customer loyalty in terms of retention, indicating that other possible determinants should be pursued. When reviewing the literature we have found support for this inference.

### Revisiting the customer satisfaction/loyalty link

Little research exists actually supporting the relationship between customer satisfaction and loyalty, and only a few works address its nature (Hennig-Thurau and Klee, 1997; Bloemer and Poiesz, 1989). In accordance with Hennig-Thurau and Klee (1997), these works can be divided into three

<sup>1</sup> These differences might arise from cross-cultural differences in scale usage, see for example Sekaran (1983) and Singh (1995).

categories: i) research based on monetary data (e.g. Reichheld and Sasser, 1990; Anderson et al., 1994); ii) research at the individual level, using behavioral intentions of customers to investigate the link (e.g. Bitner et al., 1990; Oliver, 1981; Oliver and Bearden, 1985; Oliver and Swan, 1989a; Oliver and Swan, 1989b); and iii) research on real repurchase data at an individual level (e.g. Newman and Werbel, 1973; LaBarbera and Mazursky, 1983; Bolton, 1995).

Hennig-Thurau and Klee (1997) as well suggest some weaknesses of these groups of data. They contend, firstly, that the aggregation of data in the first group renders any analysis at the individual customer level impossible. Profit and revenues, also in the first group, are determined by a multitude of variables that are highly correlated, they further argue, rendering thereby a valid assessment of the relationship barely possible. Thirdly, as customer satisfaction and behavioral intentions are usually measured at the same time through the same questionnaire, there are reasons to believe that this data may be inherently correlated, leading to an artificially strong link. As well, the predictive validity of intention measures varies depending on the type of product, the time frame, and the characteristics of the respondents (Bolton, 1995; Morwitz and Schmittlein, 1992), and altogether must be seen as rather low (LaBarbera and Mazursky, 1983; Oliva et al., 1992). Closely related, too, to the problem of intention measures is the usage of other inadequate operationalizations. Finally and most importantly, real purchase data shows only a weak (Newman and Werbel, 1973; LaBarbera and Mazursky, 1983; Bolton, 1995) and sometimes non-existent link between customer satisfaction and loyalty, as demonstrated in Bolton's study (1995) where the correlation between transaction-specific satisfaction and the duration of customer/service-provider relationships turned out to be non-significant

Based on their review, Hennig-Thurau and Klee (1997) conclude that at the same time as this link may be of a weak or even a non-existent nature, it may as well be of a non-linear nature. This conclusion could be considered somewhat contradictory, but we suggest, rather, that a weak or non-existent link may be a non-linear link in disguise, as demonstrated by the work of Johnson and Gustafsson, 2000. Although non-linearity remains to be explored thoroughly, there are nonetheless a couple of studies that have found systematic non-linearities (Jones and Sasser, 1995; Auh and Johnson, 1997) in the link between customer satisfaction and retention. In their work, Johnson and Gustafsson (2000) state that that these non-linearities clearly exist and tend to be observed more over time, and/or across market segments. When they do occur, it indicates that one market segment should have been analyzed separately.

In conceptual papers, such as Bloemer and Kasper (1995) and Hennig-Thurau and Klee (1997), several avenues for future research on this link are suggested. One such avenue is exploring the complex relationship between customer satisfaction and loyalty, while another is to explore new determinants of loyalty. Rather than having our main focus on exploring the non-linearities of the link, we will follow the second path in trying to identify further intervening variables or, simply, other possible determinants of customer loyalty in various situations. As guidelines for our approach we recognize that these intervening variables may be intra-psychological, contextual, or situational factors in line with Hennig-Thurau and Klee's (1997) suggestions.

### **Exploring other determinants of loyalty**

As discussed above, customer satisfaction has traditionally been regarded as the core driver of retention and loyalty. However, evidence has been found that customer satisfaction, as driven by service quality, is not enough to explain customer retention and loyalty (Johnson et al., 1997). Although other predictors are suggested in the literature, few studies have specifically investigated the effect on retention and loyalty in business-to-consumer markets, with explained variance in the loyalty construct tending consequently to be low, at approximately 20 to 25%, and at times even lower (Hennig-Thurau and Klee, 1997).

In order to increase the predictive validity of our models, alternative predictors of customer loyalty should be explored. In particular, there are two constructs that we think need further investigation as to their effects on customer retention and loyalty: relative attractiveness and perceived customer equity. The former challenges our traditional view of the service evaluation process – or, specifically, that it is retrospective in nature and conducted in hindsight based on experience (Troye, 1990; Oliver, 1980; Oliver and Bearden, 1985; Oliver, 1993). The second construct is first and foremost a challenge to our traditional view of the causal relationship between key constructs in service evaluation processes, or between customer satisfaction and customer perceived equity (e.g. Oliver and DeSarbo, 1988). And yet taking a step back and challenging our traditional views, developing and testing alternative models is a necessary step on our way to learn, adapt and improve our customer satisfaction and loyalty models.

### **Evolution of customer satisfaction modeling**

Furthermore we have observed that certain academics in service marketing have been hesitant to review and perhaps modify and develop further the first customer satisfaction models, such as the Swedish Customer Satisfaction Index (SCSI) and the American Customer Satisfaction Index (ACSI). We believe, however, that such a review of the evolution of the national customer satisfaction indexes is indeed necessary and will facilitate the process of learning, adapting and improving the models to the current environment.

### **Separated versus pooled samples**

Another necessary step is to start analyzing particular segments separately as different constructs' effect on loyalty may vary across segments (Johnson and Gustafsson, 2000). Customers with and without reasons to complain constitute two groups, for example, often expected in the literature to have the same underlying cognitive processes identified as predictive of customer retention and loyalty, and are thus frequently pooled in the analyses. While Smith et al. (1999), Tax and Chandrashekar (1992), Tax (1993) and Tax et al. (1998) studied customers who had experienced critical service encounters, Swan and Mercer (1981), Swan and Oliver (1984), Oliver and Swan (1989a, 1989b) and Bolton and Lemon (1999) studied customers with no reason to complain applying the same causal models. This was in stark contrast to clear indications in the literature that these groups would experience very different cognitive processes in terms of different kinds of problem-solving (Howard, 1977), varying degrees of elaboration (Petty et al., 1994; Petty, 1995; Petty and Wegener, 1998; Bloemer and Kasper, 1995), and the fact that losses loom larger than gains (Kahneman and Tversky, 1979) all of which would initiate different evaluation processes. Alternative models, then, should be investigated, developed and tested across these two groups.

### **Different kinds of customer/service-provider interactions**

Our final source of concern in customer satisfaction and loyalty modeling, are the consequences of the emergence of different ways for customers and service providers to interact, which is of particular relevance in the new economy (Meuter et al., 2000). As a response to these changes we clearly need to learn more about the differences and similarities in ways for customers and service providers to interact. A conceptual discussion has been ongoing for some time in the literature, however with few exceptions (Fournier, 2000; Jap and Ganesan, 2000; Shemwell et al., 1994), a common denominator of these studies is that they remain to be empirically tested (e.g. Macaulay, 1963; MacNeil, 1974, 1978, 1980; Heide, 1994; Noordewier et

al., 1990; Dwyer et al., 1987; Lovelock, 1988; Gummesson, 1995; Liljander and Strandvik, 1995; Bendapudi and Berry, 1997).

And yet a new and slightly different way of looking at these interactions has been presented by an American research team led by professor Barbara Gutek (Gutek, 1997, 1999a; Gutek et al., 1999b, 2000). They suggest three different customer/service-provider interactions, namely service encounters (discrete transactions), pseudo-relationships and service relationships. The key differences between this conceptual framework and the other works lie in a) the interaction between the customer and service provider, which is considered to be an interaction taking place between strangers (at least in the beginning), and b) the fact that there are interactions that are neither discrete transactions/service encounters nor relationships, but rather pseudo-relationships, where customers return to the same service organization but interact with different front personnel each time. This is a perspective that seems very relevant to most service organizations - hence the development in recent years of loyalty programs, for example - but has still to be developed, given content and tested empirically.

From this review we can infer that there exist several areas to learn about, adapt and improve our models in the literature. In particular, we have identified the need to:

- a. test other predictors of customer retention and loyalty than customer satisfaction;
- b. review the history of modeling, comparing models to the current environment;
- c. test alternative causal relationships between key predictors of customer loyalty;
- d. test alternative causal relationships and investigate whether there are different cognitive processes underlying complainers' versus non-complainers' decisions to stay with the service provider; and
- e. identify differences and similarities across various ways for customers to interact with service providers – or, between discrete transactions (service encounters), pseudo-relationships and true relationships.

In the text below we will explain why precisely these five areas have our focus of attention. Based on these observations, we will present the research objectives for this dissertation, followed by a definition of the dependent variable, and a brief overview and summary of the relevant research articles.



## Research objectives

The overall research objective of this dissertation is to gain insight into the consequences of rapidly changing customer demands for satisfaction, loyalty modeling, as well as to develop models accordingly and test these models empirically. The academic field this dissertation aims to contribute to is a hybrid of service and relationship marketing; the stream of research the dissertation is part of is the National Customer Satisfaction Barometer and related customer satisfaction and loyalty models. It is our hope that insights from this dissertation can provide valuable knowledge that will positively contribute to future development of the national customer satisfaction indexes.

More specifically, the research objectives can be broken down as follows. We aim to:

- a) identify and test new and alternative predictors of customer loyalty;
- b) explain more variance in the loyalty construct;
- c) learn from, adapt to and improve customer satisfaction models in response to the changing environment and suggest a new and improved customer satisfaction model;
- d) distinguish between complainers and non-complainers in modeling, and identify the respective cognitive processes underlying customer loyalty;
- e) develop and test models on the differences between discrete transactions and relationships in consumer markets.

These research objectives can further be translated to the following purposes/goals for each paper in this collection:

- A) Article 1: The purpose of the first study is to investigate present and future relative attractiveness as predictors of future repurchase intention.
- B) Article 2: The goal of the second study is to facilitate learning, adaptation and improvement of customer satisfaction and loyalty models by reviewing the evolution of the national customer satisfaction indexes.
- C) Article 3: The purpose of the third study is to develop and test alternative models on the role that equity plays in mediating the effects of service quality on service satisfaction and loyalty.
- D) Article 4: The fourth study's primary goal is to investigate the different roles equity may have in cumulative satisfaction models in

different groups of customers, depending on whether or not they have experienced a critical service encounter.

- E) Article 5: The aim of the fifth study is to investigate three different ways for customers and service providers to interact - discrete transactions, pseudo-relationships and service relationships - and to develop these constructs, give them content and ultimately test them.

### **Dependent variable**

As a consequence of the stream of research this dissertation is part of, namely the National Customer Satisfaction Barometer tradition, and in keeping with current research on return on quality (Rust et al., 1995) and customer equity (Rust et al., 2000), we position customer retention followed by loyalty as the key dependent variables in the models we present in these studies.

Several definitions of customer loyalty have been suggested in the literature: Jacoby and Chestnut (1978) cited a total of 53 in their review. After considering a fair share of these definitions, Dick and Basu (1994) view loyalty as the strength of the relationship between an individual's relative attitude and repeat repurchase. This is consistent with Johnson (1998), who argues that there is an important distinction to be made between customer loyalty and retention, wherein customer loyalty is a predisposition toward purchasing and/or returning to a particular product, manufacturer, or service provider, as can be reflected by a high perceived likelihood of repurchase or a stated willingness to pay a higher price. In the same tradition, Oliver (1997) argues that

“customer loyalty is a deeply held commitment to re-buy or re-patronize a preferred product or service consistently in the future, despite situational influences and marketing efforts having the potential to cause switching behavior” (p. 392).

For the purpose of this study we will rely upon the approach that distinguishes between psychological and behavioral loyalty, with our choice of indicators to measure loyalty depending on the nature of the particular study.

### **Outline and brief summary of the studies**

This dissertation is composed of five articles based on five different studies. The data in all of the first four studies was gathered through the Norwegian Customer Satisfaction Barometer, whereas the last set of data was collected

in the hotel industry. The articles are each intended to shed light upon one of the research objectives; in other words, each study has a particular purpose or goal toward operationalizing the research objectives. The studies are all different in several aspects, written as they were at different stages of the Ph.D. program and influenced by the Zeitgeist and the co-authors and advisor at the time.

The first article was written in 1998 and is relatively brief, concentrating on present and future relative attractiveness and its influence on repurchase intentions in the business-to-business market and the business-to-consumer market, while giving priority to model parsimony in order to isolate the effects on retention. The second study is more extensive, with an overview of the evolution of the national customer satisfaction indexes; a set of hypotheses on model improvements are developed and tested based on this review. In the third piece, we explore to a greater extent one of the suggested predictors of customer retention, namely customer perceived equity under “neutral” or no-critical service encounters. The fourth study explores the role of perceived equity in two different segments - customers with reason to complain and who then did so, and customers with no reason to complain and thus did not. In the fifth article, finally, we investigate three different ways for customers and service providers to interact, identifying dimensions of each interaction type and developing models that we subsequently test empirically.

**Summary of “Perceived relative attractiveness today and tomorrow as predictors of future repurchase intention”**

The main goal of the first study was to investigate the impact on customers’ repurchase intentions of their current perception of service providers’ relative attractiveness today and tomorrow. Two hypotheses were developed and tested with data collected in the insurance industry. We compared the business-to-consumer and business-to-business markets, with our results confirming the positive impact of perceived relative attractiveness today on repurchase intention in both the business-to-business and business-to-consumer market. Perceived relative attractiveness in the future, further, was shown to have a significant impact on repurchase intention in the business-to-consumer market while no evidence of significant effects were found in the business-to-business market.

**Summary of “The evolution and future of national customer satisfaction index models”**

The purpose of the second study was to evaluate the existing lot of national customer satisfaction indexes and propose changes and modifications in order to develop a new and improved customer satisfaction model. The

following changes were proposed: i) replacing the value construct with a “pure” price construct; ii) replacing customer expectations with corporate image as a consequence of satisfaction; iii) including two aspects of relationship commitment as well as corporate image as drivers of loyalty; iv) incorporating the potential for direct effects of price on loyalty; and v) including complaint handling as a driver of both satisfaction and loyalty. Together these changes constitute the new and improved Norwegian Customer Satisfaction Barometer Model. Data was collected in Norway in five different service industries: banking, airlines, buses, trains and gas stations. All in all we found support for our suggested modifications, with the one exception that complaint handling was not very effective in affecting satisfaction or loyalty.

**Summary of “Satisfaction versus equity as mediators of service quality on service loyalty in transaction-specific satisfaction models”**

In the third study our main purpose was to propose alternative models of the roles played by equity in mediating the effects of service quality on satisfaction and loyalty in “neutral” and non-critical service encounters. All the data was collected in the banking industry through the Norwegian Customer Satisfaction Barometer. We first tested the traditional model, with equity as antecedent to customer satisfaction, and satisfaction driving loyalty. Secondly, we tested our first alternative model where customer satisfaction was antecedent to equity and equity drove customer loyalty. Thirdly, we tested a model where customer satisfaction and equity were on the same level and complementing each other, driving loyalty in tandem. Furthermore, we opened up for a direct effect of equity on loyalty in the first model and a direct effect of satisfaction on loyalty in the second. Finally, we added three drivers - value, product, and service - and tested whether they were completely or partially mediated by satisfaction/equity. Briefly summarized, we found support for the traditional model, where customer satisfaction had the primary mediating role on loyalty; however, equity seemed to have a special role in this type of modeling and appeared to be more of a social and affective construct than customer satisfaction.

**Summary of “Customer-perceived equity: cause or effect of satisfaction in cumulative loyalty models”**

The fourth study’s primary goal was to investigate the different roles equity might have in cumulative satisfaction models in different groups of customers, depending on whether or not they had experienced a critical service encounter. Hypotheses were developed based on our assumptions that equity would play an important role in cumulative satisfaction models, and that there would be different cognitive processes underlying complainers’ versus non-complainers’ loyalty intentions. We also studied

equity's role in relationship to two types of commitment: affective and calculative. The data was collected in the banking industry through the Norwegian Customer Satisfaction Barometer. Our results indicated that complainers and non-complainers perceived the content of the satisfaction, equity and loyalty constructs in similar ways, and supported the assumption that a customer's decision whether or not to be loyal to the service provider in the future is a result of different underlying cognitive processes, depending on whether the customer had a positive or negative experience. Finally, our findings suggested that both equity and satisfaction had positive effects on customers' commitment to the service provider, but in different ways; we found, further, that equity's effect on calculative and affective commitment depended on whether or not the customer had had positive or negative experiences with the service provider. While satisfaction had different effects on affective commitment as compared to calculative commitment, although seemingly independent of the nature of the service experience.

#### **Summary of “Modeling and testing different types of relationships in consumer markets”**

The aim of the fifth study was to operationalize, model and empirically test three different kinds of customer/service-provider relationships suggested by Gutek et al. (1999; 2000): the service encounter, pseudo-relationship and service relationship. In order to do so we developed three different models; in the first, we aspired to grasp the quintessence of the service encounter, of the pseudo-relationship in the second, and the service relationship in the third. Our models were developed based on previous research on customer satisfaction and loyalty modeling in consumer markets, such as the Norwegian Customer Satisfaction Barometer. Central to our extension were attitude theories, as well as theories on interpersonal and business-to-business relationships. The three different models resulted in 14 hypotheses that were tested. The hotel industry was used as the context of investigation. Although we found general support for the proposed models our results indicate that the pseudo relationship model may need further refinements.

#### **The articles' present status**

The first article, “Perceived Relative Attractiveness Today and Tomorrow as Predictors of Future Repurchase Intention”, was co-authored by Tor W. Andreassen and published in the *Journal of Service Research* in 1999, vol. 2, 2, 164-172.

The second article, “The Evolution and Future of National Customer Satisfaction Index Models” was co-authored by Michael D. Johnson, Anders

Gustafsson, Tor W. Andreassen and Jaseung Cha, and published in the Journal of Economic Psychology in 2001, vol. 22, 2, 217-245.

The third article, "Satisfaction versus Equity as Mediators of Service Quality on Service Loyalty in Transaction-Specific Satisfaction Models", is an extended version of the article "Satisfaction versus Equity as Mediators of Service Quality on Service Loyalty", co-authored by Michael D. Johnson and published in "Quis 7 - Service Quality in the New Economy: Interdisciplinary and International Dimensions", in 2000, edited by Edvardsson, B., S. Brown, E. Scheuing and R. Johnston, 403-310, International Service Quality Association, Sweden.

Findings from the fourth article, "The Different Roles of Equity in Cumulative Satisfaction Models: Complainers versus Non-Complainers" have been presented at the "Ninth Frontiers in Services Conference" in Nashville in 2001, based on work with Michael D. Johnson. This study, along with results from the third study, resulted furthermore in an article called "Service Equity, Satisfaction and Loyalty: From Transaction-Specific to Cumulative Evaluations", co-authored by Michael D. Johnson. The article was conditionally accepted in the Journal of Service Research in the summer of 2002.

The fifth and final article, "Modeling and Testing Different Types of Relationships in Consumer Markets", was not co-authored and remains as yet unpublished. Earlier versions of the article have been presented at the FIBE XVIII 2001 conference in Bergen, at the 14th EMAC Colloquium, and at the EMAC 2001 conference.

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## **CHAPTER 2**

### **Perceived Relative Attractiveness Today and Tomorrow as Predictors of Future Repurchase Intention**



# Perceived Relative Attractiveness Today and Tomorrow as Predictors of Future Repurchase Intention<sup>1</sup>

Tor Wallin Andreassen  
Line Lervik

## Abstract

Research pertaining to return on quality is based primarily on the disconfirmation of expectation paradigm using past experience as the key predictor of future intent. This article uses perceived relative attractiveness today and tomorrow as predictors of intent. Based on the theoretical model and data sampled, the authors report three findings. First, perceived relative attractiveness today is the key driver of future intent in both business and consumer contexts. Second, in the business market, expected future relative attractiveness has no impact on customer intent. Business customers use perceived quality of past and present deliverables as the primary qualifier of future repurchase intention. Third, in the consumer market, both perceived relative attractiveness today and tomorrow have an impact on future intent. This finding implies that to uphold customer intent, managing future customer expectations is as important as maintaining relative attractiveness today.

## Introduction

In today's competitive markets marketers increasingly think of customer retention as key to relationship profitability; (c.f. Fornell, 1992; Reichheld and Sasser, 1990; Rust, Zahorik and Keiningham, 1994; 1996; Zeithaml, Berry and Parasuraman, 1996). The disconfirmation paradigm (c.f. Oliver, 1980), which establishes satisfaction with previous interactions as predictor of customer loyalty is documented in most of these studies. In a complementing paradigm, equity theory, perception of relative fairness with the interaction, is used as predictor of customer satisfaction and loyalty. In sum, the two leading paradigms used to predict future consumer intent and thus future cash flow are based on a hindsight perspective when predicting the future. In real life, however, we may experience situations in which customers change patronage despite high degree of satisfaction as new

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information or knowledge may position other suppliers as being more attractive. Whereas the customer was satisfied with the supplier, choosing the same supplier again may create regret and thus dissatisfaction with the new information (i.e. perceived relative attractiveness rather than absolute satisfaction predicts future intent). In other situations, customers may remain loyal despite lack off relative attractiveness today as they expect the supplier to improve his offer in the near future (i.e. expectations about the future predicts future intent).

Surprisingly few, if any, consumer satisfaction/dissatisfaction articles have incorporated relative attractiveness as a predictor of intent. The purpose of this article is to investigate present and future relative attractiveness as predictors of future repurchase intention. A theoretical model focusing future repurchase intention, perceived relative attractiveness today, and expected future relative attractiveness is developed. Next, the results of an empirical study, testing the model is presented. Finally, the implications of the findings are discussed.

### **The conceptual model**

In the service marketing literature, future repurchase intention is recognized as a positive consequence of customer satisfaction (Anderson, Fornell and Lehmann, 1994; Cronin and Taylor, 1992; Zeithaml, Berry and Parasuraman, 1996). According to Rust and Oliver (1994), the most widely adopted of the theories of customer satisfaction is that of expectancy disconfirmation, in which satisfaction is viewed as largely based on meeting or exceeding expectations. The retrospective inference (Troye, 1990) embedded in the disconfirmation theory (Oliver, 1980) reflects the anticipated importance of historical events for customers' future repurchase intentions. This perspective is also found in other dominant theories used in satisfaction research for example attribution theory (Kelley, 1967), dissonance theory (Festinger, 1957) and equity theory (Homans, 1961). Common to all these theories is that customer satisfaction is a function of an after-the-fact evaluation of perceived service quality relative to a reference point (e.g. expectations or norms). In numerous studies, past absolute satisfaction has been used to predict intended consumer behavior, see for example (Fornell, 1992; Rust and Zahorik, 1993; Rust, Zahorik and Keiningham, 1994). We will argue that relative satisfaction (i.e. customers' perception of other real alternatives) rather than absolute satisfaction (i.e. disconfirmation of expectation with current alternative in isolation) is a driver of future intent. Furthermore, we will argue that customers' expecting the supplier to improve his offer in the near future may choose to remain with the supplier.

There are several reasons why perceived relative attractiveness today and tomorrow should be considered when predicting customer intent. First, a closer look at the link between customer satisfaction and future repurchase intention has indicated weak and sometimes nonexistent relationships between these constructs (Henning-Thurau and Klee, 1997). Second, although satisfied customers tend to be loyal, loyal customers are not necessarily satisfied (Fornell, 1992). Third, research in the business-to-business market indicate that the future is an important predictor of customer relations. Referred to as shadow of the future, extendedness (i.e. anticipated open-ended future interactions) and frequency of contacts were found to be positively associated with joint cooperation (Heide and Miner, 1992). In some service settings (e.g. insurance) quality may be difficult to evaluate. Service possessing credence quality (Darby and Karni, 1973) is known to be more difficult to evaluate than for example search quality (Nelson, 1970) and consequently is perceived to involve higher risk for the customer (Zeithaml, 1988). Interacting with the same supplier over time is a rational way for the customer to reduce perceived risk (Arndt, 1967). In a recent conceptual paper by Liljander and Strandvik (1995), a suggestion is made that the individual customer's anticipation about the potential future of a relation with a service provider may influence the customer's evaluation of the relation's quality today. Based upon the above discussion, the conceptual model is illustrated in Figure 2.1 below.

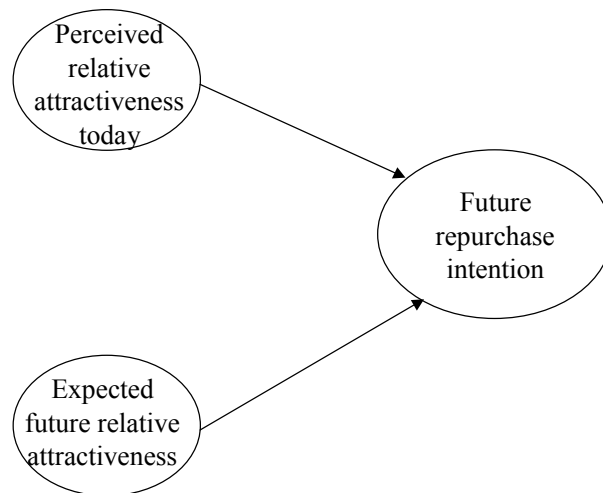


Figure 2.1: The conceptual model

In the following, we will discuss why customers' perception of the supplier's relative attractiveness today and expected relative attractiveness in the future may function as predictors of future repurchase intentions.

### **Relative attractiveness today**

Market researchers distinguish between transaction-specific satisfaction and their global evaluation of the service (Holbrook and Corfman, 1985; Olshavsky, 1985). Whereas Fornell's work on the Swedish and American customer satisfaction barometer is based on accumulated satisfaction when predicting company performance on an aggregate level (Fornell, 1992; Fornell et al. 1996) and Rust and Zahorik (1993) and Rust, Zahorik and Keiningham (1994) use transactions-specific satisfaction when estimating return on quality at the firm level. In the literature, there seems to be a consensus that at the firm level, a transaction-specific satisfaction measure is preferred when predicting future intent.

Recently, some researchers have started to address the "missing" link between customer satisfaction and customer retention (Henning-Thurau and Klee, 1997; Smith and Bolton, 1998). Despite the growing controversy about this link, it is today a universally accepted notion that customer satisfaction is the most important driver of future customer intent. Ever since the first article on customer satisfaction by Cardozo in 1965, customer satisfaction has been subjected to comprehensive investigation. The definitions of customer satisfaction tend to fall into two different categories; customer satisfaction as a process or as an end-state (Oliver, 1993). For example, consider customer satisfaction "a positive outcome from the outlay of scarce resources", a view reflecting customer satisfaction as a state-of-mind (Bearden and Teel 1983, p. 21). However, it seems like most researchers define customer satisfaction in terms of a process. For example Hunt (1977) defines customer satisfaction as "the evaluation of emotions"(p. 460), whereas it is the "favorability of the individual's subjective evaluation" according to (Westbrook 1980, p.49). Also, customer satisfaction may be understood as "summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer's prior feelings about the consumption experience" (Oliver 1981, p. 27). The most widely accepted of the process theories of satisfaction seems however to be that of (Rust and Oliver, 1994) "expectancy disconfirmation, in which customer satisfaction is viewed as largely based on meeting or exceeding expectations" (p.4). Based on this paradigm Oliver (1997) formulated the following definition of customer satisfaction, which serves as the frame of reference for our understanding of the construct: "satisfaction is the consumer's fulfillment response. It is a judgment that a product or service feature, or the product or service itself,

provided (or is providing) a pleasurable level of consumption-related fulfillment, included levels of under- or overfulfillment” (p13).

From the above definitions it is understood that customer satisfaction is related to providing what is being sought to the point at which fulfillment is reached, resulting in a subjective evaluation of emotions. The emotion occurs as a function of disconfirmation and relative output to input. The end result is a positive or negative feeling of fulfillment. We will claim that this fulfillment is not only absolute (that is meeting or exceeding expectations) but also relative to other real alternatives. In a recent study (Inman, Dyer and Jia, 1997) documented that performance information about alternatives that were not chosen, can have a significant impact on post-choice valuation. Satisfaction with one service encounter may turn into dissatisfaction when the customer learns about the quality of the other supplier, which were not chosen. Regret may stimulate variety seeking or exit behavior (Hirschman, 1970) if customers have information about a similar, but better offer (Bell, 1982; Loomes and Sugden, 1982). Blending disconfirmation theory and regret theory, we will argue that perceived relative attractiveness today captures both accumulated and transaction satisfaction and thus may be used as a predictor of future intent.

Based on the above discussion we propose the following hypothesis for empirical testing:

H<sub>1</sub>: Perceived relative attractiveness today will have a positive impact on future repurchase intention.

#### **Expected future relative attractiveness**

Supplier's focus on customer loyalty implies that the two parties will interact over time. Whereas it is easy to understand why a supplier wants to interact with a customer over time, it is not obvious why a customer may want the same. According to Adam Smith “it is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner but from their regard to their own interest”. In a single exchange perspective both parties will seek to maximize their own needs, even at the expense of the other party. This is in keeping with the notion of opportunism - that is, self-seeking interest with guile (Williamson, 1975) - or strategic behavior. However, when the parties anticipate that they will interact in the future and perceive these future interactions as being of value, Axelrod (1984) predicts that this will have an impact on each party's behavior today (i.e. remain with rather than exit from the relation). When both parties to an exchange assume an infinitely number of future interactions (Axelrod, 1984) claims of cooperation rather than defection will maximize the exchange's value for

both parties. Relating the prisoner's dilemma to customer satisfaction research implies that negative disconfirmation of the other party's behavior may cause defection. In real life, however, we may observe that dissatisfied customers do not defect. This may be due to a lack of real alternatives (Fornell, 1992), or transaction costs associated with switching (Williamson, 1975). It also may be due to customers' knowledge of or expectations towards the supplier's improvement (e.g. the way the service is being delivered or produced) in the near future. Such information or anticipations about the future may reduce any incentive the customers have to switch patronage. This is in keeping with Boulding et al. (1993) who document that consumers' anticipation of what the supplier "will" or "should" do will affect their future intentions. In a business-to-business context (Heide and Miner, 1992) found that shadow of the future (i.e. expectations about the future), is a strong predictor of relations. According to Axelrod, cooperation can emerge and be stable if both parties perceive the future to be of importance relative to the present. Relative to the supplier, the customer may tend to evaluate future encounters as less important than present encounters and thus base his decisions about the future on experiences from past interactions with the supplier. A retention-focused supplier may try to make the future more important relative to the present by deliberately creating expectations about the future or inform the customers about planned improvements. Expectations of or information about the future "can cast a shadow back on the present and thereby affect the current strategic situation" (Axelrod op cit., p. 12). Consequently the customer may continue to interact with the supplier in the future despite a perception of other suppliers being relatively more attractive today.

Business customers compared to individual customers tend to spend more money when they make their purchase or investment decisions (e.g. buy more services, buy more expensive services), and use the service provider more intensively (i.e. frequency of interactions and number of people engaged in interactions). In response to this service, suppliers often establish a key account manager who is responsible for the customer-supplier interaction. As business customers, compared to individual consumers, tend to be more involved in the interactions, business customers may have a better documentation of the service provider's behavior and service quality over time. In general they tend to be better informed about the quality of the various suppliers of one specific service.

Embedded in future repurchase intention lies satisfaction with the last encounter, the sum of previous experiences and knowledge of other alternatives. The history plus knowledge of other suppliers' offer is reflected in perceived relative attractiveness today. Consequently, for business

customers we believe that relative attractiveness today rather than expectation about the future is the stronger predictor of future repurchase intention. Based on the above discussion we propose the following hypotheses for empirical testing:

H<sub>2</sub>: For individual customers, both perceived relative attractiveness today and expected future relative attractiveness will have a positive impact on future repurchase intention. For business customers, perceived relative attractiveness today rather than expected future relative attractiveness will have a positive impact on future repurchase intention.

**The structural model**

Future repurchase intention is treated as a latent variable with multiple indicators measures (Bolton and Drew, 1991; Oliver, 1992). Perceived relative attractiveness today and expected future relative attractiveness are positively correlated with future repurchase intention. The theoretical framework can be summarized as the following:

$$\text{Future Repurchase Intention} = f_1(\text{perceived relative attractiveness today, expected future relative attractiveness, } \zeta_1)$$

$\zeta_1$  = Error term capturing elements not included in the equations

The structural model analyzed is illustrated in Figure 2.2.

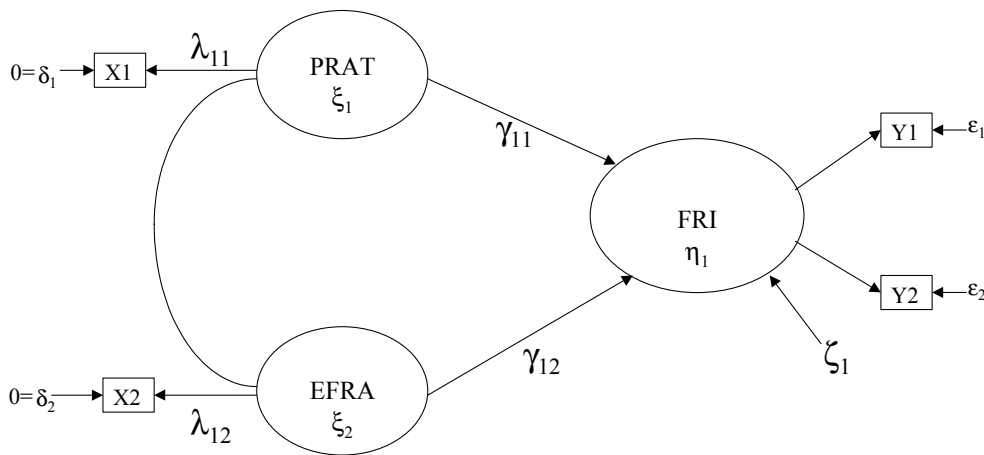


Figure 2.2: The structural model

## **Methodology**

### **Research design and sample**

Two groups of customers of a Norwegian life insurance company were studied. Representative samples of individual customers with the highest premiums (N=1,400) and company customers (N=338) were drawn. The insurance industry was chosen, due to its high complexity and the relative extensive customer involvement required in the purchase of these services. Conducted by a professional marketing research bureau, the respondents were interviewed by telephone. Prospective respondents, who were not available on the first call, were called back three times before a substitute was picked. Each interview lasted approximately 15 minutes.

### **Measures**

Perceived relative attractiveness today and expected future relative attractiveness is measured using one item each. Repurchase intention is measured by intentions to repurchase and perceived importance of continuing the relationship with the company. See Appendix A for an overview of the indicators.

A ten-points Likert scale was applied. The scale included positive values only (from 1 to 10). The questionnaire consisted of three different scales anchored by; *agree* to *disagree*, *very unlikely* to *very likely* and *important* to *not important*. Respondents were also provided with a “don't know” category in case of indifference or lack of knowledge.

### **Model**

A structural model treating the constructs as latent variables operationalized and measured through observable multiple indicators was developed. The LISREL 8.12 (Jöreskog and Sörbom, 1993) was used to test and analyze the proposed model. The standardized parameter estimates for the indicators of the latent variables are found in Table 2.1 (Appendix B). According to the fit statistics listed in Table 2.2 (Appendix B), the models fit the data well.

## **Results**

### **Samples' characteristics**

In order to provide evidence of past experience and competence in evaluating the service offer and the supplier, descriptive statistics are provided. Among the individual customers 79 % had staid with the company for more than 10 years whereas 21 % of the respondents had been with the supplier for 1 to 5 years. In the business-to-business context 9 % of the respondents answered that their organization had staid with the insurance company for less than 2 years, 13 % had staid on for 3 to 5 years and 78 %

had been with the supplier for more than 5 years. In both contexts 85 % of the respondents considered themselves to have low expertise in evaluating life insurance services, while 15 % considered themselves to have high expertise.

### **Analysis**

H<sub>1</sub> is confirmed. Perceived relative attractiveness today has a positive impact on future repurchase intention in both contexts.

H<sub>2</sub> is confirmed. Expected future relative attractiveness and perceived relative attractiveness today have a significant impact on future customer intention in the business-to-consumer market.

H<sub>2</sub> is confirmed. Expected future relative attractiveness does not have a significant impact on future customer intention in the business-to-business market.

### **Discussion**

The fact that perceived relative attractiveness today is a key driver of future intent for both consumers and organizations is interesting. It implies that not only absolute satisfaction (i.e. disconfirmation of expectations with the encounter) but also satisfaction relative to other forgone alternatives affects future intent. This finding supports work pertaining to delighting the customer. Second, when predicting future repurchase intention for individual customers, expectations related to future attractiveness is an important factor. The implication of this finding is significant with regard to managing expectations. Third, we found that expected future relative attractiveness did not have an impact on repurchase intention in the business segment. This is in keeping with the predictions of the prisoner's dilemma: Business customers, when deciding to remain with or exit from the relationship tend to value the past and present more than information about or expectations of the future.

According to Simon (1957), organizations may be closer to acting rationally in decision making. In this context, satisfaction and perceived relative attractiveness today may be a suitable selection criterion for organizations wanting to institutionalize straight rebuys rather than modified rebuys (Anderson, Chu and Weitz, 1987), which would be a lot more expensive. Finally, the higher weight put on historical encounters may reflect the buyers' competence on insurance services. With approximately 85 % of the respondents reporting limited competence to evaluate current services, evaluating the attractiveness of future services may be even more difficult. Consequently, business customers use previous and present encounters as decision criteria rather than the relative attractiveness of future encounters.



Individual customers are believed to be more involved in the initial buying process because selecting the wrong insurance company may hurt them or their family (i.e. adverse selection) Time and effort investment in the pre- and postcontractual phase may be perceived as an investment that has no value outside the existing relationship. Perceived hassle and costs associated with changing patronage may cause the individual customer to upgrade the value of future interactions relative to business customers, which is something that will stimulate future repurchase intention despite lack of perceived relative attractiveness today.

### **Managerial implications**

Creating and maintaining a loyal customer base requires different approaches in the business-to-business and in the business-to-consumer segment. Common to both contexts is that customer satisfaction drives customer loyalty. However, customer satisfaction within the disconfirmation paradigm is an absolute performance measure of current service offerings. We have argued that customer intent is a function of perceived relative attractiveness rather than absolute satisfaction (i.e. exit or switching behavior may be triggered independently of degree of satisfaction today if customers perceive other real alternatives to be better). Consequently, customer satisfaction as a predictor of customer intent is relative to other offers rather than as an absolute performance evaluation of current offer. Furthermore, we have introduced expectations about future attractiveness as a predictor of intent. This is an important extension of the disconfirmation paradigm, which only uses past performance evaluation as a predictor of future intent.

Continued interactions (i.e. future repurchase intention, in the business-to-business segment) are best nurtured by providing a service offer today that is perceived by the customers as being relatively more attractive than other options. These customers evaluate the present higher than the anticipated value of future interactions. Documenting services of high quality and consistent behavior today will have a stronger impact on the customers' willingness to engage in future interactions than promises about the future. This is in keeping with one study, which showed that the salesperson has an important role in the continuance of established business-to-business relationships (Biong and Selnes, 1996). For example, empowering key account managers with the necessary authority to make decisions on behalf of the company may improve the supplier's responsiveness to customer needs (e.g. Rust, Zahorik and Keiningham, 1996) and thus stimulate repurchase intentions through customer satisfaction.

Managing consumers' expectations related to the company's relative performance in the future becomes an issue in securing future repurchase

intention in the business-to-consumer context. According to Zeithaml, Berry and Parasuraman (1991), expectations may be divided into three different levels; desired, adequate, and predicted service. Zeithaml and Bitner (1996) suggest that; “ineffective management of customer expectations”, “over-promising” and “inadequate horizontal communications” are factors contributing to the customers having the wrong kind of expectations to the service provider (p. 45). Managers should therefore focus on communicating as clearly as possible, the service provider’s vision and business mission, so that customers can form rational expectations about the supplier’s present and future service encounters. The supplier can do this by communicating their long-term commitment to its customers, and society, making unique investments, and providing service guarantees. Companies making unique investments (i.e. investments which cannot be employed elsewhere; Williamson, 1985) will increase the company's exit barriers and thus signal a long-term commitment toward society or the customers. Guaranteeing customer satisfaction may function as a contract between the two parties (e.g. we will agree to agree if we disagree). Asset specificity in the form of unique investments (Williamson, 1979) and customer contracts may stimulate future interactions despite loss of perceived relative attractiveness today. The customers know the supplier is committed to them, and thus expects him to make changes to compensate for perceived loss of attractiveness.

### **Summary**

In this article, we have argued that customer intent is driven by perceived relative attractiveness of the supplier and service offer and not only by absolute satisfaction with the same. Furthermore, we have discussed the importance of expectations about the future as predictor of customer intent. Finally, we have reported and discussed three findings. First, perceived relative attractiveness today is the key driver of future intent in both business and consumer contexts. For managers of service companies this motivates investments in service quality or loyalty programs in order to wow the customer today. The key is to create customer perception of positive attractiveness relative to the real alternatives. Second, expected future relative attractiveness has no impact on customer intent in the business-to-business segment. For managers of business services, this implies that past and present experiences as a foundation for perception of current attractiveness, predict repurchase intentions. Third, perceived relative attractiveness today and expected future relative attractiveness both have an impact on future intent in the consumer market. For managers of consumer services, this finding implies that managing not only present but also future expectations is key to customer loyalty.

**Limitations**

Because one of the goals of this study was to isolate and compare perceived relative attractiveness and expected future relative attractiveness, a very simple conceptual model was developed. It may therefore be that these findings are not applicable to other settings where more complex models are tested, although, it may very well be that this simplicity is its strength. Another issue, which is questionable, is the operationalization of perceived relative attractiveness today and expected future relative attractiveness. One could argue that using multiple indicators might improve the measure. Also, a limitation to this study is the dependent variable future repurchase intention. Due to market imperfections, it is possible that customers will repurchase or extend their relationship without perceiving the supplier as being relatively more attractive today or in the future. It is, however, not as likely that dissatisfied customers will be loyal in the sense that they will recommend the service provider to family and friends or otherwise express any warm feelings for the service provider to their environment.

**Future research**

Future research may be directed usefully toward exploring the differences between the business-to-business and the business-to-consumer market. In addressing this divergence, perceived relative attractiveness today should be operationalized using multiple indicators. As this study was an attempt to explain some of the residual variance in the retention construct, other variables should be included in a further attempt to explain why customers repurchase and extend their relationship with a service provider. In future research, one also should consider using customer loyalty as the dependent variable in order to establish whether expected future relative attractiveness has the same or a different effect as compared to the effect it has on future repurchase intention.

## **Appendix A**

### **Measures**

Relative attractiveness today in the business-to-business/ business-to-consumer context:

1. To what extent do you agree or disagree that your insurance company today represents a better alternative than others you have considered?

Expected future relative attractiveness in the business-to-business/ business-to-consumer context:

1. Compared to other insurance companies, to what extent do you agree that your insurance company will be a much better alternative in the future than XX?

Future repurchase intention, business-to-business:

1. How likely or unlikely is it that your organization will continue to use this insurance company in the future?
2. How important is it to your organization to continue the relation with this insurance company?

Future repurchase intention, business-to-consumer:

1. How likely or unlikely is it that you will continue to use your insurance company in the future?
2. How important is it to you to continue your relationship with your insurance company?

## Appendix B

*Table 2.1: Standardized parameter estimates for the indicators of the latent variables in the model*

	<b>Business-to-business market</b>	<b>Business-to-consumer market</b>
Future repurchase intention $\lambda_{11}$	.71	.65
Future repurchase intention $\lambda_{12}$	.61	.70

Using LISREL 8.12 serves several advantages when both measurement and latent construct linkages are represented and tested. In these analyses Hair et al. Black (1992) find the precision and communication of the model to be enhanced.

Two different estimation techniques were used to test the model's resilience: maximum likelihood (ML) and general least squares. Both estimation techniques provided the same paths and the same range of t-values, estimates and fit statistics. This is an indication of good fit (Olsson, 1996).

*Table 2.2: Fit statistics for the structural model*

<b>Goodness of fit statistics</b>	<b>Business-to-business market</b>	<b>Business-to-consumer market</b>
Chi-square; df=1	.15	.17
	P-value = .69429	P-value = .68003
RMSEA	.00	.00

In accord with Hair et al. (1992), researchers are encourage to employ one or more measures from each of the classes of goodness-of-fit (i.e. absolute, incremental, and parsimonious fit). Of the absolute fit measures, chi square is the most fundamental one. Of the absolute fit measures applicable, the root mean square error of approximation (RMSEA) is used. RMSEA, whose values range from .0 to .05 or .08 is deemed acceptable (Hair et al., p. 685).

## Appendix C

### Influences of endogenous variables on exogenous variables

Table 2.3: *The impact of perceived relative attractiveness today and expected future relative attractiveness on future repurchase intention*

Parameter estimates	Future repurchase intentions	Future repurchase intentions
	business-to-business	business-to-consumer
Perceived relative attractiveness today	.47 (0.09) t=5.03	.40 (0.04) t=10.43
Expected future relative attractiveness	ns	.34 (0.04) t=9.13

NOTE: t-values greater than 1.65 are significant at the .10 level, t-values above 1.96 are significant at the .05 level, and t-values above 2.57 are significant at the 0.01 level. Figures in parantheses are error terms. ns = not significant at any level. Simple correlation between the predictor variables are .50 and .65 in the consumer and business context respectively.

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## **CHAPTER 3**

### **The Evolution and Future of National Customer Satisfaction Index Models**



## The Evolution and Future of National Customer Satisfaction Index Models<sup>2</sup>

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### Abstract

A number of both national and international customer satisfaction barometers or indices have been introduced in the last decade. For the most part, these satisfaction indices are embedded within a system of cause and effect relationships or satisfaction model. Yet there has been little in the way of model development. Of critical importance to the validity and reliability of such indices is that the models and methods used to measure customer satisfaction and related constructs continue to learn, adapt, and improve over time. The primary goal of this research is to propose and test a number of modifications and improvements to the national index models. Using survey data from the Norwegian Customer Satisfaction Barometer (NCSB), we find general support for the proposed modifications.

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## **1. Introduction**

Customer satisfaction has taken on national and international significance with the development of national satisfaction barometers and indices in Sweden (Fornell, 1992), the United States (Fornell et al., 1996) and Norway (Andreassen and Lindestad, 1998a). Indices have also been pilot tested in New Zealand, Austria, Korea and the European Union. Yet it remains to be seen whether these indices will develop on a global level and, importantly, in what form. Of critical importance to the validity and reliability of such indices is that the models and methods used to measure customer satisfaction and related constructs continue to learn, adapt, and improve over time.

The goal of this research is to facilitate this learning, adaptation and improvement process. As a consequence of this work and in keeping with current return on quality research (Rust, Zahorik and Keiningham, 1995) we position customer loyalty as the key dependent variable in the model. We begin by describing customer satisfaction from an economic psychology perspective. We then describe the evolution of national satisfaction index models, including details of the models currently used in Sweden, the United States, Norway and the EU. (Not included in our discussion is the Deutsche Kundenbarometer (Meyer, 1994) as it does not involve either an index or model per se.) Both the strengths and weaknesses inherent in the current approaches are discussed. We then propose a series of modifications and improvements for measuring and modeling customer satisfaction that are now incorporated into the Norwegian Customer Satisfaction Barometer (NCSB) model. The modifications are tested using data from five service industries.

### **1.1 Customer satisfaction from an economic psychology perspective**

Customer satisfaction research has developed around two different types of evaluations: transaction-specific satisfaction and cumulative satisfaction (Johnson, Anderson and Fornell, 1995). The original interest in marketing and consumer research was on transaction-specific satisfaction, or a customer's experience with a product episode or service encounter (Yi, 1991). More recent transaction-specific research has focused on the relationship between perceived quality and satisfaction (de Ruyter, Bloemer and Peeters, 1997) and the role of emotions in satisfaction evaluations (Oliver, 1993).

A more economic psychology-based approach to satisfaction has grown and gained acceptance over the last decade, termed cumulative satisfaction. This approach defines satisfaction as a customer's overall experience to date with a product or service provider (Johnson and Fornell, 1991). This definition is

consistent with those in both economic psychology (Wärneryd, 1988) and welfare economics (Simon, 1974) where customer satisfaction is synonymous with the concept of consumption utility. An important advantage of the cumulative satisfaction construct over a more transaction-specific view is that it is better able to predict subsequent behaviors and economic performance (Fornell et al., 1996; Johnson, Anderson and Fornell, 1995). This is because customers make repurchase evaluations and decisions based on their purchase and consumption experience to date, not just a particular transaction or episode.

Viewing satisfaction as a form of consumption utility is also consistent with Poiesz and von Grumbkow's (1988) general framework for understanding economic "well being." This framework views economic well being as one component of an individual's overall quality of life. Other domains include evaluations of health, socio-cultural context, political freedom and stability. Economic well-being is itself composed of three sub-components, job satisfaction, income evaluation, and consumer or customer satisfaction. At an aggregate level, Poiesz and von Grumbkow equate this customer satisfaction with customer welfare. It is this welfare-based or cumulative view of satisfaction upon which the prominent national satisfaction indices are built.

## **2. The evolution of national satisfaction index models**

Established in 1989, the Swedish Customer Satisfaction Barometer (SCSB) was the first truly national customer satisfaction index for domestically purchased and consumed products and services (Fornell, 1992). It has historically included approximately 130 companies from 32 of Sweden's largest industries. The American Customer Satisfaction Index (ACSI) was introduced in the fall of 1994 and reports results for approximately 200 companies from 34 industries (Fornell et al., 1996). The Norwegian Customer Satisfaction Model (Andreassen and Lervik, 1999; Andreassen and Lindestad, 1998a) was introduced in 1996 and, as of 1999, reports results for 42 companies in 12 different industries (both business-to-consumer and business-to-business). The most recent development among indices is a pilot test of the European Customer Satisfaction Index (ECSI) across four industries and 11 countries in the European Union (Eklöf, 2000).

In reviewing the national indices, we pay particular attention to the ACSI model specification. This model is an evolution of the original Swedish model, has been adopted on a smaller scale in New Zealand and Taiwan (Fornell et al., 1996) and Austria (Hackl, Scharitzer and Zuba, 1996), and is the basis for the models being used in Norway and the EU. A critical



evaluation of the model is, therefore, important to develop the best possible model specification.

It should be noted that treating satisfaction as an overall evaluation of the consumption experience resolves certain modeling issues. Consider that while some studies find that satisfaction drives a general perception of quality, others find that perceptions of quality drive satisfaction (de Ruyter, Bloemer and Peeters, 1997). Clearly, however, if satisfaction is defined as an overall evaluation of performance to date, more recent quality received is necessarily an antecedent to satisfaction (Johnson, Anderson and Fornell, 1995). All of the models described and proposed herein thus view quality as a driver of satisfaction.

Viewing satisfaction as a cumulative construct also dictates how one treats measures of expectancy-disconfirmation (perceived performance versus expectations). When modeling a given episode or transaction, disconfirmation is a logical antecedent to satisfaction (Oliver, 1980). In contrast, when operationalizing a customer's evaluation of their experience to date, expectancy-disconfirmation is but one of several possible benchmarks that customers may use to evaluate this overall experience. Comparisons are also made to, for example, competing products, category norms and personal values, all of which should reflect cumulative satisfaction as a latent construct (Johnson and Fornell, 1991). The solution within the national models is to operationalize satisfaction using three survey measures: overall satisfaction, expectancy-disconfirmation, and performance versus an ideal product or service in the category.

### **2.1 The original SCSB**

The original SCSB model (Fornell, 1992), shown in Figure 3.1, contains two primary antecedents of satisfaction: perceptions of a customer's recent performance experience with a product or service, and customer expectations regarding that performance. More specifically, perceived performance is equated with perceived value, or the perceived level of quality received relative to the price or prices paid. Quality per dollar, or value, is a common denominator that consumers use to compare brands and categories alike (Emery, 1969). The basic prediction is that as perceived value increases, satisfaction increases.

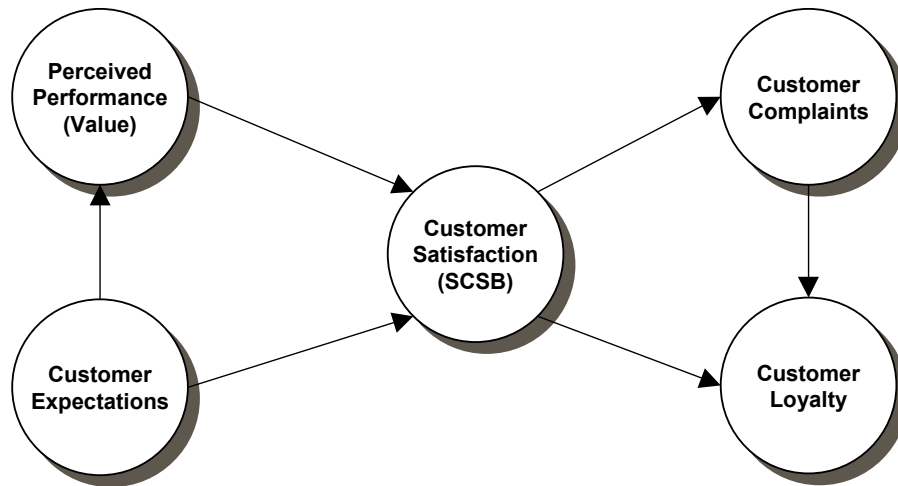


Figure 3.1: The original SCSB (Swedish Customer Satisfaction Barometer) model

The other antecedent of satisfaction is how well the customer expected the product or service to perform. Customer expectations are defined as that which a customer predicts (“will” expectations) rather than a normative standard or benchmark (“should” expectations; Boulding et al., 1993). These expectations are argued to positively affect customer satisfaction because they serve as cognitive anchors in the evaluation process (Oliver, 1980). While perceived performance captures more recent experience, customer expectations capture a customer’s prior consumption experience with a firm’s products or services as well as advertising and word-of-mouth information. Because expectations forecast a firm’s ability to provide future performance, it is argued to have a positive effect on satisfaction in the SCSB model (Fornell, 1992). Finally, expectations should be positively related to perceived performance (value). This captures customers’ abilities to learn from their experience and predict the level of performance they will receive.

The consequences of satisfaction in the original SCSB model are derived from Hirschman’s (1970) exit-voice theory. The theory describes situations in which a client or customer becomes dissatisfied with the products or services that an organization provides. The organization discovers its failure to provide satisfaction via two feedback mechanisms, exit and voice. The customer either exits, or stops buying from the firm, or voices its complaint of dissatisfaction to the firm in an effort to receive restitution. Accordingly, the immediate consequences of increased satisfaction are decreased customer complaints and increased customer loyalty. An increase in satisfaction should decrease the incidence of complaints. Increased

satisfaction should also increase customer loyalty (Bloemer and Kasper, 1995), which is a customer's psychological predisposition to repurchase from a particular product or service provider. Loyalty is the ultimate dependent variable in the model because of its value as a proxy for actual customer retention and subsequent profitability.

Finally, the original SCSB includes a relationship from complaint behavior to customer loyalty. Although no prediction is made regarding this relationship, the direction and size of this relationship provides some diagnostic information as to the efficacy of a firm's customer service and complaint handling systems (Fornell, 1992). When the relationship is positive, a firm may be successfully turning complaining customers into loyal customers. When negative, complaining customers are predisposed to exit.

## **2.2 The ACSI**

The ACSI model, developed in 1994 and illustrated in Figure 3.2, builds upon the original SCSB model specification (for details of the ACSI survey and model see Fornell et al., 1996). The model is estimated for each of the approximate 200 firms in the survey based on a random sample of approximately 250 of the firm's customers. A total of 15 survey questions are used to operationalize the 6 constructs in the model. The survey questions are all rated on 1 to 10-point scales with the exception of price tolerance (described below) and complaint behavior (a dichotomous variable indicating whether the customer has complained or not). In every case, the measurement variables are specified as reflective indicators of the latent constructs in the model.

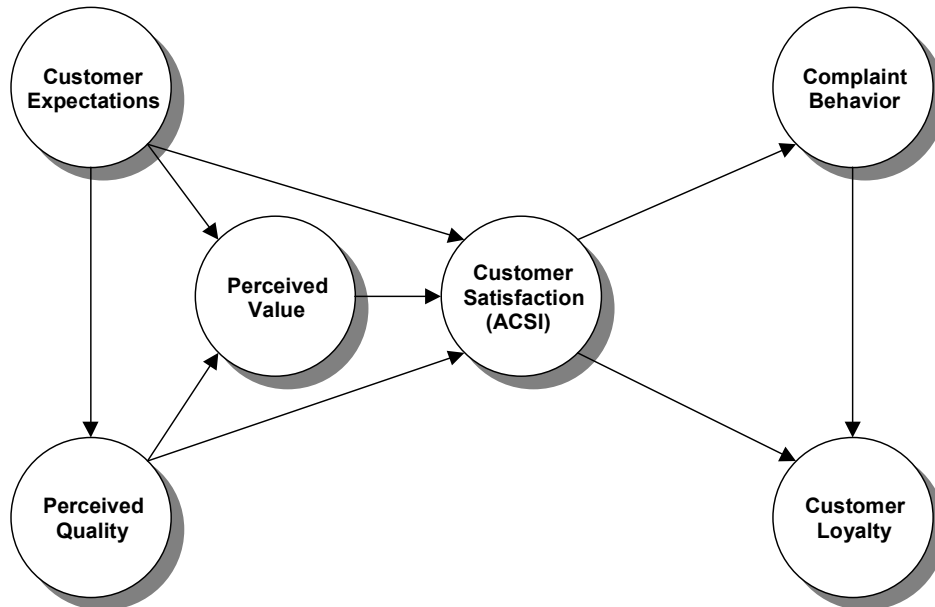


Figure 3.2: The ACSI (American Customer Satisfaction Index) model

The main differences between the original SCSB model and the ACSI model are the addition of a perceived quality component, as distinct from perceived value, and the addition of measures for customer expectations. (By deleting the perceived quality construct and its relationships from Figure 3.2, the reader can readily see the original SCSB model specification in Figure 3.1.)

Quality experts (Deming, 1981; Juran and Gryna, 1988) delineate two primary components of the quality experience, the degree to which a product or service provides key customer requirements (customization) and how reliably these requirements are delivered (reliability). Asking customers to rate customization quality, reliability quality, and overall quality allows the ACSI model to delineate a distinct quality construct that is separate from perceived value. In 1996 the ACSI survey and model were expanded to delineate two general types of perceived quality, product (physical good) quality and service quality. This change was made only for manufacturing durables as they contain both a large product and a large service component. The survey questions used in other sectors to measure perceived quality (customization, reliability, and overall quality) are asked separately for both the product and service aspects of the offering.

The perceived value construct is operationalized using the same two survey questions as in the original Swedish model, a rating of the price or prices paid for the quality received and a rating of the quality received for the price

or prices paid. The ACSI model predicts that as both perceived value and perceived quality increase, customer satisfaction should increase. Expected customization and expected reliability were also added to the survey to measure customer expectations using three survey measures (overall expectations, expected customization, and expected reliability).

Fornell et al. (1996) argue that the inclusion of both perceived quality and perceived value into the ACSI model provides important diagnostic information. As the impact of value increases relative to quality, price is a more important determinant of satisfaction. As quality is a component of value, the model also links quality directly to value.

There are two measures of customer loyalty in the ACSI model. The first is a rating of repurchase likelihood. The second measure is constructed from two survey ratings: the degree to which a firm could raise its price(s) as a percentage before the customer would definitely not choose to buy from that firm again the next time (given the customer has indicated that he or she is likely to repurchase), and the degree to which a firm would have to lower its price(s) as a percentage before the customer would definitely choose again from that firm the next time (given the customer has indicated that he or she is unlikely to repurchase).

### **2.3 The first NCSB model**

The first NCSB model was identical to the original American model with the exception that it included corporate image and its relationships to customer satisfaction and customer loyalty. Key to perceptions of corporate image is the organization-related associations held in a customer's memory. These associations are similar to schemas in cognitive psychology (Brandsford and Franks, 1971; Brandsford and Johnson, 1972). According to Fishbein and Ajzen (1975), attitudes are functionally related to behavioral intentions, which predict behavior. As a type of attitude, corporate image should be updated as schemas, including customer satisfaction, are changed. Corporate image should, in turn, affect behavioral intentions such as loyalty. Selnes (1993) hypothesized and documented these effects for brand reputation (a large part of overall corporate image) in a study of four companies from different industries. Finally, in two studies related to the impact of corporate image on customer intent, Andreassen and Lindestad (1998a, 1998b) found a positive correlation between the constructs.

In keeping with the evolution in marketing from a transactional to a relational orientation among service providers, the NCSB model was expanded over time to include a relationship commitment construct. The construct has evolved to focus on both the affective and calculative

components of commitment. While the affective component is “hotter” or more emotional, the calculative component is based on “colder” aspects of the relationship such as switching costs. The commitment constructs are modeled as mediating the effects of satisfaction on loyalty (behavioral intentions).

#### **2.4 The ECSI model**

The ECSI represents another variation on the ACSI model (Eklöf, 2000). The customer expectations, perceived quality, perceived value, customer satisfaction, and customer loyalty constructs are modeled the same as in the ACSI. The distinction between service quality and product quality in a subset of ACSI industries is standard in the ECSI. The measures of customer loyalty are also somewhat different. For the ECSI the loyalty measures include likelihood of retention, likelihood of recommending the company or brand, and whether the amount customers are likely to purchase will increase.

There are two more fundamental differences between the ACSI and ECSI models. First, the ECSI model does not include the incidence of complaint behavior as a consequence of satisfaction. As described subsequently, there is good reason for this change. Second, in keeping with the original NCSB, the ECSI model incorporates corporate image as a latent variable in the model. Corporate image is specified to have direct effects on customer expectations, satisfaction and loyalty.

#### **2.5 Model estimation**

The estimation of satisfaction indices and models such as the national index models must accommodate several constraints. The models involve a network of cause and effect relationships and must be estimated accordingly. They predict a pattern of relationships and effects within a nomological network (Bagozzi, 1980). The models also contain latent or unobservable psychological variables (such as perceived quality, satisfaction, image and loyalty). As described earlier, these variables are only measurable indirectly using multiple concrete proxies. Finally, it is essential to be able to operationalize performance on the latent variables (as through a weighted index of multiple survey measures) to provide benchmarks.

Partial least squares or PLS is a causal modeling method that is particularly well suited to these requirements (Gustafsson and Johnson, 1997; Steenkamp and van Trijp, 1997). The Swedish, American and European models are all estimated using this method. PLS is an iterative estimation procedure that integrates aspects of principal-components analysis with multiple regression (Wold, 1982). When estimating a model such as the ACSI (where all survey

measures are reflective indicators of more latent variables), the procedure essentially extracts the first principal component from each subset of measures for the various latent variables and uses these principal components within a system of regression models. The algorithm then adjusts the principal-component weights to maximize the predictive power of the model.

Unlike covariance structure analysis (Jöreskog, 1970), which focuses on explaining covariance, the objective of PLS is to explain variance. Because PLS is conceptually similar to principal components, the latent variables (LVs) are easily operationalized as weighted indices of their measurement variables (MVs). In contrast, covariance structure analysis is based on true score theory; the emphasis is on understanding covariances or relationships among unobservable variables. PLS is also well suited to small samples and the skewed distributions that are common in satisfaction research (for a detailed discussion of PLS see Fornell and Cha, 1994).

## **2.6 Model tests**

Although tests of competing or alternative approaches are relatively common in transaction-specific research (Yi, 1991), there has been little in the way of model tests for cumulative satisfaction. Modeling cumulative satisfaction involves a balancing of two goals. One is to provide a descriptive understanding of the relationships surrounding satisfaction. The other is to be able to predict key business performance benchmarks, particularly satisfaction and loyalty.

To provide support for the current ACSI model specification, Fornell et al. (1996) estimated the model across customers within each of the 7 sectors of the US economy included in the survey (manufacturing/nondurables, manufacturing/durables, transportation/communication/utilities, retail, finance/ insurance, other services, and public administration/government). Of the 8 predicted relationships for each of the 7 sectors (56 total predicted relationships), 54 of the 56 or 96% of the relationships were significant in the predicted direction. The ACSI model results also support the satisfaction index itself. The standardized loadings for the three satisfaction measures (expectancy disconfirmation, comparison to ideal, and overall satisfaction) averaged 0.883, 0.847 and 0.910 respectively across the sector-level models. Moreover, the loadings are all significantly higher than the path coefficients involving satisfaction and other constructs in the model. This supports the construct and discriminant validity of the resulting index.

Johnson, Nader and Fornell (1995) explicitly test alternative model specifications of the relationships among expectations, perceived performance

(value), and customer satisfaction using the Swedish data. These authors argue that, for a complex and infrequently purchased service (bank loans), strong expectations fail to exist before the service is consumed. Rather, measured expectations are an artifact of the service delivery process. The authors propose and estimate an alternative “expectations-artifact” model. Accordingly, although expectations co-vary with performance and performance has a direct effect on satisfaction, expectations have no direct effect on satisfaction. They compare this model to alternatives including the original SCSB specification (performance affects satisfaction, expectations affect both performance and satisfaction).

The models were tested separately using firm-level SCSB data for commercial banks, other services as a group, and products as a group. Whereas the results support the original SCSB specification as superior for the majority of firms in the study (other services and products), the expectations-artifact model proved superior for commercial banks. The models tested did not, however, include the perceived quality construct now incorporated into the national index models or the consequences of satisfaction.

### **3. Critique and proposed improvements**

The focus of our critique is more on the satisfaction model specifications currently being used rather than the model constructs. Constructs such as satisfaction and loyalty endure. At the same time, there is no reason to believe that the same *model* will accurately describe these constructs at different points in time (Simon, 1978). As times change, conditions and knowledge evolve, and national satisfaction index models must adapt to the changes. We focus primarily on the ACSI model specification in Figure 3.2, but include the other models as well.

#### **3.1 Strengths and weaknesses**

The ACSI model has several strengths. As reported earlier, the three measures of cumulative satisfaction (overall satisfaction, expectancy disconfirmation, and comparison to an ideal) provide a reliable satisfaction index. The estimation method used to estimate the model and operationalize the index (PLS) is also well suited to the research context. As a result, the model provides valuable benchmarks for satisfaction and related constructs such as quality, value, and loyalty. The ACSI and SCSB indices are also systematically and predictably related to financial and accounting returns (see Edvardsson et al., 2000) and productivity levels (Huff, Fornell and Anderson, 1996; Anderson, Fornell and Rust, 1997).



Weaknesses in the ACSI and other national models relate primarily to their model specification. Some relationships involving the antecedents and consequences of satisfaction in the ACSI are conceptually and/or empirically weak. Consider first the path from expectations to value. A review of the expectations measures used in the ACSI (see Fornell et al. 1996) reveals that they all pertain specifically to quality rather than value. Hence, the logic behind the expectations to value linkage is unclear. Fornell et al. (1996) report that this effect is non-significant in one of the seven industry sectors tested (Public Administration/ Government) and quite small in two other sectors (Manufacturing Durables and Other Services), even though very large sample sizes were used. This suggests that the link from expectations to value may be removed. Further, one could argue that through cumulative experience with the service provider the customer's expectations become more rational or precise (Rust et al., 1999), thus leading to confirmation rather than disconfirmation of expectations. Expectations either become passive or they cease to exist in these situations (Oliver, 1997). This is again an argument for eliminating expectations as a construct when using cumulative satisfaction measures.

There are also reasons to question the link from expectations to satisfaction. Johnson, Nader and Fornell (1995) demonstrate that there may be no direct effect of customer expectations on customer satisfaction using SCSB data. Rather, expectations can be an artifact of service delivery or product consumption in some situations (where customers have little experience and weak expectations). Similarly, Fornell et al. (1996) report a non-significant effect of expectations on satisfaction for the entire Finance/Insurance industry sector using ACSI data. In two other service industry sectors (Transportation, Communications and Utilities, and Other Services) the effect is sufficiently small as to question whether an expectations to satisfaction link is warranted. Even in industries where customers have significant consumption experience, our review of several firm-level ACSI models (as for utility services, automobiles, and food and beverage products) reveals that small or non-significant impacts of expectations on satisfaction are common. This is likely due to the strong link between the expectations and quality constructs in the ACSI survey questions. Arguably, quality completely mediates the impact of quality expectations on satisfaction, which would eliminate the need for a separate expectations construct. As a result, expectations are removed from the new NCSB-model.

The link from quality to value in all the current models is particularly problematic. Certainly, adding a link from quality to value adds to the predictive value of the model. This is straightforward, as quality is a major part of the value equation. It is difficult, however, to interpret this path. To

be a pure antecedent in a cause and effect model, there must be some hypothesis or rationale regarding the mechanism by which one construct influences or produces a change in another (Bagozzi, 1994). In the current models, the relationship from quality to value may be tautological as well as causal because quality is related to value by definition.

The problem occurs when assigning meaning to the path coefficients involving value vis-à-vis quality, and particularly the direct path from quality to value. It is impossible to know how much of the impact that quality has on value is due to cause and effect, and how much is true by definition. Even the causal part of the path is questionable. Later we propose to remove the tautology by replacing the value construct with a perceived price construct. But what, then, is the nature of a causal effect of perceived quality on perceived price? If anything, market research would suggest that price is a cue to quality, not the opposite (Gerstner, 1985; Monroe, 1973).

Another possible limitation of the current model specifications is that all of the effects of quality, value, and expectations on loyalty are mediated by satisfaction. Cumulative satisfaction models, such as the ACSI, rest heavily on multidimensional expectancy-value model formulations (Bagozzi, 1992). Accordingly, customers have distinguishable psychological responses to their consumption experience (quality and value). These are the primary antecedents of customers' attitudes or stated evaluations regarding their consumption experience (cumulative customer satisfaction). This satisfaction, in turn, influences customers' behavioral intentions in the form of a predisposition to repurchase and consume the product or service again (customer loyalty).

It is common in expectancy-value models to view attitude and behavioral intention constructs as only partially mediating the effects of an individual's belief structure on outcomes (Bagozzi and Yi, 1994). The degree of mediation depends on the strength of the overall evaluation. Thus quality and/or value may have some direct effect on loyalty that is not mediated by satisfaction. This is consistent with Bloemer and Kasper (1995) who argue and show that more explicit or strongly held satisfaction evaluations have a greater effect on customer loyalty than do more implicit or weakly held evaluations. The partial mediation argument is also consistent with the notion that customer do not necessarily recall an existing evaluation when responding to an intentions-related question (as when assessing loyalty). At least in part, they construct a response after the question is asked (Feldman and Lynch, 1988; Simmons, Bickart, and Lynch, 1993). Finally, the argument is consistent with the notion that customers reweigh price

information when evaluating loyalty vis-à-vis satisfaction (Mittal, Ross, and Baldasare, 1998).

Turning attention to the consequences of satisfaction, it is important to realize that Hirschman's (1970) exit-voice theory, on which the consequences of satisfaction in the ACSI model are based, was developed in a time when formal complaint management systems were either non-existent or relatively primitive. There was little focus on complaint handling as a mechanism for retaining customers and increasing profitability. Theoretically, complaining was a natural consequence of low satisfaction, not an opportunity to increase satisfaction. Over the last decade, however, researchers have realized the importance and power of these mechanisms toward increasing satisfaction (Heskett, Sasser and Hart, 1990). As a result, complaint resolution has become more important than complaints per se. Researchers now emphasize the potential for complaint management and service recovery systems to increase satisfaction (Smith, Bolton and Wagner, 1999). Therefore, just how complaints are handled and resolved should be a driver rather than a consequence of satisfaction.

There is also a methodological reason to view complaints or complaint handling as a driver of satisfaction. Because the complaints and recovery activity necessarily occur prior to the customer being surveyed, it is problematic to view them as anything other than antecedents to overall satisfaction. This suggests that measures for complaint handling and resolution be added to national satisfaction surveys.

Another option is to propose reciprocal causation, or a non-recursive relationship, between satisfaction and complaint behavior. Accordingly, complaint behavior should reduce cumulative satisfaction as an overall measure of the customer's experience while satisfaction, in turn, reduces complaint behavior in accord with Hirschman's theory. However, positing reciprocal causation has its own problems. Temporal priority of cause to effect is a necessary part of causal explanations in the philosophy of science literature (Bagozzi, 1994). In a cross-sectional survey such as the ACSI, it is impossible for two constructs to be causes of each other and satisfy the constraint of temporal priority. Thus, a reciprocal relationship appears unwarranted.

Now consider the addition of corporate image as a driver of expectations and satisfaction as in the NCSB and ECSI models. Corporate image has been modeled as a psychological anchor that affects perceptions of quality performance as well as satisfaction and loyalty (Andreassen and Lindestad, 1998a). But in the national index surveys, satisfaction and corporate image

measures are collected simultaneously. As a result, customers' purchase and consumption experiences, summarized in their satisfaction evaluation, naturally influence their evaluations of corporate image. As argued below, it makes more sense to model satisfaction's contribution to corporate image.

### 3.2 A new model

Based on our discussion and review of the existing models, we propose a new model that addresses these limitations and concerns through a series of modifications and additions. The new model: (1) replaces the value construct with a "pure" price construct; (2) replaces customer expectations with corporate image as a consequence of satisfaction; (3) includes two aspects of relationship commitment as well as corporate image as drivers of loyalty; (4) incorporates the potential for direct effects of price on loyalty, and (5) includes complaint handling as a driver of both satisfaction and loyalty. These changes are part of our proposed model that is illustrated in Figure 3.3.

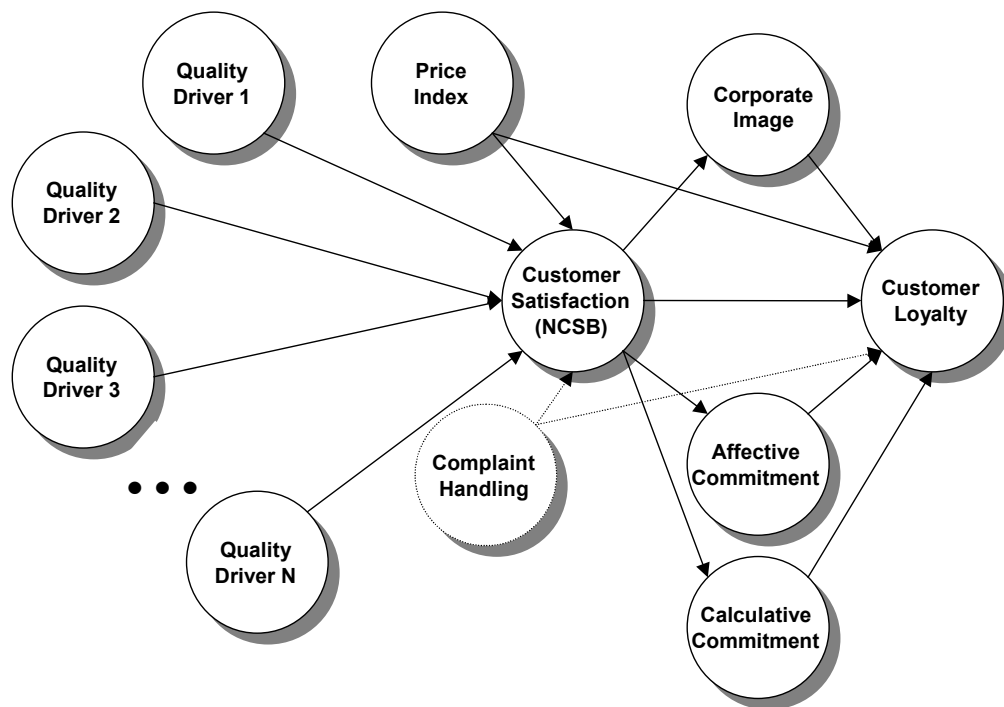


Figure 3.3. The proposed model

The first recommended change is to replace the customer expectations construct in previous models with a corporate image construct. The cross-sectional nature of national customer satisfaction data means that pre-

purchase expectations are collected post purchase, or at the same time that satisfaction is measured. What is really being collected is a customer's perception of the company's or brand's corporate image. Moreover, this corporate image will have been affected by the customer's more recent consumption experiences, or customer satisfaction. Thus corporate image should be modeled as an outcome rather than a driver of satisfaction. The effect of satisfaction on corporate image reflects both the degree to which customers' purchase and consumption experiences enhance a product's or service provider's corporate image and the consistency of customers' experiences over time.

The second recommended change is to replace complaint behavior with complaint handling, or how well any given complaint has been resolved. Complaint handling should have a direct effect on satisfaction as well as loyalty. Well-handled complaints should have a more positive effect on satisfaction while poorly handled complaints should have a more negative effect. As argued previously, this change reflects the more mature nature of complaint management systems and the fact that the complaint behavior and resolution occurs prior to the satisfaction evaluation. As the problem and its handling may also be salient when repurchasing the product or service or recommending it to others, complaint handling may also have a direct effect on loyalty. In Figure 3.3, the complaint handling construct and its relationships are shown using dotted lines to signify that they only apply to those subset of customers who complained and could subsequently evaluate the complaint handling questions.

A third recommended change is to eliminate the tautology between perceived quality and perceived value. Adding the perceived quality construct to the ACSI model certainly provides more diagnostic information than was available under the original SCSB model. But because quality is part of value, the relationship is confounded. We recommend replacing the perceived value construct with a perceived price construct. We use survey questions that have customers evaluate price relative to a variety of benchmarks, including comparisons of the product's price versus expected price, competitors' prices, and quality. Extracting an index of what these survey measures have in common should measure a more "pure" price construct.

Our fourth recommendation is to better understand and predict customer loyalty as a key performance benchmark. As shown in Figure 3.3, and consistent with earlier models, satisfaction still has a direct effect on loyalty. This reflects the degree to which customers' purchase and consumption experiences directly affect loyalty. But corporate image should also directly

affect customer loyalty. The corporate image effect captures such things as the ongoing inclusion of certain brands in a customer's set of considered brands (consideration set) over time and more long term or memory-based evaluations of the brand (Johnson and Gustafsson, 2000).

In keeping with the emerging view of marketing as more than just exchange (see for example Berry 1983, Grönroos 1990), we propose using two relationship commitment constructs from the NCSB to help explain more variation in loyalty. Relationship commitment picks up on those dimensions that keep a customer loyal to a product or company even when satisfaction and/or corporate image may be low. We distinguish between the affective and calculative bases of commitment. Recall that the affective component is "hotter" or more emotional. It captures the affective strength of the relationship that customers have with a brand or company and the level of involvement and trust that results. This affective commitment serves as a psychological barrier to switching. The calculative component is based on "colder" or more rational and economical aspects such as switching costs. This includes the degree to which customers are held hostage to a particular service company or location. The commitment constructs are modeled as mediating the effects of satisfaction on loyalty.

Finally, we recommend that direct effects of price and/or quality on loyalty be considered. The model in Figure 3.3 breaks quality up into different quality dimensions that make up the "lens" of the customer (Johnson and Gustafsson, 2000). We view it as a matter of choice as to whether one uses an overall quality index (as in the ACSI), distinguishes between product and service quality (as in the ECSI), or uses quality dimensions that are more tailored to the industry or category type (which is the case in the NCSB). This decision should depend on the level of detail and diagnostic information desired. Our point is that, because satisfaction is an attitude-type evaluation, the degree to which satisfaction will completely mediate the effects of price and quality dimensions on loyalty will be a function of the strength of the satisfaction evaluations. In those cases where satisfaction evaluations are weaker, or customers have less confidence in their evaluations, price and/or quality may have more direct effects on loyalty. We incorporate the direct effect of price on loyalty in Figure 3.3 to illustrate this possibility. This is because price is particularly likely to receive increased attention in customers' repurchase (versus satisfaction) evaluations (Mittal, Ross, and Baldasare, 1998).

#### **4. Empirical study**

The proposed changes have been incorporated into the new NCSB model. In keeping with the SCSB and the ACSI, the NCSB is estimated using telephone surveys from a national probability sample of 6,900 customers. For the companies included in the study, interviews were conducted with 200 of their existing customers. To be eligible for interview, a prospective respondent must qualify as the purchaser of specific services within defined time-periods. Thus the definition of “customer” in the NCSB is “[A]n individual chosen randomly from a large universe of potential buyers who qualify by recent experience as the purchaser or consumer of one service of one specific company which supplies household consumers in Norway.”

Drawing from this sample, the new NCSB-model was tested using 2,755 respondent interviews from five different industries (airline, banks, bus transportation, service stations and train transportation). The survey was conducted using a professional marketing research bureau. Each interview lasted approximately 15 minutes.

##### **Measures**

As can be seen in Table 3.1, all constructs are measured using multiple indicators. The customer satisfaction or NSCB questions are identical to those used in the original Swedish and American models. Price is operationalized using various price benchmarks (Mayhew and Winer, 1992; Winer, 1986), while corporate image is measured using questions pertaining to overall image and other image benchmarks (similar to reputation – see Johnson and Gustafsson, 2000). The affective commitment and calculative commitment measures are adapted from the works of Samuelsen (1997), Samuelsen and Sandvik (1997), Kumar, Hibbard and Stern (1994) and Meyer and Allen (1984). The behavioral intention measures for operationalizing loyalty are based on Zeithaml, Parasuraman and Berry (1996).

Table 3.1: Measurement variables for price, satisfaction, corporate image, commitment and loyalty

Measurement variable	Latent variable
1. Overall satisfaction	Customer satisfaction
2. Performance versus the customer's ideal service provider in the category	Customer satisfaction
3. Expectancy disconfirmation (performance that falls short of or exceeds expectations)	Customer satisfaction
4. Price compared to quality	Price
5. Price compared to other companies	Price
6. Price compared to expectations	Price
7. Corporate image compared to other companies	Corporate image
8. Image of the store (branch) you deal with	Corporate image
9. What friends say about the corporate image	Corporate image
10. Overall corporate image	Corporate image
11. The compensation offered by the company	Complaint handling
12. Employees treated you politely and with respect when you complained	Complaint handling
13. The pleasure taken in being a customer of the company	Affective commitment
14. Identification with what the company stands for	Affective commitment
15. Presence of reciprocity in the relationship	Affective commitment
16. Feeling of belongingness to the company	Affective commitment
17. The economics (benefits versus costs) of the alternative	Calculative commitment
18. Economic suffering if the relationship is broken	Calculative commitment
19. Location advantages versus other companies	Calculative commitment
20. Likelihood of retention	Loyalty
21. Likelihood of speaking favorably about the company to others	Loyalty
22. Likelihood of recommending the company to others	Loyalty



Table 3.2: *SERVQUAL* measurement variables

Measurement Variable	Latent Variable
1. Equipment and facilities	Tangibles
2. Accessibility*	Tangibles
3. Comfort*	Tangibles
4. Employees conduct and behavior	Tangibles
5. Opening hours	Tangibles
5a. Buildings fit in the surroundings**	Tangibles
5b. Product selection**	Tangibles
6. Deliver service at the right time***	Reliability
7. Deliver service of the right quality	Reliability
8. Helping when problems occur	Reliability
9. Information about delays in service***	Responsiveness
10. Ability to provide prompt service	Responsiveness
11. Assigning time to help customers	Responsiveness
12. Information about the services	Assurance
13. Trust in company	Assurance
14. Employees create security	Assurance
15. Employees treat you with respect	Assurance
16. Employees are polite	Assurance
17. Employees give personal attention	Empathy
18. Employees understand your needs	Empathy
19. Employees treatment of you	Empathy

\*not in the banking and gas station industries, \*\* only in the gas station industry, \*\*\* not in the gas station industry

The NCSB quality drivers are partly based on focus group interviews with customers and managers from the different industries and partly based on the SERVQUAL instrument developed by Parasuraman et al. (1988) and Zeithaml et al. (1990). Merging these efforts led to a five-factor solution, consisting of tangibles, reliability, responsiveness, assurance and empathy. As can be seen from Table 3.2, all five constructs are measured using multiple indicators. Only minor industry adjustments were allowed, as cross company comparison is one of the major goals of the NCSB. A 10-point Likert-type scale was applied to measure the different constructs. The questionnaire consisted of three different scale types anchored from bad to good, low to high degree, and unlikely to likely depending on the question. In addition, respondents were offered a “don’t know“ and a “will not tell” category in case of lacking knowledge, indifference or unwillingness to answer. These categories were recoded as missing and the average number of missing values by industry were 8% for airlines, 9% for trains, 9% for gas stations, 10% for banks, and 12% for buses. The missing values were replaced with series means (Downey and King, 1998) to estimate the model for each industry.

#### 4.1 Model results

The proposed model was estimated using PLS (following Fornell, 1992; Fornell et al., 1996) across individual respondents for each of five industries in our overall sample: (1) Banking (n = 902), (2) Gas Stations (n = 500), (3) Airlines (n = 400), Bus Transportation (n = 203) and Train Transportation (n = 750). We first discuss the quality of the measurement model and then examine the latent variable model results.

Overall, the measurement variable (MV) loadings for each of the five models are all relatively large and positive. The loadings should exceed 0.707 to ensure that at least half of the variance in the observed variable is shared with the construct (the squared correlation equals the variance explained, where  $0.707^2 = 50\%$ ). In PLS estimation, this criterion is referred to as communality (Fornell and Cha, 1994). Table 3.3 reports the average communality for each latent variable in each industry. Average communality is greater than 0.5 in 51 of 55 cases (92%). The four exceptions are all for the Tangibles construct from the SERVQUAL drivers, implying that this construct contains more than one component or latent variable. Communality exceeded the 0.5 criterion for all of the non-SERVQUAL constructs.

*Table 3. 3: Average communality by latent variable and industry*

<b>Average communality</b>	<b>Airlines</b>	<b>Banks</b>	<b>Buses</b>	<b>Gas stations</b>	<b>Trains</b>
Tangibles	0.423	0.545	0.492	0.416	0.444
Reliability	0.631	0.743	0.669	0.699	0.539
Responsiveness	0.728	0.705	0.663	0.853	0.675
Assurance	0.619	0.663	0.648	0.602	0.635
Empathy	0.783	0.786	0.810	0.752	0.745
Price	0.667	0.697	0.671	0.601	0.726
Satisfaction	0.708	0.735	0.685	0.703	0.764
Corporate image	0.632	0.626	0.653	0.636	0.609
Affective commitment	0.683	0.733	0.584	0.678	0.650
Calculative commitment	0.585	0.521	0.548	0.520	0.571
Loyalty	0.816	0.820	0.777	0.770	0.777

Another criterion used to evaluate the validity of the measurement model, specifically the discriminant validity of the model, is to explore whether each latent variable (LV) or construct shares more variance with its MVs (indicators) than it does with other constructs in the model. This is examined

by looking at the percentage of MV loadings that exceed the LV correlations. The percentage is quite low, equaling 7%, 1%, 6%, 4% and 4% for the airline, bank, bus, gas station, and train models respectively. It is important to note that most of the violations occur for the SERVQUAL constructs. There are 86 out of a total of 1910 comparisons (across the five models) where an LV correlation exceeds an MV loading for the two constructs involved. Of these 86 cases, 57 (66%) involved tangibles, which is consistent with the communality results, and 20 (23%) involved assurance. We therefore conclude that both the convergent and discriminant validity in the models is strong. What weaknesses exist are concentrated in the SERVQUAL part of the model.

To evaluate the latent variable results, we first examine the size and significance of the predicted path coefficients. We then examine the ability of the model to explain variation in the endogenous variables, especially satisfaction and loyalty. Table 3.4 reports the size and significance of each path for each industry. Following Fornell et al (1996), Jackknife estimates were generated to evaluate the significance of the paths. As the majority of path coefficients are significant, only those paths that are not significant ( $p > 0.05$ ) are marked in the table. Out of 70 possible paths (14 paths for each of 5 industry models), 48 (68.5%) are significant in the predicted direction.

Table 3.4: Path coefficients by industry

Path coefficient	Airlines	Banks	Buses	Gas stations	Trains
Tangibles → Satisfaction	0.273	0.053*	0.219	0.236	0.377
Reliability → Satisfaction	0.250	0.181	0.111*	0.153*	0.350
Responsiveness → Satisfaction	0.001*	0.147	0.098*	0.093*	-0.124*
Assurance → Satisfaction	0.132*	0.225	0.291	0.161*	0.032*
Empathy → Satisfaction	0.094*	0.034*	0.023	0.045*	0.060*
Price → Satisfaction	0.126	0.295	0.142*	0.196	0.159
Satisfaction → Corporate image	0.531	0.575	0.545	0.491	0.433
Satisfaction → Affective commitment	0.524	0.652	0.445	0.493*	0.473
Satisfaction → Calculative commitment	0.155	0.265	0.263	0.243	0.272
Satisfaction → Loyalty	0.207	0.289	0.210	0.274	0.130
Price → Loyalty	0.096	0.098	0.076*	0.072*	0.062*
Corporate image → Loyalty	0.256	0.172	0.251	0.160	0.236
Affective commitment → Loyalty	0.374	0.345	0.166*	0.361	0.348
Calculative commitment → Loyalty	0.077	0.052*	0.191*	0.107	0.213

Note: \* = Adjusted t-statistic insignificant ( $p > 0.05$ )

Again, however, it is important to evaluate the SERVQUAL-related paths separately from the other NCSB path coefficients. Most of the insignificant paths involve the SERVQUAL constructs. Whereas only 11 of 25 SERVQUAL-related paths are significant (44%), 37 of 45 of the non-

SERVQUAL paths are significant (82%). Among the eight non-significant paths involving the non-SERVQUAL constructs, three are for the direct effect of price on loyalty, which we do not expect to be significant in every case. Recall that such direct effects of satisfaction drivers on loyalty are only likely when the satisfaction evaluation or attitude is relatively weak. In two cases (banks and buses), calculative commitment had no direct effect on loyalty. There is only one path that is not in the right direction, which is a negative but non-significant effect of the responsiveness construct (from SERVQUAL) on satisfaction for trains.

The second indicator of the model's performance is its ability to explain the important latent variables in the model, especially customer satisfaction and loyalty. We pay particular attention to explained variation in loyalty given the addition of the corporate image and relationship commitment constructs. The variance explained in the endogenous variables by industry is reported in Table 3.5. An important finding is that, in four out of five industries, the model explains more variation in loyalty than in satisfaction. Moreover, in four of five industries the model explains more than 50% of the variation in loyalty evaluations. The  $R^2$  measures for overall customer satisfaction range from 0.49 for the gas stations to 0.56 for bus transportation (average  $R^2$  of .54). The  $R^2$  measures for customer loyalty range from 0.46 for bus transportation to 0.63 for the airline industry (average  $R^2$  of 0.57). Contrast this with the ACSI model (Fornell et al, 1996), which explains more variation in satisfaction than in loyalty and where the average variation in loyalty explained is only 0.36 or 36%. The variances explained for the other endogenous constructs (corporate image, affective commitment, and calculative commitment) are generally lower. But in each case the constructs only have a single antecedent in the model (customer satisfaction).

*Table 3. 5: Variance explained in the latent variables by industry*

<b>Variance Explained (<math>R^2</math>)</b>	<b>Airlines</b>	<b>Banks</b>	<b>Buses</b>	<b>Gas stations</b>	<b>Trains</b>
Satisfaction	0.530	0.564	0.564	0.491	0.531
Corporate image	0.282	0.330	0.300	0.241	0.188
Affective commitment	0.275	0.425	0.199	0.244	0.224
Calculative commitment	0.024	0.071	0.069	0.059	0.074
Loyalty	0.625	0.622	0.463	0.563	0.587

#### **4.2 Results for complaining customers**

Separate models were run for those customers who complained either formally or informally to the company or service provider and, therefore, answered the complaint handling questions in the survey. The models include the complaint-handling construct (see Figure 3.3) that is measured

using two indicators (quality of the compensation offered by the company, and the degree to which employees treated customers politely and with respect when they complained; see Table 3.1). For bus transportation and airlines, the sample of complaining customers was quite small ( $n = 14$  and  $20$  respectively). We thus focus on the models for train transportation ( $n = 154$ ), banking ( $n = 211$ ) and gas stations ( $n = 49$ ), where Jackknife estimates are again used to evaluate the significance of the effects. The MV loadings for the complaint-handling construct were large and positive in each case and exceeded any LV correlation involving the construct.

Complaint handling has little effect in the models. The path coefficient for the effect of complaint handling on satisfaction equals  $-0.078$ ,  $0.058$  and  $-0.095$  for trains, banks and gas stations respectively, none of which are significant. The path coefficients for the direct effect of complaint handling on loyalty equal  $0.026$ ,  $0.122$  and  $0.128$  for trains, banks and gas stations respectively. The only significant direct effect of complaint handling on loyalty is the positive effect for banks. Thus, while the model was successful at isolating a complaint-handling construct, the construct did not have much effect on either satisfaction or loyalty. We discuss the likely reason for this in the next section.

## **5. Summary and discussion**

A number of both national and international customer satisfaction barometers or indices have been introduced in the last decade, most of which are embedded within a system of cause and effect relationships (satisfaction models). Of critical importance to the validity and reliability of such indices is that the models and methods used to measure customer satisfaction and related constructs continue to learn, adapt, and improve over time. Building on recent findings and current research trends, we propose and test a number of modifications and improvements to the national index models that are now part of the Norwegian Customer Satisfaction Barometer (NCSB) model. We find general support for the proposed modifications using data from the NCSB survey.

We summarize and discuss our findings with respect to each of the proposed changes. One change was to add multiple benchmark comparisons for price to isolate a perceived price index. The model successfully isolates perceived price, and by removing “value” from the model and replacing it with price, we remove the overlap that exists between value and quality in, for example, the ACSI and ECSI models. We also argued that price may have a direct effect on loyalty over and above its indirect effect via satisfaction. This is because satisfaction, as an attitude-type construct, may only partially

mediate the effect of quality and price on loyalty. The direct effect of price attractiveness on satisfaction was positive and significant in four of five industries, bus transportation being the exception. The path coefficients range from 0.13 for airlines to 0.30 for banks. The direct effect of price on loyalty is significant in two of the five industries, airlines and banks (path coefficients of 0.096 and 0.098 respectively). These results are consistent with the prediction that, in some industries, customers reweigh the importance of price when moving from satisfaction to loyalty evaluations. It is not surprising that the direct effect of price on loyalty is greatest in two price-competitive industries, airlines and banks.

Building upon the original NCSB model, our proposed model also includes two relationship commitment variables. Affective commitment captures more of the positive (or negative) relationship and trust that has built up between company and customer over time. Calculative commitment captures more of the economic consequences or costs associated with switching product or service providers. Both constructs are positively affected by satisfaction in four of five industries. As for the effect of price on satisfaction, the exception is the bus transportation industry. Satisfaction has a larger effect on affective commitment (ranging from 0.493 for gas stations to 0.652 for banks) than on calculative commitment (ranging from 0.155 for airlines to 0.272 for train transportation). This is not surprising. Satisfaction should be a major contributor to the strength of relationship and resulting customer trust (Hart and Johnson, 1999). In contrast, while satisfaction should influence the economics of switching, customers may be held economically hostage to particular service providers or locations even when satisfaction is low (Jones and Sasser, 1995).

One of the most important findings is the large positive effect that affective commitment has on loyalty. The effect is significant in four of five categories, bus transport again being the exception. In these four industries, affective commitment has a larger effect on loyalty than does satisfaction directly. This suggests that satisfaction affects loyalty largely through its ability to build strong relationships between companies and customers. Adding the commitment variables has the benefit of greatly increasing the model's ability to explain variation in loyalty vis-à-vis the other national index models.

Another major change is that we replace customer expectations, as an antecedent to satisfaction, with corporate image as a consequence of satisfaction. Recall that this change is based on the cross-sectional nature of the national index data, where a customer's consumption experiences (satisfaction) should have some influence on their perceptions of corporate

image. The model is successful at isolating the corporate image construct, and the construct behaves as expected. Satisfaction has a consistently large effect on corporate image in each industry (ranging from 0.433 for trains to 0.575 for banks). This reflects the contribution that consumption experiences have on corporate image as well as the consistency between a customer's experiences and corporate image over time. The effect of corporate image on loyalty is smaller but significant in each of the five industries (ranging from 0.160 for gas stations to 0.256 for airlines). We believe that this captures the ongoing inclusion of brands or companies with strong corporate images among those that customers ultimately consider for purchase (i.e., the consideration set).

The direct effect of satisfaction on loyalty, which ranges from a low of 0.130 for trains to a high of 0.289 for banks, is also positive and significant for each industry. This direct effect captures the effects of satisfaction on loyalty that are not mediated by the corporate image or commitment constructs. Given that we have added more drivers of loyalty, it is useful to examine the total effect that satisfaction has on loyalty in each case. The total effect is the sum of all direct and indirect effects linking satisfaction and loyalty, which equals 0.551, 0.627, 0.471, 0.557 and 0.458 respectively for airlines, banks, buses, gas stations and trains. As one would expect, the total effect of satisfaction on loyalty is greatest in those industries where Norwegian customers have greater choice among competitors, most notably banks, gas stations and airlines.

Complaint handling and the SERVQUAL constructs were two areas where the model did not perform as well as expected. In the ACSI model, complaint behavior is modeled as a consequence of satisfaction. Because complaint handling is an increasingly important means of improving satisfaction, we used the quality of complaint handling among complaining customers as a driver of both satisfaction and loyalty. Although we successfully isolate a complaint-handling construct, it has little effect on either satisfaction or loyalty. The most likely explanation is that complaint management systems in the industries are not particularly effective at creating satisfaction or loyalty. This is consistent with Fornell et al.'s (1996) analysis of ACSI data, which suggests that complaint management systems are only capable of neutralizing complaints. The finding is also consistent with Bolton (1999), who finds that service recovery is generally ineffective for a majority of customers in both a restaurant and hotel setting.

The NCSB model uses a variation on the SERVQUAL constructs (tangibles, reliability, responsiveness, assurance and empathy) as service quality dimensions across industries. In contrast, the ACSI uses an overall quality



construct, while the ECSI distinguishes between overall service and overall product quality. As argued earlier, this is largely a matter of choice. How one specifies product or service quality depends on the level of detail versus generality desired in the research. Using the SERVQUAL dimensions is a natural place to start given that the NCSB focuses on service industries. However, our results reveal systematic problems with this part of the model, specifically with the tangibles construct and, to a lesser degree, the assurance construct. We also find that the majority of the paths from the five service quality dimensions to satisfaction are not significant. Our recommendation is that the national models either employ the overall product and/or service quality constructs (as used in the ACSI and ECSI models), or build more industry or firm-specific drivers of satisfaction (following Johnson and Gustafsson, 2000).

Overall, however, our results are quite promising. The pure price construct functioned as anticipated with respect to both satisfaction and loyalty. Cumulative satisfaction was found to update corporate image, which in turn impacts customer loyalty. Cumulative satisfaction is also an antecedent to relational commitment, which in turn has a relatively large impact on customer loyalty. As a result, the new NCSB model explains significantly more variance in loyalty than other national index models and can serve as a basis for future national index models. One potential limitation of our study is that it was based on data from a small economy. However, Norway is known to have a very open and competitive economy making it a good context to test the proposed model. But going forward, it will be important to test the new model in a wider range of both industries and countries.

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## **CHAPTER 4**

### **Satisfaction versus Equity as Mediators of Service Quality on Service Loyalty in Transaction-Specific Satisfaction Models**





# **Satisfaction versus Equity as Mediators of Service Quality on Service Loyalty in Transaction-Specific Satisfaction Models**

Line Lervik and Michael D. Johnson

## **Abstract**

In contrast to satisfaction, and despite its proposed importance in creating customer loyalty, customer equity has received limited research attention. In this study we develop and test alternative models of the role that equity plays in mediating the effects of service quality on satisfaction and loyalty in transaction-specific satisfaction models. Our predictions are tested in a consumer-banking context using data from the Norwegian Customer Satisfaction Barometer. The results indicate that satisfaction holds the primary mediating effect on customer loyalty. Customer perceived equity seems to have a special role in this type of modeling in that it appears to be more of a social and affective construct than customer satisfaction.

## **Introduction**

Customer satisfaction has come to be viewed as a type of overall evaluation or attitude that mediates the effects of service quality on service loyalty (Johnson and Gustafsson, 2000). Yet as Bagozzi (1975) argued over twenty years ago, the concept of reciprocity - and more specifically customer perceptions of equity and fairness - lies at the heart of marketing as an exchange process. Unlike customer satisfaction, customer equity<sup>4</sup> has received limited research attention, in spite of the observation that it is considered critical in creating service loyalty (Berry, 1995). Equity has primarily been studied in either a transaction-specific satisfaction context (Oliver and Swan, 1989a; 1989b) or a service failure and recovery context (Tax et al., 1998; Smith et al., 1999). Common to this research is the treatment of equity as an antecedent to customer satisfaction, which excludes the possibility that satisfaction evaluations may drive perceptions of equity. Even if the effects of equity on service loyalty are mediated by satisfaction,

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<sup>4</sup> Throughout this article the term customer equity is synonymous with the concept of fairness and justice in line with Oliver and Swan works (1989a;b) and unlike its meaning in literature on customer asset management and customer lifetime value (see for example Blattenberg and Deighton (1996) and Rust et al. (2000).

what role does equity play in mediating the effects of service quality on satisfaction?

The purpose of this study is to develop and test alternative models of the role that equity plays in mediating the effects of service quality on service satisfaction and loyalty. We begin by describing the roles that equity might play in a satisfaction model and positing competing models and predictions. These predictions are tested in a consumer-banking context using data from the Norwegian Customer Satisfaction Barometer (NCSB). Our results support the traditional prediction that satisfaction, as an overall evaluation of the consumption experience, completely mediates the effects of equity on loyalty. However, our results also suggest that equity plays a unique role in mediating the effects of particular service quality areas on satisfaction.

### **Customer equity versus customer satisfaction**

Customer equity is conceptually quite different from customer satisfaction. Attitude-type measures of satisfaction - called cumulative satisfaction (Johnson et al., 1995) – focus primarily on overall evaluations of the performance of products and services. The concept of equity emphasizes fairness in transactions and evaluations based largely on social norms (Homans, 1961). In the equity evaluation process, a person's perceived fairness is the result of an evaluation of the person's input (the effort s/he puts in) to an exchange compared to the person's output (what s/he get out) of the same exchange. Following social comparison theory, equity evaluations also take into account other individuals as people compare their input/output to other parties in the exchange (Oliver, 1997). In a service-marketing context, the most common "other party" to the exchange would be the service provider, while the comparison could however involve an entire agency or commercial enterprise (Bagozzi, 1986), or other customers (Mowen and Grove, 1982).

The equity construct evolved from research on social exchange theory (Penrod, 1986) and related research on cognitive dissonance and social comparison theory (Campbell and Pritchard, 1976). In the late 1970's and the early 1980's, marketers began to recognize the relevance of the equity construct in explaining consumer behavior. Research in marketing and customer satisfaction has typically viewed equity as an antecedent to satisfaction (Huppertz et al., 1978). Significant attention was invested in explaining the relationship between expectancy-disconfirmation and equity, and their effects on satisfaction (Fisk and Young, 1985; Oliver and Swan, 1989a, 1989b; Swan and Oliver, 1984, 1985). Others have compared the explanatory power of equity to expectancy value, attribution, performance

and disconfirmation constructs (Oliver and DeSarbo, 1988); together these studies support equity as an important driver of customer satisfaction. Yet this research has focused on transaction-specific satisfaction, where satisfaction evaluations are limited to particular consumption episodes or transactions. Within recent research and modeling surrounding cumulative satisfaction, the role that equity plays has not been addressed. Even in transaction-specific studies, the possible roles that equity plays in mediating the effects of service quality on loyalty have been studied to a very limited extent, if at all. The main application of equity theory in more recent research has been in service failure and recovery situations (Tax et al., 1998; Smith et al., 1999); even there, however, equity is simply treated as an antecedent to customer satisfaction. However equity or fairness may well play an important but as yet unexplored role in mediating the effects of service quality on service loyalty; if marketing is truly an “exchange” process as Bagozzi (1975) argues, equity should hold greater significance than its current level of attention suggests.

In the following section we describe the different roles equity may play in customer satisfaction modeling. Our focus is on transaction-specific satisfaction, as alternative roles of equity remain to be studied in this context as well. Although satisfaction has come to be viewed as a cumulative, attitude-like evaluation of a series of experiences and episodes, we think it is important to first investigate the alternative roles customer equity may play in transaction-specific models, moving rather ahead from there to investigate the relationship between these constructs in cumulative satisfaction models. We focus, further, on situations that do not involve outright service failure and recovery situations, which are described elsewhere (Tax et al., 1998; Smith et al., 1999).

Our research addresses three sequential questions exploring the alternative roles that equity plays in a transaction-specific satisfaction and loyalty model. We first investigate whether equity mediates the effect of satisfaction on loyalty, or whether satisfaction mediates the effect of equity on loyalty. Once the primary mediator is established, we test whether the mediation is complete or partial by adding service quality dimensions to the model. Do both equity and satisfaction in fact mediate the effect of the service quality dimensions on loyalty? Finally, we test whether the quality drivers have a direct effect on loyalty as well.

## **Hypothesized equity, satisfaction and loyalty models**

We will first consider whether equity mediates the effect of satisfaction on loyalty, or vice versa. Prior research on transaction-specific satisfaction suggests that equity affects loyalty via satisfaction; that is, equity affects satisfaction, which in turn affects loyalty (equity → satisfaction → loyalty). The logic is simply that equity, as a more transaction- or exchange-based phenomena, naturally affects satisfaction as a post hoc or retrospective evaluation of an experience or episode. The main difference between our model and previous ones is that disconfirmation is no longer a separate driver of transaction-specific satisfaction; it becomes, rather, one of multiple reflective measures of a more overall, attitude-like satisfaction construct (Johnson et al., 1995). From this perspective we suggest the model be tested as stated in Hypothesis 1 below.

H1: Customer perceived equity is an antecedent to customer satisfaction and customer satisfaction is a driver of customer loyalty.

Although many studies have suggested this route to loyalty, there are conditions under which satisfaction may affect loyalty via equity, where equity is the primary mediator (satisfaction → equity → loyalty). This model is based on the theory of social comparison (Festinger, 1954), which suggests that people tend to compare themselves to other people similar to themselves. In this context we believe that customers consider themselves to be similar if they buy the same services or belong to the same customer segment. Even after considerable experience and evaluation of purchase and consumption experiences, satisfied customers may discover that other customers have received or are currently receiving better service or lower prices. This is quite common in long distance telephone or wireless service contexts where the deals and service offered to new customers are often superior to those which loyal customers receive. The same can be true in banking services, where interest fees and returns on simple financial instruments may change over time. In this case, customer satisfaction may positively effect equity evaluations, but it is equity itself that is reconsidered and has the more immediate or antecedent effect on loyalty. From this line of reasoning we suggest a second model, as stated in Hypothesis 2 below.

H2: Customer satisfaction is an antecedent to customer perceived equity and equity is a driver of customer loyalty.

A third possibility is that both equity and satisfaction operate independently in affecting customer loyalty (satisfaction → loyalty and equity → loyalty). This argument is consistent with the evolving view that cumulative

satisfaction is a type of attitude, as opposed to a more transient reaction or state-of-mind (Johnson and Gustafsson, 1997, 2000). Attitude models often include three distinct components: the cognitive, affective, and behavioral (Breckler, 1984), where the cognitive and affective components of the attitude directly affect behavioral intentions and subsequent behaviors. Logically, satisfaction is the “colder,” or more cognitive evaluation, while loyalty is a behavioral intention. Equity or fairness is, in contrast, the “hotter” or more affective evaluation. Together these two components - equity and satisfaction - may predict loyalty as the conative component. Following this chain of thought leads us to suggest the model as stated in Hypothesis 3.

H3: Customer satisfaction and customer perceived equity are equivalent and complementing drivers of customer loyalty.

When modeling the role that satisfaction and equity play in driving loyalty, it is important to examine whether the proposed mediation under options one and two is partial or complete. If satisfaction is the primary mediator, does equity still have a direct effect on loyalty? Alternatively, if equity is the mediator, does satisfaction still have a direct effect on loyalty? The argument for partial mediation is particularly strong where satisfaction is an attitude-type evaluation that mediates the effects of equity on loyalty. Partial mediation, it can be noted, is the norm in attitude models unless the attitude is particularly strong (Johnson and Gustafsson, 2000). We are aware of only two studies where a direct effect of equity on loyalty has been studied (Evans, 1982; Fisk and Young, 1985) and yet which yielded inconclusive results, as Fisk and Young support such a relationship while Evans does not.

Another argument in favor of testing a partial mediation model is that equity is more important in some contexts than in others. When buyer/seller interactions are infrequent, or relationships are more transient, fairness may be less important in affecting loyalty than in those situations where interactions are more frequent. The more frequent the interaction, the more important it may be to maintain a consistent level of equity. Based on these conflicting views and as an extension of the first two models, we test two new and different models including the direct effect of the antecedent on loyalty, as stated in Hypotheses 4a and 4b.

H4a: In addition to being an antecedent to customer satisfaction, customer perceived equity has a direct effect on customer loyalty.

Or

H4b: In addition to being an antecedent to customer perceived equity, customer satisfaction has a direct effect on customer loyalty.

Once we establish the roles that satisfaction and equity play in affecting loyalty, an important question remains. Specifically, and consistent with previous transaction-specific satisfaction studies, we have in mind the likelihood that satisfaction completely mediates the effect of equity on loyalty (equity → satisfaction → loyalty). Is equity or fairness in the exchange process simply another driver of satisfaction? From this argument we suggest the model as stated in Hypothesis 5.

H5: Customer satisfaction completely mediates the effect of equity on loyalty, and equity is simply a driver of customer satisfaction similar to the other quality drivers.

Alternatively, as an input/output evaluation, does equity actually mediate the effects of service quality factors on satisfaction? If so, which we indeed argue, the effect may be partial or complete; if complete, we expect service quality (and value) dimensions to have their entire effect on satisfaction via equity (service quality → equity → satisfaction → loyalty). This argument may indicate the model as suggested in Hypothesis 6.

H6: Customer perceived equity completely mediates the effect of service quality on customer satisfaction and customer satisfaction is the driver of customer loyalty.

If the effect is partial, we expect the same cause and effect sequence where the service quality dimensions also have a direct effect on satisfaction. If, in contrast, equity or fairness amounts in fact to just another service quality dimension, then these dimensions should have parallel causal effects on satisfaction (equity → satisfaction → loyalty and service quality → satisfaction → loyalty). This model is formulated in Hypothesis 7.

H7: The effect of service quality on customer loyalty is mediated by customer satisfaction, as is the effect of customer perceived equity on customer loyalty.

In line with results from previous research (Johnson and Gustafsson, 2000), we might also expect the service quality drivers to have a direct effect on loyalty as well as being moderated by constructs such as customer satisfaction or customer perceived equity. This asymmetric effect may be a

consequence of an attribute being particularly important for a service or product. In accordance with this line of reasoning we suggest a model as formulated in Hypothesis 8.

H8: The effects the service quality drivers have on customer loyalty are both indirect and direct.

The procedures for testing these hypotheses are described in the following chapter.

## **Methodology**

### **Design, sample and procedure**

Different research designs have been applied to study equity. In the pioneering days the classical experiment was the most adopted design. In later years, different methods such as surveys, role-playing, scenarios and at times even combinations of the above have been employed to capture the proper content of the equity construct (see for example Oliver and Swan, 1989a; Bolton and Lemon, 1999; Tax et al., 1998).

The wide variety of methods applied may be considered a response to the problems that arise when equity issues are studied. Typically, according to Tyler and Smith (1998), these problems would be to define input and outcome, which are by their very nature subjective and often controversial, often resulting therefore in disagreement on what constitutes a contribution or a reward. Those involved may also disagree about extent of contribution each person is making and/or the level of reward they are receiving. Further, and important to note in this context, people tend to exaggerate their personal contributions to collective efforts, leading to inevitable and widespread conflicts according to Ross and Sicoly (1979). According to Tyler and Smith (1998),

“in studies of equity, these problems are usually avoided by the creation of artificial situations in which (1) only limited types of contributions are to be considered; (2) there are clear and generally accepted rules about appropriate rewards; and (3) rewards and contributions are easily quantifiable, as is true when exchanges are dominated by piecework and money” (pp. 600).

In addition, researchers sometimes define rewards are fair or unfair for participants, as opposed to hoping that subjects will make this judgment naturally when presented with objectively “unfair” distributions. As the purpose of this study is to clarify the causal relationship between customer



perceived equity, customer satisfaction and loyalty, a survey design was chosen as the most appropriate method of collecting data. The above-mentioned problems were sought avoided by formulating the questions in a way that did not focus on the input/outcome aspect; the questions, rather, were structured in a manner quite similar to those addressing satisfaction.

In order to test the different models and predictions, data was collected through the Norwegian Customer Satisfaction Barometer. The focus of our analyses was a data set for commercial banks. The respondents were interviewed by telephone by a professional marketing research bureau. Prospective respondents who were not available on the first call were called back three times before a substitute was picked, with a total of 900 bank customers being interviewed for this survey. Forty-five percent of the respondents were women and 55% were men. Twenty-two percent were under 30 years of age, 47% between 30 and 44 years old, while 31% were between the ages of 45 and 59. Each interview lasted approximately 15 minutes. For the purpose of analysis, both co-variance structure analysis using Linear Structural Equation Modeling (LISREL) and partial least squares (PLS) were applied (following Kujala and Johnson, 1993).

### **The procedure**

Parital least square (PLS) is particularly appropriate for testing weaker theory and when the goal is to develop theory (Johnson and Gustafsson, 1997; Steenkamp and vanTrijp, 1996). It is also well suited for satisfaction data as these tend to be skewed rather than normally distributed. PLS explains variance and provides impact and performance scores (see for example Fornell and Cha, 1994; Fornell and Bookstein, 1982; and Lohmöller 1989). LISREL, on the other hand, is more appropriate when testing stronger and established theory (Jöreskog and Sörbom, 1989). The data should be normally distributed, as the estimation technique most widely used in LISREL is maximum likelihood, which is based on true score theory. LISREL explains co-variance, tries to find paths (Jöreskog, 1970), and may capitalize on mis-specifications in the model.

Testing the role of equity in customer satisfaction modeling fall under the labels weak theory and theory development. Furthermore, the fact that we are dealing with skewed data that is not normally distributed does to some extent support the use of PLS over LISREL as the primary method of analysis. However, maximum likelihood is considered a relatively robust estimation technique that in all probability would provide the same results from skewed data as from normally distributed data (Jöreskog and Sörbom, 1989); in order to test the robustness of our theory and models, we run

LISREL analyses as well. Finally, we compare the PLS results with the LISREL results and draw our conclusions.

### **Measures**

Customer satisfaction is operationalized by three questions commonly used in the national satisfaction indices (Fornell et al., 1996). These include “overall satisfaction”, “disconfirmation of expectations” and “how close/far the experience is to the ideal experience”. The term cumulative satisfaction is used in this paper although we are conducting a study in a transaction-specific context. Each question contains a reference to the last service transaction the customer engaged in with the bank. The satisfaction questions can be described as more general than the equity questions, and satisfaction becomes as such more an overall evaluation of the whole transaction than equity, which has a special reference to fairness and equity matters.

Customer equity, meanwhile, is measured by four indicators: “effort for the customer”, “the time the service took”, “the customer was treated as well as other customers”, and “overall fairness”. These dimensions are based on the work of Oliver and Swan (1989a, 1989b) and Tax (1993). In line with recent research, such as that of Smith et al. (1999), the selected items were intended to represent the three main components of equity in equity theory - distributive, procedural and interactional.

These scales were pre-tested due to anticipated cultural differences between the US and Norway concerning the use of words such as fairness and equity, despite the fact that the equity/fairness questions were based on well-established scales. The anticipation of cultural differences concerning fairness and equity is based on the fact that these may be considered more serious values in Norway due to the country’s strong social democratic traditions. On the other hand, fairness and equity are notions that are closely related to the concept of reciprocity, which is one of only two variables that appear to be universal among societies across time and culture, according to Gouldner (1961). The relevance of the fairness/equity construct should therefore be indisputable.

The equity questions were pre-tested twice on a small sample of about 10 people. The first test led to minor changes, which were preceded by a comparison of the suggested adjustments with the theoretical meaning of equity and previous scales. Most of the recommended changes were subsequently accepted, as they tended to address semantics of the questions. The changes were then implemented and the questions tested a second time. Again, approximately 10 subjects were interviewed, resulting in no

suggestions of changing the questions. To simply ensure that the questions were valid in this sample as well, another two more individuals were asked to review them. The feedback from both of these samples indicated that the questions had high face validity. It was not considered necessary to pre-test the questions on customer satisfaction, customer loyalty and service quality dimensions as these were as well based on well-established scales that have been used for years in the Norwegian Customer Satisfaction Barometer.

Loyalty is as well measured with four items. These are the likelihood of “repurchase”, “reducing purchase”, “replacing the service provider”, and “changing the service provider without incurring any extra cost” (Zeithaml et al., 1996). Three service quality/value dimensions are included in the study: value, service, and product. Value is operationalized using measures of “quality compared to price” and “quality compared to other service providers”. Service is operationalized using measures of “friendliness”, “ability to create trust”, “willingness to help”, and “ability to understand the customer’s need”. Product, for its part, is measured using three indicators: “efficiency”, “accessibility”, and “how easily understandable the product is to the customer”. These context-specific service and product measures were generated using focus groups from the target population of banking customers.

### **Missing data**

The percentage of missing data ranges from 0.6 (accessibility of service provider) to 17.7% (value relative to other companies). As the percentage of missing data is below 20% in all cases, we do not consider it a threat to our study and consequently do not exclude any variables from further analyses (see Table 4.13 in appendix A for details on missing values).

Before running the PLS analyses, the missing values were replaced with series means in SPSS 8.00, an option that replaces missing values with the mean for the entire series. However, this method risks making the variance estimates derived from the standard variance formulas invalid by understanding the true variance in the data. There remains as well the fact that the actual distribution of values is distorted by substituting the mean from the missing values. Thirdly, this method depresses the observed correlation as all missing data will have a single constant value (Hair et al., 1995). Finally, this procedure may influence and lower the communality and discriminant validity (Johnson, 1998). Despite these disadvantages, we consider the mean the best single replacement value for this sample as missing data does not constitute a significant problem in this data set.

The procedure is however different when analyzing the data using LISREL. Before running the LISREL analyses and in accordance with traditional procedures for analyzing the Norwegian Customer Satisfaction Barometer data (see for example Andreassen and Lindestad, 1998a, 1998b; Andreassen and Lervik, 1999) the missing data was replaced with the number 99 in order for it to be recognized as missing in PRELIS. Rather than replacing the missing values when computing the co-variance matrix in PRELIS we applied the pair-wise deletion procedure. In which all cases are included and each covariance between variables is computed solely on the basis of available pairs of observations (Wilks, 1932). This method may however provide a non-positive definite covariance matrix and the sample size may be ambiguous (Schumacker and Lomax, 1996). We apply this method as we cannot afford to omit all cases that have missing values for any of the variables named, which is the frequently recommended list-wise deletion option (Schumacker and Lomax, 1996, Jöreskog and Sörbom 1989).

## **Results**

By counting individual respondents as observations, we describe in this section the results of estimating different models on the role of equity in customer satisfaction modeling. The analyses are conducted in three steps and with two different methods: PLS, primarily, and LISREL, in order to test the robustness of the different models. The first step involves analyzing the causal relationship between equity, satisfaction and loyalty. Knowledge acquired in this step then facilitates the second, which is extending the supported causal model to include service quality as the driver of satisfaction as well. At this stage we investigate the role of equity as a mediator of service quality and satisfaction on loyalty, inspired by the work of Baron and Kenny (1986), Irwin and McClelland (2001) and Sharma et al. (1981), and whether it is partial or complete. Finally, we test the quality drivers' effect on loyalty and whether they have a solely indirect or direct role as well.

Following the procedure of Fornell (1992), Fornell et al. (1996) and Johnson and Gustafsson (2000) throughout, we use standardized variables (correlations) to evaluate the measurement portion of the model and fit measures, whereas we use un-standardized variables (co-variances) as input to estimate effect sizes. Jack-knifing is used to obtain standard errors for each of the model parameters. Wherever model estimates (loadings and effects) are compared or contrasted across models, the differences are determined to be significant ( $p < .05$ ).

## PLS analysis

### General test of the causal models

Before we test the models we first discuss the quality of the measurement model and then examine the latent variable model results.

Overall, the measurement variable (MV) loading for each of the models is relatively large and positive. The loadings should exceed 0.707 to ensure that at least half of the variance in the observed variable is shared by the construct. The squared correlation equals the variance explained, where  $0.707^2 = 50\%$  (see for example Johnson and Gustafsson, 2000); in PLS estimation, this criterion is referred to as communality (Fornell and Cha, 1994). Table 4.1 reports the average communalities for each latent variable in the different models. Due to space constraints in the tables, each model has been labeled with the number of the hypothesis in which the model is presented. The first model, then, is presented in Hypothesis 1 and is thus labeled H1, and so on. From Table 4.1 we see that average communality is greater than 0.5 in all cases (100%).

*Table 4.1: Average communality in the measurement variables by latent variable and causal model*

<i>Average communality</i>	<b>H1</b>	<b>H2</b>	<b>H3</b>	<b>H4a</b>	<b>H4b</b>
Equity	.610	.601	.609	.601	.601
Satisfaction	.688	.688	.687	.688	.688
Loyalty	.632	.629	.631	.631	.631

Another criterion used to evaluate the validity of the measurement model – specifically, the discriminant validity of the model - is to explore whether each latent variable (LV) or construct shares more variance with its MVs (indicators) than it does with other constructs in the model. This is examined by looking at the percentage of MV loadings that exceed the path coefficients between the LVs. The only model revealing any violations is model H2; a single violation is found (6.67 %) here, as one of the equity indicators falls below the path coefficient between satisfaction and equity.

However, when we review the average variance extracted (AVE), recommended by for example Werts et al. (1974) and Bagozzi and Yi (1994), we see that the number of violations increases. All models now have indicators falling below some of the correlations between LVs, with the average percentage of violations across all models at 24.81%. As a result, we do not consider this a serious threat to the validity our study . The procedure

is in accordance with the work of Johnson and Gustafsson (2000), and we can conclude that both discriminant and construct validity are adequate.

In order to establish the better fitting model, their ability to predict is evaluated along several indicators. Firstly, we look at the estimated path coefficients and see if they are significant; we find that in model H1 both of the paths' coefficients are significant. However, when we look at model H4a in Table 4.2, we see that the path between equity and loyalty is not, while both of model H2's paths are significant. When we add a direct link in model H4b, from satisfaction to loyalty, the link between equity and loyalty becomes insignificant, consistent with model H1. This finding is further supported by the results from model H2.

*Table 4.2: Path coefficients in the causal models*

<b>Path coefficient</b>	<b>H1</b>	<b>H2</b>	<b>H3</b>	<b>H4a</b>	<b>H4b</b>
Equity → Satisfaction	.690			.690	
Satisfaction → Loyalty	.544		.474	.470	.470
Equity → Loyalty		.435	.107*	.108*	.108*
Satisfaction → Equity		.691			.690

Note. - Asterisks indicate insignificant coefficients at  $p < 0.05$ . All other entries are significant at  $p < 0.05$ .

At this point we have then two competing models, specifically the equity-satisfaction-loyalty and satisfaction-equity-loyalty equations. In order to distinguish further between these models, we compare them along the second indicator, namely, the models' ability to explain the key latent variables: equity, satisfaction and loyalty. From Table 4.3 we see that model H1 explains more of the variance in loyalty (.296), than does the alternative model, H2 (.190). Although models H4a, H4b and H3 explain slightly more of the variance in loyalty than model H1 (.303, 303, and 306, respectively), we prefer nonetheless the latter as the direct effect of equity on loyalty is insignificant in models H4a, H4b and H3.

Table 4.3: Variance explained in the latent variables by causal model

Variance explained (R <sup>2</sup> )	H1	H2	H3	H4a	H4b
Equity		.478			.476
Satisfaction	.476			.476	
Loyalty	.296	.190	.306	.303	.303

On the whole, these results suggest support for the traditional model of the causal relationship between equity, satisfaction and loyalty. With the causal relationship between equity, satisfaction and loyalty now established, the next step in our analysis is to determine whether equity mediates partially or completely the effect on satisfaction and loyalty.

#### General test of the mediator models

As is the case in the causal models above, the measurement variable (MV) loading for each of the mediator models is relatively large and positive. Table 4.4 reports the average communalities for each latent variable in the mediator models. As we can see, the average communality is greater than 0.5 in all cases (100%).

Table 4.4: Average communality in the measurement variables by latent variable and mediator model

Average Communality	H5	H6	H7	H8
Equity	.610	.610	.610	.610
Satisfaction	.688	.688	.688	.688
Loyalty	.632	.632	.632	.632
Value	.575	.541	.564	.576
Product	.562	.559	.561	.563
Service	.790	.790	.790	.790

Table 4.5 suggests that all of the mediator models' path coefficients are significant. We can also see that the path between equity and satisfaction becomes clearer when equity is moved from being on the same level as the quality driver (.301) to being a mediator of the effects of the quality drivers on satisfaction (.690). Equity is also seen to mediate the quality drivers in different respects; value's role is the weakest (.109), product's somewhat stronger (.270), while the definitively strongest effect on equity is that of service (.470). When we in addition let the drivers affect satisfaction, we can see that the effect of equity on satisfaction drops to .297. Furthermore, the pattern of how equity mediates the quality drivers becomes even clearer; the effect of value on equity is weakest (.097), that of product slightly stronger (.272) with the effect of service being the strongest (.475).

The pattern revealed among the quality drivers' effects on satisfaction seem to be different from their effects on equity. Product has the weaker effect (.154), while value's is somewhat stronger (.235), and the effect of service strongest (.315). The levels of significance, however, vary from this pattern: the effects are less significant in the case of both product and service when compared with equity. Value, on the other hand, seems to have a much more significant effect on satisfaction than on equity.

*Table 4.5: Path coefficients in mediator models*

<i>Path Coefficient</i>	<b>H5</b>	<b>H6</b>	<b>H7</b>	<b>H8</b>
Equity → Satisfaction	.301	.690	.297	.301
Satisfaction → Loyalty	.545	.544	.545	.319
Value → Equity		.109	.097	.090
Product→ Equity		.270	.272	.271
Service→ Equity		.470	.475	.480
Value → Satisfaction	.234		.235	.234
Product→ Satisfaction	.151		.154	.152
Service→ Satisfaction	.317		.315	.317
Value → Loyalty				.150
Product→ Loyalty				.104
Service→ Loyalty				.120

Note. - Asterisks indicate insignificant coefficients at  $p < 0.05$ . All other entries are significant at  $p < 0.05$ .

When we compare the models along the second indicator – that is, the extent of variance explained in the key latent variables - we see from Table 4.6 that much more of the variance in satisfaction is explained in model H7 than H6. Equity and loyalty, however, remain more or less the same (.507 and .297, respectively). As model H7 seems to be the better model, we must draw the conclusion that customer equity only partially and not completely mediates the effect of the service quality drivers on customer satisfaction and loyalty. We can also see that equity has a special role in mediating the quality drivers, as equity mediates service and product but not value, while customer satisfaction mediates all three.

*Table 4.6: Variance explained in the latent variables by mediator model*

<b>Variance explained (R<sup>2</sup>)</b>	<b>H5</b>	<b>H6</b>	<b>H7</b>	<b>H8</b>
Equity		.509	.507	.504
Satisfaction	.644	.476	.643	.643
Loyalty	.297	.296	.297	.335



### The direct effects of quality drivers on loyalty

When we add the direct effect of the quality drivers on loyalty (H8) we can see an increase in the explained variance of loyalty to .335, while the degree of explained variance in equity and satisfaction remains the same as in model H7. Of the three drivers, value is the strongest (.150), followed by service (.120) and then product (.104), although the effect of product seems to be slightly more significant than that of service. The quality drivers' effects on equity and satisfaction remain the same: service has the stronger effect on satisfaction (.317), followed by value (.234) and product (.154). Service also has the stronger effect on equity (.480), followed by product (.271) and value (.090).

### LISREL Analysis

#### General test of the causal models

As in the PLS analysis, we want to determine the better fitting model by the models' ability to predict. Again, we look at the path coefficient and consider first the causal models. Table 4.7 indicates that both of the paths in model H1 are significant, as is the case in model H2. In none of models H4a, H4b or H3 is the path between equity and loyalty significant. As is the case in the PLS analysis, we can at this stage establish that the best models will be either H1 or H2, but we have yet to figure out which is the better of the two.

Table 4.7: Path coefficients (standardized) in causal models

Path coefficient	H1	H2	H3	H4a	H4b
Equity → Satisfaction	0.88			0.89	
Satisfaction → Loyalty	0.76		0.88	0.88	0.88
Equity → Loyalty		0.72	-0.12*	-0.12*	-0.12*
Satisfaction → Equity		0.92			0.89

Note. - Asterisks indicate insignificant coefficients at  $p < 0.05$ . All other entries are significant at  $p < 0.05$ .

The next step is then to consider which model explains more variance in loyalty. Table 4.8 shows us that model H1 explains more of the variance (.57) in loyalty than model H2 (.52). As is the case in the PLS analysis model, H4a, H4b and H3 explain slightly more of the variance in loyalty (.59 for each). We still prefer model H1 to the other models as all of its paths are

significant, which is not the case in models H4a, H4b and H3. From Table 4.8 we also see that the explained variance is slightly higher when we conduct the LISREL analysis as compared to the results from the PLS: we can conclude that the results in the PLS analysis are supported by those of LISREL analysis.

*Table 4.8: Variance explained in the latent variables by causal model (squared multiple correlations for structural equations)*

<b>Variance explained (R<sup>2</sup>)</b>	<b>H1</b>	<b>H2</b>	<b>H3</b>	<b>H4a</b>	<b>H4b</b>
Equity		0.84			0.79
Satisfaction	0.78			0.79	
Loyalty	0.57	0.52	0.59	0.59	0.59

#### **General test of the mediator models**

We must at this point see if the LISREL analysis confirms the mediating effect of satisfaction and loyalty as well and, if so, whether it is partial or complete. Table 4.9 indicates that in contrast to the PLS analysis, not all of the path coefficients are significant in the LISREL analysis. To take it stepwise, we can see that all the paths in models H5 and H6 are significant, while in model H7, however, the path between value and equity is not. This is consistent with the findings from the PLS analysis indicating that this is the weakest path, although that analysis yields a significant result.

*Table 4.9: Path coefficients (standardized) in mediator models*

<b>Path coefficient</b>	<b>H5</b>	<b>H6</b>	<b>H7</b>	<b>H8</b>
Equity → Satisfaction	0.35	0.93	0.35	
Satisfaction → Loyalty	0.63	0.62	0.63	
Value → Equity		0.07	0.03*	0.03*
Product → Equity		0.50	0.40	0.49
Service → Equity		0.42	0.49	0.40
Value → Satisfaction	0.23		0.23	0.24
Product → Satisfaction	0.20		0.20	0.18
Service → Satisfaction	0.28		0.28	0.29
Value → Loyalty				0.10*
Product → Loyalty				-0.01*
Service → Loyalty				-0.02*

Note. - Asterisks indicate insignificant coefficients at  $p < 0.05$ . All other entries are significant at  $p < 0.05$ .

Before we can conclude which of the mediator models is the best, we again must consider the explained variance in each model, as listed in Table 4.10.

We can see here that models H7 and H8 explain the same degree of variance (.40), while H5 achieves the highest explained variance (.60) in loyalty. The explained variance in satisfaction decreases from model H5 to H6 (from .88 to .86), as in loyalty (from .60 to .39), whereas there is an increase in explained variance in satisfaction (back to .88) and loyalty (.40) from model H6 to H7. The explained variance in equity, meanwhile, decreases from model H6 to H7 (from .83 to .73); despite this decrease and the fact that the path between value and equity is insignificant, it appears that H7 is the best model.

*Table 4.10: Variance explained in the latent variables by mediator model (squared multiple correlations for structural equations)*

Variance explained (R <sup>2</sup> )	H5	H6	H7	H8
Equity		0.83	0.73	0.73
Satisfaction	0.88	0.86	0.88	0.88
Loyalty	0.60	0.39	0.40	0.40

#### **The direct effects of quality drivers on loyalty**

Returning to Table 4.9, we can see that the same path remains insignificant in model H8 as in H7 and that three more paths join in – those between the quality drivers (value, service and core) and loyalty. This is inconsistent with the results of the PLS analysis, which clearly indicate that the quality drivers have direct effects on loyalty. All in all, we must conclude as such that model H8 does not have a better ability to predict than model H7. In order to determine which is the better model, we must again review the explained variance of the respective models.

Looking back at Table 4.10 this time, we can see that model H8 explains the same amount of variance as model H7. However, as long as all the new paths – that is, those from the quality drivers to loyalty - are insignificant, we have to conclude that there is as yet no support for direct effects of quality drivers on loyalty according to the LISREL analysis. This result is of course inconsistent with the PLS analysis.

However, the LISREL analysis is not at this point complete, as we chose to conduct it in accordance with Marsh's suggestion (Marsh, 1990) and in line with recommendations found in the literature by other researchers as well (Bagozzi and Edwards, 1998). Consistent with this procedure, we will first ascertain that the solutions are well defined and that the procedure converges to proper solutions, that parameters' estimates are within their permissible ranges, and that standard errors of the parameters are not too great.

Secondly, parameter estimates should be examined in relation to the substantive, a priori model and common sense. Finally, the fit statistics were evaluated along with the chi-square test and other fit statistics.

Because the chi-square test is sensitive to sample size and can lead to rejection of a model differing in a trivial way from the data for large sample sizes, it is prudent to also examine other measures of fit (Bagozzi and Heatherton, 1994; Bagozzi and Edwards, 1998). Other relevant measures would be the Comparative Fit Index (CFI), the most highly recommended fit index (Bagozzi and Edwards, 1998) developed by Bentler (1990) (see also McDonald and Marsh, 1990). In contrast to the chi-square, the CFI is not sensitive to sample size. A rule of thumb for the CFI is that it be equal or greater than 0.90 (Bentler and Bonett, 1980), and considered a measure of the degree of variation accounted for from a practical standpoint (Bagozzi and Edwards, 1998).

The models were also assessed along the Non-Normed Fit Index (NNFI), the Standardized Root Mean Square Residual (SRMR), and the Root Mean Square Error of Approximation (RMSEA). A discussion of these fit statistics can be found in Bentler (1990), Brown and Cudeck (1993) and Marsh et al. (1996). Satisfactory model fits are indicated by non-significant chi-square tests, SRMR and RMSEA values less than .08, and NNFI and CFI values greater than or equal to .90. However, in large samples such as this (n=900), where the maximum likelihood estimation technique is applied, cut-off values close to .95 for NNFI and CFI, close to .08 for SRMR, and to .06 for RMSEA are needed before we can conclude that there is a relatively good fit between the hypothesized model and the observed data (Hu and Bentler, 1998, 1999).

#### **The parameters and error terms (error variances)**

Overall, we can conclude that the factor loadings were relatively high, while the error variances were relatively low across all models. With the exception of one indicator – namely, “value compared to other companies” - and again across all models, all of the factors are over .52 with most between .61 and .94. The error terms were correspondingly relatively low, varying from .21 to .64. Despite very low factor-loading on the indicator “value compared to other companies”, varying from .24 to .29, and very high error variances from .91 to .94, we chose to retain this indicator in the model for the purpose of comparing models across PLS and LISREL analyses. Keeping the indicator reflects as well a desire to avoid single item constructs (value is measured using only two indicators).

Interestingly enough, this indicator did not seem to create the same problems in the PLS analysis as it did in the LISREL. The other indicator measuring value is a very solid one, with factor loading varying from .91 to .94. The one problem with this indicator - likely resulting from the effect of the weak second value indicator ("value compared to other companies") and often referred to as a Heywood case - is that the error term or variance is negative and out of permissible range (Dillon et al., 1987; Marsh, 1989). This occurred in model H6 alone: the indicator itself achieved a factor loading of 1.14 with a standard error term of .12, while the error variance was -.30 with a standard error of .27.

This case was handled in accordance with suggestions in the literature, as for example Dillon et al., (1987), Marsh (1989) and Hair et al. (1995). These approaches involve either deleting the indicator or constraining the measurement error to a small positive value. Due to the previously mentioned reasons we did not want to delete this indicator, so the second suggestion was followed: we fixed the value of the measurement error variance to a small positive value (0.10). This, as it turns out, yielded almost identical results as the Heywood case model, as the parameters and the error terms for the other indicators remain the same.

Based on these results, we can draw the conclusion that the models pass the first criterion in that they all converge in proper solutions, the parameters are generally high, and error variances low to moderate. True score variance is therefore satisfactory. Correlations among factors are low to moderate and reveal that the components are distinct (Bagozzi and Edwards, 1998).

#### **Parameter estimates**

We next examined the parameter estimates in order to determine their relation to the substantive, a priori model and common. The models all pass this second criterion.

#### **Goodness-of-fit statistics for the causal models**

From Table 4.11 we can see that although all the models have significant chi-squares, the causal models vary in the extent to which they fit the data satisfactorily from a practical standpoint, hence the other fit statistics. The RMSEAs vary from 0.067 to 0.079. Model H1 is as such the better fitting model (0.67) with respect to the RMSEA, which has a tendency to reward parsimonious models (Jöreskog and Sörbom, 1989). According to the SRMR, model H1 has a slightly higher score than all of the other models, with the exception of H2. The CFI indicates that all the models, with the exception once again of H2, provide the same score (.97), which is as well the case for the NNFI (.96 for all models except H2, at .95). Further, the GFI

and AGFI provide identical numbers for all of the models but H2. In addition to the RMSEA, only the CN provides a difference between model H1 and the others, indicating that this model is better fitting than the others in that the number is higher in the other models (287.52 compared to 283.44 for the other models, and 217.76 for model H2). The CN may however be sensitive to sample size (Jörskog and Sörbom, 1989). All of these results suggest we conclude that most of the models pass the goodness-of-fit statistics test when compared to the suggested cut-off criteria mentioned above. However, as the models are relatively equivalent and produce more or less the same goodness-of-fit statistics, it is difficult to determine whether one of the models is better than the others. Despite this and in accordance with the previous analysis we can however surmise that model H1 is a relatively good model, based on these statistics.

*Table 4.11: Goodness-of-fit statistics for causal models*

	<b>Chi-square</b>	<b>RMSEA</b>	<b>Std. RMR</b>	<b>GFI</b>	<b>AGFI</b>	<b>NNFI</b>	<b>CFI</b>	<b>CN</b>
H1	195.88 df=39, p=0.0	0.067	0.039	0.96	0.93	0.96	0.97	287.52
H2	258.92, df=39, p=0.0	0.079	0.049	0.95	0.91	0.95	0.96	217.76
H3	194.68 df=38, p=0.0	0.068	0.038	0.96	0.93	0.96	0.97	283.44
H4a	194.68 df=38, p=0.0	0.068	0.038	0.96	0.93	0.96	0.97	283.44
H4b	194.68 df=38, p=0.0	0.068	0.038	0.96	0.93	0.96	0.97	283.44

#### **Goodness-of-fit statistics for the mediator models**

Comparing the mediator models is not much easier than comparing the causal models, as these are also relatively equivalent. We can see from Table 4.12 that here, too, the chi-squares are all significant though, from a practical standpoint, the models' fit vary. The RMSEA varies from .076 to .083. Comparing models H5, H6 and H7 tells us that both H5 and H7 score better than model H6 (.077, .077 versus .083, respectively). Models H5 and H7 also share the same SRMR value (.059 versus .067 for model H4), while the CFI (.93) and NNFI (.92) is as well the same for H5 and H7 and higher than for model H6 (.92 and .90, respectively). Reviewing the GFI, AGFI and CN does not help in order to distinguish between models H5 and H7, nor as such to identify which one is the better of the two as the scores are all identical.

However, we do know that in model H7 there is an insignificant path between value and equity. There are at least two ways to interpret and address this finding. Firstly, we can conclude that the more parsimonious model is the better, as the new paths do not appear to add more explained variance. This suggests preferring model H5 to model H7. However, a second interpretation and action as well exists, based on the findings in the PLS analysis; namely, that model H7 is the better model but must be modified as it has a weak path between value and equity. From the PLS analysis we have also learned that equity and satisfaction mediate different service quality drivers. To make this difference clearer we could eliminate the weaker path.

As this is somewhat more in line with the PLS analysis than choosing model H5 over H7, we deleted the path between value and equity and re-ran model H7, now called H71. This provided more or less identical parameter loadings, error variances and explained variance of the latent variables. However, it also provided a better RMSEA (.076) than previously, which is as well better than the RMSEA for H5 (.077). The SRMR is slightly higher than for H5 (.060 versus .059), but the CN increased and became larger than in model H5 (185.35 versus 184.45). As this is in line with the PLS results and even provides better goodness-of-fit statistics in two respects, we conclude that model H7 is better than model H5.

*Table 4.12: Goodness-of-fit statistics for mediator models*

	<b>Chi-square</b>	<b>RMSEA A</b>	<b>Std. RMR</b>	<b>GFI</b>	<b>AGFI</b>	<b>NNFI</b>	<b>CFI</b>	<b>CN</b>
H5	996.81 df=159, p=0.0	0.077	0.059	0.90	0.87	0.92	0.93	184.45
H6	1159.87 df=162, p=0.0	0.083	0.067	0.89	0.86	0.90	0.92	161.28
H61	1164.40 df=163, p=0.0	0.083	0.067	0.89	0.86	0.90	0.92	161.53
H7	996.81 df=159, p=0.0	0.077	0.059	0.90	0.87	0.92	0.93	184.45
H71	997.41 df=160, p=0.0	0.076	0.060	0.90	0.87	0.92	0.93	185.35
H8	993.25 df=156, p=0.0	0.077	0.060	0.90	0.87	0.92	0.93	182.03

### The direct effect of the quality drivers on loyalty

We can also see from Table 4.12 that model H8 does not receive any more support than model H7. The differences between models H7 and H8 seem to be that H8 has a slightly higher RMSEA (0.077) and a somewhat lower CN than model H7 (183.03 versus 185.35). Considering as well that none of the paths between the service quality drivers and loyalty is significant, we can conclude that they do not have a direct effect on loyalty. This is in contrast to the findings from the PLS analysis, but indisputable according to LISREL. Figure 4.1 below illustrates the model our study supports.

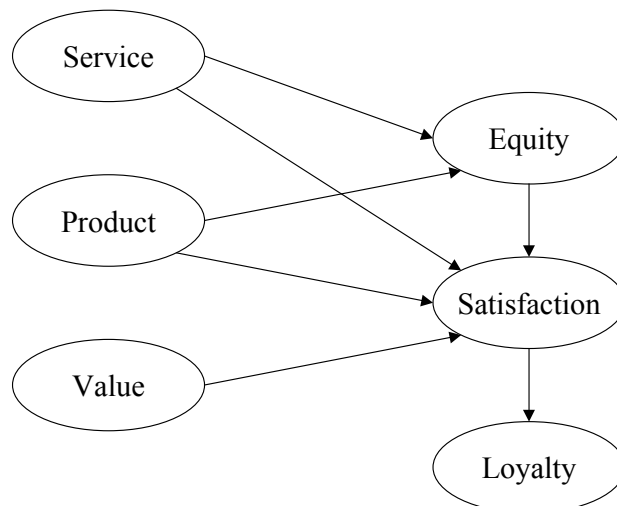


Figure 4.1: Our equity model

## Discussion

### Summary

Despite its relevance in creating customer loyalty, customer equity has been significantly less subjected to service research than has customer satisfaction. The traditional view of customer equity is that it is an antecedent to customer satisfaction. This is based on results from transaction-specific customer satisfaction research. Taking into account that researchers in this field are moving away from transaction-specific towards cumulative and attitude-like models of customer satisfaction, this view of equity is at best over simplified. The motivation for this paper was to investigate the role of equity when customer satisfaction is a more overall and cumulative measure, but still in a transaction-specific context. We



presented and tested alternative causal relationships between customer perceived equity, customer satisfaction and customer loyalty. We also investigated the effects of the service quality driver on customer loyalty and whether they were moderated partially or completely by satisfaction and equity.

In this study we investigated the role of equity in customer satisfaction modeling beyond what has been examined in previous marketing, consumer, and service research. In our attempts to develop new rather than test well-established theories, we found it natural to rely primarily on PLS models to steer the process. The analyses were conducted in three steps applying first PLS followed by LISREL. Due to the characteristics of our theory and the data set, we determined that such a double procedure provided more reliable results than a singular application of one of the methods alone.

Our research addressed three sequential questions exploring the role equity plays in a transaction-specific satisfaction and loyalty model. We first asked whether equity mediates the effect of satisfaction on loyalty, or whether satisfaction mediates the effect of equity on loyalty. Once the primary mediator was established, we tested whether the mediation was complete or partial by adding service quality dimensions to the model. Do both equity and satisfaction mediate the effect of the service quality dimensions on loyalty? Finally, we tested whether the quality drivers had a direct effect on loyalty as well.

Our approach to testing these models does tell an interesting story. The results from the PLS and LISREL analyses painted the same picture. Firstly, support was established for the traditional model of equity as antecedent to customer satisfaction and customer satisfaction as the primary driver of customer loyalty. This is a particularly interesting result, as we now have a model where customer satisfaction is a more overall, cumulative and attitude-like construct, yet it still reflects the evaluation of a single transaction.

Secondly, we see that customer equity partially mediates the quality drivers' effect on customer satisfaction and customer loyalty, and in a different fashion than customer satisfaction does. The findings indicate that equity is a more social and affective evaluation than customer satisfaction, which seems to be a broader, more inclusive and rational evaluation where value plays a greater part than in equity.

This conclusion is somewhat in contrast to equity theory, which suggests that an important factor of equity is the distributive justice component, of

which the value construct in our study should be a good example. The fact that the front office personnel (our service construct) has such an important effect on equity is also worthy of note. There is no consensus in the literature as to whether equity consists of an interactional justice component in addition to the procedural and distributive components. Our findings do, however, indicate that interactional justice has an important effect on perceptions of equity. As our drivers were based on those used in satisfaction modeling, they did not directly correspond to the categories used to operationalize equity. This does not mean that procedural justice is omitted; it means, rather, that it is driven both by the service and product constructs, which would be logical as interacting with both the front office personnel and the product would be necessary in order to experience procedural justice.

The main goal of this study was to identify the role of equity in customer satisfaction and loyalty modeling. Overall, our results suggest that customer satisfaction remains the primary mediator of service quality and equity on loyalty. However, equity does play a special role in mediating the effects of service quality dimensions - especially those related to procedural justice - on satisfaction and subsequent loyalty. In future research, different types of drivers should be developed and tested in order to enable a clearer distinction between customer satisfaction and equity. Building on results from this study, drivers of equity seem to be more of a social and intangible nature, while drivers of satisfaction may be more tangible and include value and product characteristics.

Finally, we find mixed support for the direct effect of the quality drivers on customer loyalty. In the PLS analyses the paths between service and loyalty, product and loyalty, and value and loyalty are all significant, while the same paths are insignificant in the LISREL analyses. Although the PLS results are in line with findings from recent research (Johnson and Gustafsson, 2000), these results are less robust.

### **Managerial implications**

According to Berry (1995), equity is an important factor in achieving customer loyalty. Our findings support equity's unique role in customer satisfaction modeling. We believe that valuable insight would be gained by including the equity construct as an additional bench-marker in future customer satisfaction and loyalty modeling. Equity differs from satisfaction in that it seems to be more of a social and affective evaluation. Moving toward more attitude-like models of customer satisfaction (Johnson and Gustafsson, 1997) and/or loyalty (Oliver, 1997) would call for an expansion of these constructs to include affective components such as equity, as

attitudes are commonly defined as consisting of a cognitive (satisfaction), a conative (behavioral intention) and an affective component. The latter would then, based on our results, be very well represented by the equity construct.

Another reason to include more constructs like equity in future customer satisfaction and loyalty modeling is the fact that only approximately 30% of the variance in loyalty is to date explained. A percentage that should be at the core of what managers in a service economy with competition increasing at a high pace would strive for to explain more of. Equity should further be a relevant construct for managers in e-commerce; this may be of particular interest and relevance in complaint situations, as recent research (Meuter et al., 2000) indicates that e-customers tend to be more fairness-minded and to complain more than other customers. And, in order to be able to meet the standards expected by e-customers, we do not believe that today's managers can afford to overlook the role of equity in creating satisfied and loyal customers.

### **Limitations**

This study has however some potential limitations. Firstly, equity is measured by four indicators only, conceivably creating a situation where we do not grasp the quintessence of the equity construct. We have nonetheless selected these indicators from the literature and pre-tested them.

Equity and fairness may further be perceived as slightly more serious in Norway than in the US, due to a strong social democratic tradition and less vocabulary for communicating these values than is available in the English language. We do not, however, consider this a significant problem: the feedback from respondents indicates that the questions have high face validity and are intuitive, while these questions hold as well little missing data.

The third limitation may be the design. Are we really capable of measuring equity through a survey? We think so. Our argument bears similarities to the reasoning behind measuring only service performance instead of both performance and expectations in order to grasp customers' quality perceptions (Cronin and Taylor, 1992). We believe that customers have a mental accounting system where they compare input to output and that it is sufficient to ask for the end result and not the whole of this mental process. We also view customers' responses as more reliable than if we subtracted input from output in order to estimate their perception of fairness or equity. Furthermore, a potential strength may well lie in this study having been conducted in a natural setting as opposed to an isolated constructed situation, which we believe in fact contributes to the reliability of the results.

A final limitation may be found in that we only tested our models in the banking industry. Concerns about external validity would suggest that future research include a replication of this study in another industry. We did however try to test the robustness of the models by conducting two different kinds of analyses, PLS and LISREL. The main strength of the study is that these two methods indeed support the same models and provide the same results, with the single exception being that PLS indicates that the quality drivers have a direct effect on loyalty, while LISREL does not.

### **Suggestions for future research**

Several avenues should be considered for future research on equity. Due to a shift in marketing from transactions to relation-like services, we believe the role of equity will become increasingly relevant, hence its centrality to the reciprocity construct. It would therefore be interesting to develop and test equity as a cumulative and more attitude-like construct.

This development bears similarities to the evolution that the satisfaction construct is currently undergoing. As we have measured satisfaction in a transaction-specific context in this study, it would be well worth conducting a replication and extension in a truly cumulative context in which the customer not only considers the last transaction, but rather all the transactions and interactions held with the service provider throughout the service relationship. If we develop equity as a cumulative construct, we should again investigate the causality between equity, satisfaction and loyalty.

Another interesting path to follow would be exploring further the proper content of the equity construct. Today, equity is thought of as an input/output evaluation and as consisting of three different factors: distributive, procedural and interactional justice. This study, on the other hand, indicates that equity is more of a social construct, closer to what is called interactional justice than anything else, a result inviting further research on which of these three dimensions in fact constitute equity in marketing exchanges. How do these justice factors interact in different situations and what determines which factor is the more important?

On a somewhat different note than our other suggestions, it would be interesting to pursue the role of equity theory and service recovery in a cumulative satisfaction context. Here we suggest incorporating both the incident of complaint behavior and the quality of service recovery, introducing equity theory into the modeling of cumulative customer satisfaction. One might first try to capture the incident and effects of complaint behavior among customers as a whole and, subsequently, the effectiveness of the service recovery process among a sub-set of

complaining customers. Differences between complaining and non-complaining customers could for instance be examined by using multi-group analysis.

Clearly, this study represents only the tip of the iceberg when it comes to research on equity in consumer markets. As marketing is changing from a transaction to a relationship orientation, it is difficult to imagine research on consumers' well being that does not include the equity construct; it is, after all, closely related to reciprocity, the cornerstone of any kind of relationship.

## Appendix A:

*Table 4.13: Missing values by variable*

<b>Variable</b>	<b>Number of missing values</b>	<b>Percentage of missing values</b>
<b>Value</b>		
Quality compared to price	48	5.3
Quality compared to other service providers	159	17.7
<b>Service</b>		
Friendliness	14	1.6
Ability to create trust	34	3.8
Willingness to help	16	1.8
Ability to understand the customer's need	49	5.4
<b>Product</b>		
Efficiency	13	1.4
Accessibility	5	0.6
How easily understandable the product is to the customer	38	4.2
<b>Equity</b>		
Effort for the customer	17	1.9
The time the service took	17	1.9
The customer was treated as well as other customers	49	5.4
Overall fairness	8	0.9
<b>Satisfaction</b>		
Close/far from ideal provider	44	4.9
Disconfirmation of expectation	22	2.4
Overall satisfaction	7	0.8
<b>Loyalty</b>		
Repurchase	15	1.7
Reducing repurchase	21	2.3
Replacing the service provider	16	1.8
Changing service provider without incurring extra costs	30	3.3

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## **CHAPTER 5**

### **Customer-Perceived Equity: Cause or Effect of Satisfaction in Cumulative Loyalty Models**



# **Customer-Perceived Equity: Cause or Effect of Satisfaction in Cumulative Loyalty Models**

Line Lervik Olsen

## **Abstract**

In this article we study the differences across complainers' and non-complainers' evaluation of services. Our assumption is that there are differences across these two groups beyond the individual differences investigated in previous studies. Based on the observation that customers are more emotionally involved in and observant of recovery services than routine services, we propose that customers undergo different cognitive processes in their evaluation of critical versus routine service encounters. We assumed that there were differences in the causality of the antecedents in the underlying cognitive evaluation processes, and that these differences impacted on the customers' commitment to stay with the service provider in different ways. Based on a theoretical review, we developed a set of seven hypotheses. In order to determine the extent to which complainers and non-complainers are different, we applied a framework for two-group analyses suggested in the structural equation modeling literature. We verified our results by running partial least square analyses. All in all, we found support for our models and 6 of the 7 hypotheses. We can therefore conclude that there are differences across complainers and non-complainers in their evaluation of services.

## **Introduction**

No matter how efficiently a private company operates, it cannot stay in business without attracting and holding enough solvent customers. The primary goal of relationship marketing is to maintain and enhance customer relations in order to ensure the company's long-term profitability (Berry, 1983; Zeithaml and Bitner 1996). Previously, this had been approached in terms of increasing the return on quality (Rust et al. 1995); more recently, by increasing customer equity through improving brand equity, value equity or retention equity (Rust et al., 2000). Central to these three core concepts is the recognition of customer dis/satisfaction as a driver of exit, voice and loyalty (Hirschman, 1970). Also central are service recovery programs (Rust et al., 2000), or the action companies take in response to service failures (Grönroos, 1988) . The rationale behind service recovery is to turn dissatisfied customers into satisfied ones that become strongly committed to

the company (Andreassen, 2001; Fornell and Wernerfelt, 1987). Dissatisfied, complaining customers and satisfied non-complaining customers have typically been considered mirror images of each other (Bitner et al., 1990), and service recovery strategies have been executed in a reactive rather than proactive manner (Bolton and Lemon, 1999). In short, companies tend to do nothing until the customer complains. When a company finally takes corrective action, this seems to be based on the notion, in line with Hirschman's (1970) theory, that both satisfied and dissatisfied customers' future interaction with the company is determined by the same cognitive processes.

However, this is in stark contrast to the observation that customers are more emotionally involved in and observant of recovery services than routine services (Bolton and Lemon, 1999). Based on this, we should expect that customers undergo different cognitive processes in their evaluation of critical versus routine service encounters, resulting in different causalities among the antecedents to customer loyalty. When these different processes are ignored by service managers, it may cause them to implement the wrong service strategies when trying to maintain and enhance their customer base, which in turn may lead to increased customer defection, increased marketing costs, decreased return on quality and decreased customer equity (Rust et al., 2000). Despite these consequences, we are unaware of any study having tested the assumption that there are differences across complainers and non-complainers when it comes to the causality of their evaluation of service experiences and thus the relationship among the antecedents to customer loyalty. We therefore conclude that research on this topic is called for.

Recent developments in the discipline of service marketing have led to three observations that will affect the modeling of the customers' service evaluation process.

Firstly, over the years an extension to (Hirschman, 1970) seminal theory has been allowed in customer satisfaction modeling. Based on the original work by Adams (1965) and Homans (1961), equity theory has been developed by such researchers as Huppertz et al. (1978), Mowen and Grove (1982), and Oliver and Swan (1989a, 1989b). Consequently, customer-perceived equity is now well established as an antecedent to customer satisfaction in the evaluation of service encounters (Oliver and Swan, 1989a, 1989b; Oliver, 1997; Blodgett et al., 1993, 1997). With few exceptions (Bolton and Lemon, 1999), these studies are transaction-specific rather than cumulative. In other words, they focus on single service encounters of either a negative (Blodgett et al. 1993; Tax and Chandrashekar 1992) or positive (Oliver and Swan, 1989a, 1989b) character. Bearing in mind that marketing has recently shifted

from a transaction to relationship orientation (Grönroos, 1994; Gummesson, 1987; Sheth and Parvatiyar, 1995), and the fact that customer-perceived equity is closely related to the norm of reciprocity - which is itself central to ongoing marketing exchanges (Bagozzi, 1975) - the observation that we lack research on customer-perceived equity in cumulative satisfaction models is alarming. Thus, research in this area is called for as well.

Secondly, although customer-perceived equity is considered to be an antecedent to customer satisfaction in the evaluation of both positive and negative service encounters, it is its application to the context of service recovery that has received most attention from researchers. Fewer studies have been conducted in so-called neutral or positive contexts, with Lervik and Johnson's work (2000) being one exception. Even though a new managerial trend can be detected in the trade press indicating that customer-perceived equity or fairness may be key to competitiveness in a neutral or positive context. In fact, there now seems to be a growing belief among managers that conducting fair business - that is, providing equitable service in the eye of the customer - is the key to long-term profit since it demonstrates an integrity that will be appreciated by customers and affect their commitment and loyalty to the company (Myers, 1992; Barefoot, 1999; Kanter, 1998). In other words, customer-perceived equity is no longer considered merely to have an indirect effect on customers' behavioral intentions through customer satisfaction. It is also expected to have a direct effect on behavioral intentions. This is supported by scholars such as Berry (1995). Despite this development, and managers' increasing interest in customer fairness or customer-perceived equity as a means of providing service to return for, little if any research has been conducted on the different roles customer-perceived equity may play in negative versus positive, ongoing service exchanges, their antecedents and consequences. We can conclude that this research is needed as well.

Finally, at the core of ongoing customer provider exchanges is a relatively new aspect to customer satisfaction modeling whereby relationship variables such as affective and calculative commitment are included (Johnson et al., 2001). Learning from organizational behavior literature (Adams, 1965), we should expect customer-perceived equity to affect customers' commitment to the service provider, as customer satisfaction does (Johnson et al. 2001), even in service failure situations (Bolton and Lemon, 1999; Tax et al., 1998). The effects of customer-perceived equity versus customer satisfaction on commitment in ongoing customer provider exchanges remain to be tested, however.



As a response to the observations above, the overall goal of this article is to investigate the differences across complainers and non-complainers in their evaluation of services. We assume that there are differences in the causality of the antecedents in the underlying cognitive evaluation processes and that these differences impact on the customers' commitment to stay with the service provider in different ways.

In order to determine the extent to which these two groups are different from each other, it may be effective to apply a framework to the analyzing procedure. One such stepwise procedure is called multi-group analyses or in this case two-group analyses, and is suggested in the structural equation modeling literature of Jöreskog and Sörbom (1996), Bagozzi and Edwards (1998) and Bollen (1989). In essence, this procedure has three basic steps. Firstly, one establishes whether or not there are differences across the relevant groups; secondly, one investigates the differences across the relevant constructs in the model; and thirdly, the potential differences in the causal models are studied.

The application of this procedure is also reflected in our theoretical review. Here, we first introduce and explain our notion that complainers and non-complainers undergo different causal processes that determine their future loyalty to the service provider. We then briefly summarize key characteristics of customer satisfaction and discuss the concept of customer-perceived equity in more detail. We go on to explain how customer satisfaction and customer-perceived equity are relevant to ongoing customer provider exchanges. Alternative causal relationships for both groups are subsequently discussed and models proposed. We wind up this chapter by introducing calculative and affective commitment, and also debate how equity will affect these constructs in both groups. The hypotheses will follow successively and the theoretical review concludes with the research question.

### **Complaining versus non-complaining customers**

Research on the dissimilarities across complainers and non-complainers has primarily been focused on individual differences, such as personality and demography (Bearden and Teel, 1983; Bearden and Mason, 1984; Day and Landon, 1977; Morganosky and Buckley, 1986; Warland et al., 1975). Research on the causality of the underlying cognitive evaluation processes has not been done, however, due to the assumption that these groups go through the same processes when evaluating services.

Nevertheless, several indications do exist in the literature that there are differences beyond personality and demographics across these two groups. One such indication is the fact that complainers and non-complainers will

experience different kinds of problem-solving processes as a consequence of the nature of the service encounter, and each process may trigger a special causality in the evaluation of the exchange (Howard, 1977). Another is that a customer with no reason to complain may take a heuristic approach to problem-solving, using one key attribute to decide whether or not to repurchase, while a situation where a failure has been involved may trigger the customer to further elaborate and use more attributes to determine his future with the service provider (Petty et al., 1994; Petty, 1995; Petty and Wegener, 1998). A third indication is that “losses loom larger than gains” (Kahneman and Tversky, 1979), implying that a failure situation will be recollected more easily and cause deeper concern than a positive experience (Andreassen, 2001; Bolton and Lemon, 1999). From this we suggest that:

H1: There are differences between complainers and non-complainers concerning the underlying processes that govern their intentions to be loyal to the service provider in ongoing service exchanges.

In order to build the conceptual model to be tested across the two samples, we must review the most likely key constructs involved in customers’ service evaluations. One such key construct is customer satisfaction (Cronin and Taylor, 1992; Fornell, 1992; Fornell et al., 1996; Hennig-Thurau and Klee, 1997; Hirschman, 1970; Kotler, 1994).

### **Customer satisfaction in ongoing service exchanges**

Customer satisfaction has been subjected to an extensive amount of research since Cardozo’s first study (Cardozo, 1965). Although customer-perceived equity is different from customer satisfaction, the constructs are interrelated and one should as such be careful not to confuse them (Messick and Sentis, 1983). However, certain findings from customer satisfaction research may prove helpful when improving the applicability of the equity theory to ongoing customer provider exchanges. Traditionally, customer satisfaction has been viewed as an end state-of-mind based on an evaluation of a specific transaction (Oliver, 1980). Though the nature of such a state-of-mind is potentially transient or fleeting in nature (Johnson, 1998), customer satisfaction has still been viewed as the main driver of customer loyalty (Cronin and Taylor, 1992; Fornell, 1992; Fornell et al., 1996; Hennig-Thurau and Klee, 1997; Hirschman, 1970; Kotler, 1994). Typically, however, customer satisfaction explains only about 30% of the variance in loyalty in these studies. In response to the changing environment, researchers have started to model and measure customer satisfaction as a more cumulative and “attitude-like” construct (Johnson et al., 2001). These cumulative models have increased the explained variance in customer loyalty to more than 60%, indicating that this approach is helpful in gaining

insight into ongoing customer provider exchanges. From this we can conclude that customer satisfaction in its cumulative form is indeed a relevant factor in the conceptual model.

### **Customer-perceived equity in ongoing service exchanges**

“In elementary terms, equity is a fairness, rightness, or deservingness comparison to other entities, whether real or imaginary, individual or collective, person or non-person” (Oliver, 1997, p.196). The relevance of equity theory (Adams, 1965; Homans, 1961) to marketing has been recognized since the late 1970’s and early 1980’s (Huppertz et al., 1978; Swan and Oliver, 1984). Stemming from social exchange theory (Homans, 1961; Adams, 1965; Anderson and Weitz, 1986; Berscheid and Graziano, 1979; Hatfield et al., 1979; Scanzoni, 1979; Leventhal, 1980; Michaels et al., 1986), the underlying assumption is that interpersonal interactions are repetitive and evolve over time. Thus the formation of equity perceptions should be more of an “overall attitude-like” evaluation than a transaction-specific evaluation. Despite this, and in keeping with the early work on customer satisfaction, there has been a tradition in marketing for measuring equity in a transaction-specific manner (Oliver and Swan, 1989a, 1989b; Huppertz et al., 1978; Huppertz, 1978; Mowen and Grove, 1982). In these studies, no attention is paid to the history and future of shared interactions, factors that are crucial in understanding customers’ future behavioral intentions (Andreassen and Lervik, 1999; Heide and Miner, 1992; Shapiro, 1975). Despite the transaction-specific focus, the relevance of equity to ongoing exchanges is undisputed. Bagozzi (1975) demonstrates its relevance in marketing exchanges, where the construct is closely related to reciprocity, which is central to ongoing relations and in accord with Gouldner (1961) one of only two variables that seem to be universal among societies across time and culture. A more recent study supports Bagozzi’s notion and applies cumulative measures of equity. Bolton and Lemon (1999) investigated payment equity in ongoing exchanges, while Tax et al. (1998) demonstrate the importance of equity in service recovery situations within the relationship-marketing paradigm. The results from these studies indicate that, like customer satisfaction, customer-perceived equity should be measured in a more cumulative way in order to improve its predictive validity.

### **Customer-perceived equity versus customer satisfaction**

Both satisfaction and equity judgments are influenced by our knowledge of others’ outcome, though in different ways (Messick and Sentis, 1983). It is commonly accepted that customer satisfaction is driven by service quality (Cronin and Taylor, 1992) and dis/satisfaction results as a consequence of the customer’s in/ability to reconcile performance with expectations

(Bearden and Teel, 1983; Churchill and Suprenant, 1982; LaBarbera and Mazursky, 1983; Oliver, 1980), such as the five SERVQUAL dimensions suggested by Zeithaml et al. (1990). Equity, on the other hand, is today accepted as consisting of three different “rules of justice” (Tyler and Smith, 1998): distributive justice (Deutsch, 1975; Dailey and Kirk, 1992; Netemeyer et al., 1997), procedural justice (Thibaut and Walker, 1975; Leventhal, 1980; Dailey and Kirk, 1992; Lind and Tyler, 1988), and interactional justice (Bies and Moag, 1986; Bies and Shapiro, 1987; Blodgett et al., 1997), of which each has its own set of dimensions. For an excellent review of these dimensions, see Tax et al. (1998). While procedural justice encompasses the means by which decisions are made and conflicts resolved (Leventhal, 1980), interactional justice involves the manner in which information exchanges and outcomes are communicated (Bies and Moag, 1986). The drivers of procedural and interactional justice bear resemblance to the SERVQUAL dimensions, some having even been taken from this scale (Berry, 1995). Although procedural and interactional justice clearly play important roles in customer provider exchanges, we will focus exclusively on distributive equity in this study, in line with Smith et al. (1999). The main rationale behind this decision is that we first want to define the causal relationship between the core constructs - that is to say distributive equity, satisfaction and customer loyalty - in this new context before we introduce the other “rules of justice”.

### **Distributive equity**

The understanding of distributive equity rests to a large extent on Homans' (1961) rule of justice “[A person’s] reward in exchange with others should be proportional to his [her] investments” (p.235), which has led to the accepted equity equation (Oliver, 1997):

$$\frac{O_s}{I_s} \approx \frac{O_c}{I_c}$$

Early literature across disciplines has interpreted this formula strictly mathematically. Today, however, two streams of research coexist: one that recognizes that multiple inputs and outcomes exist, and one that focuses on easily quantifiable single inputs and outcomes (Oliver, 1997). To be consistent with the shift from single transaction orientation towards relationship orientation in marketing, it seems more appropriate when studying customer provider exchanges to focus on multiple rather than single inputs and outcomes. The following dimensions of distributive equity are suggested in the literature: preference and needs (Oliver and Swan, 1989a, 1989b; Oliver and DeSarbo, 1988; Oliver, 1997), fairness (Goodwin and Ross, 1992; Messick and Sentis, 1979; Deutsch, 1985) and equality

(Greenberg, 1990; Deutsch, 1975; Messick and Sentis, 1983; Deutsch, 1985). The social equity construct - that is, the comparison of one's outcome to others' outcome, for instance other buyers - is based on Festinger's (1954) theory of social comparison and is in line with Bagozzi's suggestions (1975) and elaboration (1986) as well as findings from studies by Austin et al. (1980) and Mowen and Grove (1982). Lervik and Johnson (2000) also found indications of social equity as an antecedent of distributive equity. In their study, results suggest that equity is a more social and affective evaluation than customer satisfaction, which seems to be a broader, more embracing and rational evaluation, where value plays a greater part than in equity. Once again, however, these are transaction-specific studies, and research suggests differences in cognitive processes between 'discrete and relational exchange' (Macintosh and Gentry, 1995). On the other hand, one might predict that social comparison will become increasingly important in affecting customers' perception of equity in ongoing exchanges as customers gain more expertise over time (Seiders and Berry, 1998), and thus become more capable of forming an opinion on what they receive in light of other comparable exchanges (Walster et al., 1978; Netemeyer et al., 1997).

Testing social equity as an antecedent to distributive equity in ongoing customer provider exchanges thus seems necessary. In Lervik and Johnson's (2000) study, results also showed that customer equity mediates the quality drivers - that is, service, product and value - differently from customer satisfaction, and that equity partially mediates the quality drivers' effects on customer satisfaction and customer loyalty. These results should be replicated in ongoing exchanges in order to verify the model and in accordance with relationship development research (Scanzoni, 1979; Bendapudi and Berry, 1997). From the theoretical review above, we can conclude that:

H2: Customer satisfaction and customer-perceived equity are different constructs with different antecedents and consequences in ongoing service exchanges. While customer satisfaction is a more rational evaluation, driven by price and quality, customer-perceived equity is a more social and affective evaluation, driven by social equity as well as price and quality.

Customer satisfaction (Rust and Oliver, 1994), customer-perceived equity (Oliver, 1997) and customer loyalty (Zeithaml et al., 1996) have been subjected to a substantial amount of research with regard to content throughout almost three decades. The constructs have also been applied to both dissatisfaction and satisfaction studies, therefore we believe that there is

no reason to question the content validity of these constructs. From this we conclude that:

H3: There are no differences between complaining customers and non-complaining customers concerning the content of customer-perceived equity, customer satisfaction and customer loyalty. The constructs mean the same to complainers and non-complainers in ongoing service exchanges.

Rather than content validity, it is the causality between the constructs that we think needs further research, as alternative causal models are absent from the literature. Consequently, in the next section we will discuss the causality between customer-perceived equity, customer satisfaction and customer loyalty.

#### **The causality between customer-perceived equity, customer satisfaction and customer loyalty in ongoing exchanges**

Social evaluation theories are neither clear nor unanimous regarding the relationship between perception of equity, satisfaction, and behavior (Messick and Sentis, 1979). In marketing, customer-perceived equity has traditionally been considered an antecedent to customer satisfaction (Oliver and DeSarbo, 1988; Oliver and Swan, 1989a, 1989b; Oliver, 1997; Swan and Mercer, 1981; Bolton and Lemon, 1999; Smith et al., 1999), while customer satisfaction in turn drives customer loyalty (Bloemer and Kasper, 1995; Cronin and Taylor, 1992; Fornell, 1992; Fornell et al., 1996; Hennig-Thurau and Klee, 1997; Hirschman, 1970). In customer satisfaction modeling, equity's role has received mixed support (Fisk and Coney, 1981; Huppertz et al., 1978; Mowen and Grove, 1982); according to Oliver (1997), this may be because equity/inequity is an interpersonal phenomenon. Lervik and Johnson (2000) challenged the traditional causal relationship and tested alternative models in a neutral or positive service setting. Their study was conducted in a transaction-specific context, with the results providing support for the traditional route to customer loyalty and no support for an alternative route. We are unaware of any study having challenged the traditional perspective in ongoing service exchanges, although findings indicate that customer-perceived equity plays a role beyond simply that of antecedent to satisfaction (Blodgett et al., 1993; Blodgett et al., 1997; Tax, 1993; Tax et al., 1998). Some of these studies even indicate that customer-perceived equity may have a direct effect on behavioral intentions, and thus support the above-mentioned recent development articulated in the trade press (Myers, 1992; Barefoot, 1999; Kanter, 1998).

In this study we go even further and suggest that customer-perceived equity may be closer to customer loyalty than customer satisfaction, and vice-versa, depending on whether it is a positive or negative service experience. For instance, imagine that a customer is perfectly satisfied with his regular hairdresser. Although he knows that other hairdressers will be able to satisfy him as much, he returns to the same hairdresser time after time. Why? The answer, we think, is found in the equity formula, in which the customer compares his own output to input as well as to others' output and input. When he feels that his output is fair compared to what he is putting into the exchange as well as compared to others, he will stay with his hairdresser, since changing to a new hairdresser would increase efforts (input) in the form of either monetary or psychological switching costs. However, if competing hairdressers focus on reducing new customers' switching costs, the customer would perceive the alternative offer as more equitable or fair, and will be more likely to consider switching to the other provider. On the other hand, a customer who gets a bad hairdo thinks it is unfair, either in relation to the price he paid, to what other customers in the shop got, or simply due to vanity, so he then becomes dissatisfied. Based on his overall satisfaction with the service exchange, he will decide whether or not to stay with the hairdresser. The main difference between these two situations is that in the first, the customer makes an overall evaluation of the fairness of the exchange, while in the second he makes an overall evaluation of his dis/satisfaction in the exchange. The motivation behind these different evaluation processes is satisfaction in the first scenario and dissatisfaction in the second. From this we can conclude that:

- H4: For customers with no reason to complain, equity is the overall attitude-like evaluation that is closer to customer loyalty than customer satisfaction.
- H5: For customers with reason to complain, dis/satisfaction is the overall attitude-like evaluation that is closer to customer loyalty than customer-perceived equity.

As a consequence of shifting the focus to ongoing service exchanges, new constructs have been introduced to customer satisfaction and loyalty models. One such construct is customer commitment. In the following section this construct will be the focus our discussion.

### **The relationship between customer-perceived equity and commitment**

The enduring desire of parties to maintain a relationship is at the core of commitment definitions (Morgan and Hunt, 1994). Recently, commitment has been introduced as one of the central variables to ongoing service

exchanges (Morgan and Hunt, 1994). Based on the works of Samuelsen (1997), Samuelsen and Sandvik (1997), Kumar et al. (1994), and Meyer and Allen (1984) two dimensions of commitment have been introduced to satisfaction modeling: calculative and affective commitment. While calculative commitment is “colder”, more economical and rational, affective commitment is a less rational, more affectionate and emotionally based bond that ties the customer to the service provider (Johnson et al., 2001). Findings indicate that customer satisfaction is positively associated with both calculative and affective commitment (Samuelsen, 1997, Samuelsen and Sandvik, 1997; Kelley and Davis, 1994; Kelley et al., 1993) across industries (Johnson et al. 2001).

While research on the relationship between customer satisfaction and commitment is slowly taking form, little research has so far been conducted on the relationship between customer-perceived equity and customer commitment. One exception is the study by Tax et al. (1998), which investigates the effect of complaint handling on customers’ commitment to service providers. In their study they suggest two alternative hypotheses concerning the effects of complaint handling on customer commitment: brand equity versus satisfaction. The results support the brand equity rather than the service quality perspective. From this they conclude that “customers who have poor complaint handling experiences still might want to deal with the service provider on the basis of expectations of future benefits grounded on past encounters” (brand equity perspective), (p.72).

More studies can be found in literature on organizational behavior, however. Kim and Mauborgne (1991) study the effects of procedural justice on commitment, and find that procedural justice of a global strategy generation process does indeed directly affect commitment as well as trust, social harmony and outcome satisfaction among top managers. Cook and Emerson (1978) study power, equity and commitment beyond the dyad in exchange networks. Their findings suggest that equity and justice (rule of equitable exchange based on distributive equity) constrain the use of power, and that power when imbalanced has different effects on commitment depending on gender. Females form stronger commitments to their partners than males. McFarlin and Sweeney (1992) hypothesized that distributive justice would be the more important predictor of employees’ personal outcomes such as pay and job satisfaction, while procedural justice would be the more important predictor of organizational outcomes such as organizational commitment and subordinates’ evaluation of their supervisors. They found support for both their hypotheses, but distributive and procedural justice also interacted in predicting organizational outcomes.



The effect of perceived equity on commitment has also been studied in interpersonal relationships. According to Johnson (1982), the three determinants of personal commitment are satisfaction, outcomes and inequity. In Michaels et al.'s (1986) study of intimate relationship, the effect of inequity (advantaged or disadvantaged) on relational commitment was investigated. Their results indicated that inequity had no significant effect on commitment. This is consistent with the work by Lujansky and Mikula (1983) and Cate et al. (1983), but not with that done by Walster et al. (1978) and Sabatelli and Cecil-Pigo (1985). Sabatelli and Cecil-Pigo (1985) found that perceived equity within a relationship was the variable found to account for the largest percentage of variance in commitment levels reported for both husbands and wives. This evidence indicates that customer-perceived equity is likely to affect customers' commitment to service provider in both negative and positive service encounters, but that we expect the effects to take different forms. As findings from Tax et al.'s (1998) study indicate, customers with negative service experiences may choose to stay with the service provider due to expectations about the future based on past experience. Our question is then "what form of commitment will these customers have?" Our hypothesized answer is based on the following reasoning: despite a negative service experience, a customer may choose to stay with the service provider in order to either reduce risk (Sheth and Parvatiyar, 1995) or to reduce switching costs (e.g. Fornell 1992; Jones and Sasser, 1995). Either way, the customer will be more calculative than affective in his commitment to the service provider. When a customer has positive experiences he is more likely to become committed to the service provider in an affective way and the calculative dimension of commitment will be less important. This is usually evidenced by one of the consequences of satisfaction, such as a willingness to pay more than strictly necessary (Zeithaml et al., 1996), and is in stark contrast to the calculative, economic and rational way of being committed.

Building on this evidence we hypothesize that:

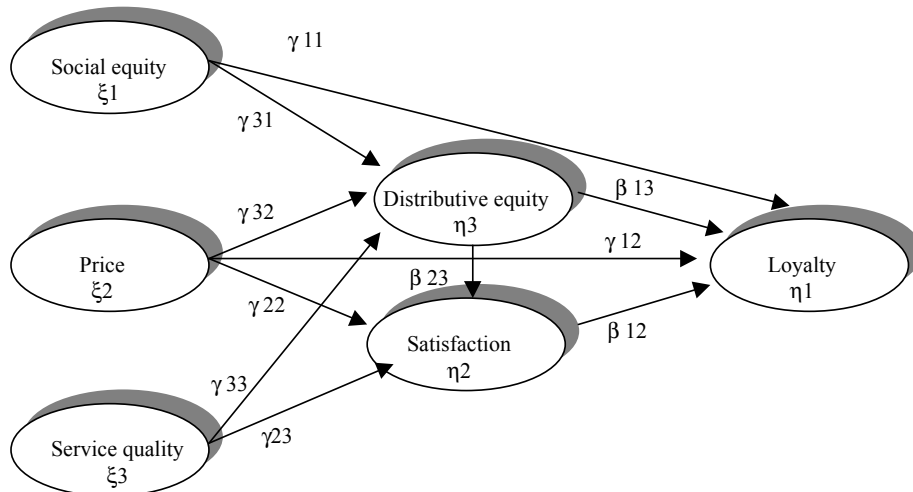
- H6: Complaining customers' perception of equity will have a greater effect on calculative commitment than on affective commitment.
- H7: Non-complaining customers' perception of equity will have a greater effect on affective commitment than on calculative commitment.

Based on this theoretical review, we find that the following research question should be pursued:

*Are there different cognitive processes underlying customer loyalty for customers who complain versus customers who do not complain?*

### Conceptual model

Hypotheses 1 through 5 can be summarized as in Figure 5.1, the conceptual model tested in the two-group analysis. From the model we see that price and service quality drive customer satisfaction. In addition to price and service quality, social equity drives customer-perceived equity. Price is also modeled to have a direct effect on loyalty. Depending on whether or not customers have reasons to complain, customer-perceived equity and customer satisfaction are modeled to affect customer loyalty.



*Figure 5.1: The conceptual model tested in the two-group analysis*

Sequentially, in order to test Hypotheses 6 and 7, we first remove all variables but customer perceived equity and affective commitment from the model. Then we replace affective commitment with calculative commitment. We repeat the procedure by exchanging perceived equity with satisfaction. Next we enter both perceived equity and satisfaction in the model simultaneously and test their relative effects on affective commitment first, then calculative commitment in each group.

Secondly, a somewhat different model is tested (in the LISREL analyses), see Figure 5.2. Now, we add affective and calculative commitment to the better fitting model in each sample, keep the antecedents of customer satisfaction and distributive equity in the model and look at how perceived

equity in the non-complainers' sample and satisfaction in the complainer's sample affect affective and calculative commitment.

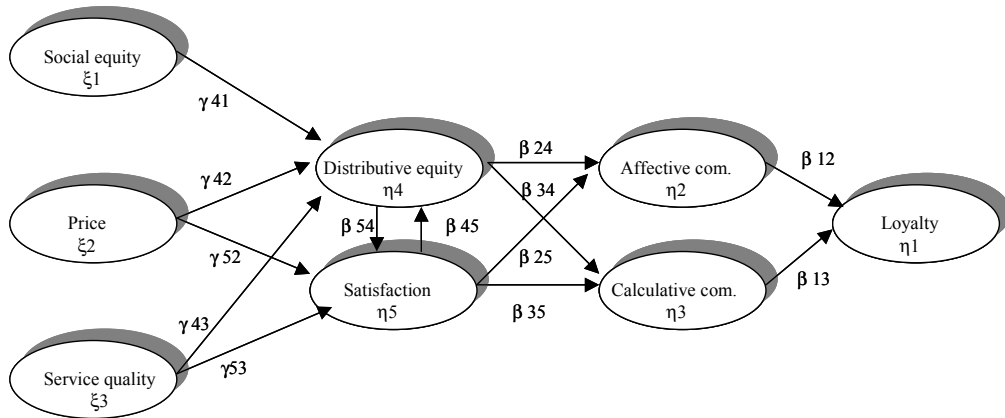


Figure 5. 2: The conceptual model when commitment is added

Thirdly, (in the PLS analyses) we extend the model in Figure 5.2. We test the effects of customer satisfaction and perceived equity on both commitment types at the same time. In addition to having an indirect effect on customer loyalty through commitment, both customer-perceived equity and customer satisfaction are hypothesized to have direct effects on loyalty. As in the second step, we keep the drivers of satisfaction and distributive equity in the model.

### Contribution

In this study we seek to contribute in several areas. A) We want to investigate both positive and negative service exchanges and compare their respective underlying processes in relation to customer loyalty. This has been called for in previous research (Smith et al., 1999). B) As a consequence of only focusing on a specific transaction, most studies on customer-perceived equity have been conducted as experiments, role-playing studies and scenarios (e.g. Fisk and Coney, 1981; Fisk and Ysoun, 1985; Mowen and Grove, 1982, Campbell 1999). In contrast, we conduct a survey in order to show that the theory remains valid when no special triggers or priming techniques are used. C) Multiple inputs and outcomes are considered in accordance with Oliver (1997). D) As suggested by Lervik and Johnson (2000), customer equity is measured cumulatively as opposed to transaction-specifically. E) Based on Lervik and Johnson's (2000) work, social comparison is introduced as a new driver of distributive equity F) We

suggest and investigate alternative models on the causality between customer satisfaction, customer-perceived equity and customer loyalty, again based on Lervik and Johnson (2000). G) Inspired by studies in organizational behavior, we investigate the effect of customer-perceived equity on two different kinds of customer commitment, affective and calculative, and compare this to the effects of customer satisfaction (Johnson et al., 2001). H) In contrast to other studies, such as for instance the National customer satisfaction indexes (Fornell 1992; Fornell et al. 1996 and Johnson et al. 2001) where the same causal processes are presupposed to underlie both complainers and non-complainers' service evaluations, leading to complainers and non-complainers being pooled in the same sample, we applied multi-group analyses in this study in order to investigate the differences and similarities across complainers and non-complainers.

## **Method**

### **Design**

A cross-sectional survey was chosen for the purpose of this study. Conducted by a professional marketing research bureau, the respondents were randomly selected within the banking sector and interviewed by telephone (CATI). Prospective respondents who were not available on the first call were called back three times before a substitute was picked. Each interview lasted approximately 15 minutes. The respondents were asked the following questions: 1) "Have you experienced situations where there have been reasons to complain?" 2) (if yes) "Did you complain?" 3) (if yes) "Did you complain in writing or orally?" Respondents who answered that they did not have any reason to complain were led to the next section in the interview. With the exception of the form of "filing the complaint questions", all respondents were asked identical questions. We were then able to divide the respondents into the following two groups: 638 customers with no reason to complain, and 211 customers who felt they had reason to complain, and had done so either in writing or orally. There were no respondents that felt they had no reason to complain, but had complained anyway.

### **Measures**

#### ***Customer-perceived equity***

Customer-perceived equity was measured as a cumulative construct, providing the opportunity for the respondents to evaluate multiple inputs and outputs, in line with recommendations in the literature (Oliver, 1997). Distributive equity was measured in an overall way, reflecting two of the dimensions suggested in the literature, preference and equity, with two

questions: “To what extent do you think your output is larger than your input when you use your bank’s services?” and “To what extent do you think you are treated fairly by your bank?” Equality, or social equity was treated as a driver of distributive equity and was measured by two indicators: “To what extent do you think that your bank treats you as well as other customers?” and “To what extent do you think your bank treats all their customers equally well?”

### ***Customer satisfaction***

In line with current research (Johnson et al., 2001), customer satisfaction was also measured cumulatively and by the three items suggested in the same literature: “overall satisfaction based on all experiences with your bank,” “closeness to an ideal bank,” and “to what extent does your bank meet expectations?”

### ***Customer loyalty***

Customer loyalty was measured using three of the indicators suggested by Zeithaml et al. (1996): how likely the respondent was to “recommend the bank to friends”, “spread positive information by word of mouth” and “repurchase.”

### ***Quality drivers***

Based on current research (Johnson et al., 2001) and in addition to the social equity construct, two drivers of satisfaction and customer equity were included, price and quality. Price was measured with regard to three factors: “price compared to quality”, “price compared to other banks” and “price to expectations”. Quality on the other hand was measured using the SERVQUAL scale (Parasuraman, et al. 1988, Zeithaml, et al. 1990). A first principal component factor analysis was then conducted, with the most important indicators of the SERVQUAL scale saved as one factor (SPSS 2000).

### ***Commitment***

Calculative and affective commitment were measured based on the works by Johnson et al. (2001), Kumar et al. (1994), Meyer and Allen (1984), Samuelsen (1997) and Samuelsen and Sandvik (1997). Affective commitment was measured by the following four factors: “pleasure of being a customer”, “identification with the company”, “relationship is mutual/reciprocated” and “psychological closeness to the company”. Likewise, calculative commitment was also measured by four items: “company represents the most profitable alternative”, “economic loss if switching”, “advantageous location” and “switching causes extensive changes in life.”

### **Missing values**

Overall, missing values do not represent a serious problem in this data set, as the number of missing values is low across all constructs and both groups, indicating that the respondents did not have any problems in responding to the questions. The five variables that have more than 20 % missing are found to cover price, service quality, and affective and calculative commitment. As each construct only has one “problem” indicator, with the exception of affective commitment, which has two, we have taken note of the problem, but include the indicators in our analyses for theoretical reasons. On the other hand, equity, satisfaction and loyalty do not seem to be difficult to answer since all three constructs have low numbers of missing values.

### **Analyses**

Two popular methods for estimating the SEM models with latent variables are proposed here: covariance structure analysis (CSA) using LISREL, and partial least squares (Fornell and Bookstein, 1987). The aim of covariance structure analysis is to explain relationships. Based on maximum likelihood estimation, it is particularly well suited to evaluating the relative fit of competing theoretical models (Bagozzi and Yi, 1994). CSA is also well suited to conducting the two-group analysis required to determine whether the causal models for our two groups of customers are indeed different. In contrast, partial least square analysis (PLS) is essentially an iterative estimation procedure that integrates principal-components analysis with multiple regression (Fornell and Cha, 1994; Wold, 1966). Whereas CSA explains covariance, the objective of PLS is to explain variance in the endogenous variables in a satisfaction model that have bottom-line managerial relevance. Thus PLS is particularly well suited to operationalize quality, satisfaction and loyalty models (Johnson and Gustafsson, 2000; Steenkamp and van Trijp, 1996). PLS is, for example, used to estimate all of the major national satisfaction index models (Johnson et al., 2001). We use both of these estimation methods.

The sequence of tests that are conducted in this study is as follows. First, to test Hypothesis 1, which states that there are differences across complainers and non-complainers, we conducted a hierarchy of tests following the two-group analysis procedure, the details of which are provided in the results section. We verified the results by running PLS analyses. To test Hypothesis 2, alternative ways to model customer satisfaction and customer-perceived equity were developed and run in LISREL in order to determine the discriminant validity between the constructs (Bollen, 1989; Anderson and Gerbing, 1988). Next, we explored their respective drivers. These results are replicated in PLS analyses. Then to test Hypothesis 3, to determine the generalizability of the measurement model, we applied the multi-group

testing procedure suggested by both Bagozzi and Yi (1998) and Bollen (1989), which requires a hierarchy of tests to be run. In the multi-group analyses, which in this case is a two-group analysis, we compare the complainers to the non-complainers. Chi-square difference tests were used to test hypotheses concerning the equivalence of models and parameters across the groups (Anderson and Gerbing, 1988; Meredith, 1993). The sequence of hypotheses was examined to explore generalizability in this sense. Marsh (1994) notes that “there is no clear consensus in recommendations about the ordering” of hypotheses concerning invariance constraints and the “choice of a particular ordering...must be evaluated in relation to the aims of a particular study.” (p.14) There is, however, consensus on the first two steps: One should begin with a test of invariance of variance-covariance matrices and then, if the matrices are found to differ, tests of invariance of variance-covariance pattern and the factor loadings should be performed. Marsh (1994) points out that “the minimal condition for ‘factorial invariance’ is the equivalence of all factors in the multiple groups.” (p. 11) For the subsequent tests of invariance, we examined whether error variances are equal across groups, and then investigated the invariance of factor variances and covariances among factors.

To verify our findings on the measurement model, we reran our model in each of the two groups. In principle, the same hierarchy of tests was run to test the generalizability of the causal models. In practice, however, these tests were somewhat more detailed in order to test Hypotheses 4 and 5 in line with Bagozzi and Edwards (1998) and Bollen (1989). In addition, our testing procedure included the following steps: first the traditional model, where equity drives customer satisfaction, which in turn drives customer loyalty, was tested. Price, quality and social equity were included at this stage, but their effects on customer satisfaction and customer loyalty were completely mediated by customer-perceived equity. Our next step was to open up for the drivers to be partially mediated by customer-perceived equity and customer satisfaction, since partial mediation is common in attitude models (Bagozzi and Yi, 1994), of which our model is one variation (Johnson et al., 2001). We then repeated the whole procedure with the alternative model, in which customer satisfaction drives customer-perceived equity, which in turn drives customer loyalty. Again, this was to verify our findings. We next tested each causal model in both groups, tests that we ran in both LISREL and PLS, before we decided upon one better-fitting model for each group.

To test hypotheses 6 and 7, we ran different OLS regression analyses in addition to LISREL and PLS analyses. In the OLS analyses, we first looked at the effects of customer perceived equity on affective commitment only,

then on calculative commitment only. Secondly we reran the analysis replacing customer perceived equity with satisfaction and thirdly we entered both customer perceived equity and satisfaction simultaneously in the equation and repeated the procedure, first entering affective commitment as the dependent variable, then calculative commitment. In the LISREL analyses we returned to the better fitting form of the causal model for the groups, where both drivers of customer satisfaction, customer-perceived equity and loyalty were included. Then we added calculative and affective commitment and modeled the hypothesized effects of customer-perceived equity/satisfaction on these constructs. Again, we verified our findings by conducting the same analyses using PLS. We believe that this relatively comprehensive procedure ensures that our findings support the estimation method and fitting objective used (Kujala and Johnson, 1993). Due to the extensive amount of tables this procedure generates we will only allow a sample to appear in the paper and the results will be presented in a narrative style. However, detailed information about the results is available upon request.

#### **Data distribution procedure**

In order to not violate the assumptions underlying the CSA and LISREL analysis and ensure that the data was normally distributed (Jöreskog and Sörbom, 1996), we ran our CSA analyses using normal scores - a procedure recommended by Jöreskog and Sörbom (1996) that converts skewed data to a normal distribution without compromising their characteristics. We used this procedure in addition to the ordinary LISREL procedure, in which the covariance matrix is not normalized. We do so in order to be certain that the models perform well under both circumstances. However, only in section two when testing the measurement models and identifying the better fitting models, as it is not recommended to use normal scores when running two-group analyses (Jöreskog and Sörbom, 1996). Our findings indicate that all models convert when both procedures are applied; in the following tables, however, we only present the results from the LISREL analyses run on the data set with normal scores. The procedure of giving the data normal scores was not applied to the PLS analyses, as it was not necessary due PLS' tolerance for skewed data.

#### **Treatment of missing data**

Different treatments of missing variables were applied across the different methods of analyses. In line with previous studies, such as Lervik and Johnson (2000), pair-wise deletion of missing data was applied in the first section when conducting the two-group analyses. While we applied a list-wise deletion of missing data whenever possible in the second section, where the measurement models are tested and the better fitting models identified.



As this method is recommended as the pair-wise deletion method has been criticized in the literature as possibly providing a non-positive definite covariance matrix and an ambiguous sample size (Schumacker and Lomax, 1996). List-wise deletion of missing data is also applied when running the OLS regression analyses. Finally, replacement of missing data with series means was the preferred method when conducting the PLS analyses, consistent with Johnson et al. 2001.

## Results

### Comparison of non-complainers to complainers

In order to test Hypothesis 1, which states that there are differences across complainers and non-complainers in their evaluation of services, and Hypothesis 3, which states that the measurement model holds across both groups, we conducted the hierarchy of tests shown in Table 5.1 below.

*Table 5.1: Findings for two-group analyses: tests of invariance for non-complainers and complainers under the measurement model*

<b>Model</b>	<b>Goodness-of-fit</b>	<b>Test of Hypotheses</b>
M1: Equal variance-covariance matrices	$\chi^2(105, n^{nc}=638, n^c=211)=229.66,$ p=0.00	Rejected
M2: Equal factor pattern	$\chi^2(126, n^{nc}=638, n^c=211)=471.89,$ CFI=0.96	Not rejected
M3: Factor loadings invariant	$\chi^2(134, n^{nc}=638, n^c=211)=486.01,$ CFI=0.96	Not rejected M3-M2: $\chi^2(8)=14.12$ p>0.050
M4: Factor loadings and error variances invariant	$\chi^2(148, n^{nc}=638, n^c=211)=487.67,$ CFI=0.96	Not rejected M4-M3: $\chi^2(14)=1.66$ p>0.250
M5: Factor loadings, error variances and factor correlations invariant	$\chi^2(168, n^{nc}=638, n^c=211)=567.12,$ CFI=0.95	Rejected M5-M4: $\chi^2(20)=79.45$ p<0.001

Table 5.1 shows the findings for tests of invariance of parameters across non-complainers and complainers under the measurement model. The test of equality of variance-covariance matrices reveals that  $\chi^2(105, n^{nc}=638,$

$n^c=211$ )=229.66,  $p=0.00$ . Thus, we must reject the hypothesis that the matrices are equivalent for non-complainers and complainers. The second row in Table 5.1 indicates that the factor pattern is similar across the two groups. That is, the six factors shown in Figure 5.1 fit the data satisfactorily for both non-complainers and complainers,  $\chi^2(126, n^{nc}=638, n^c=211)=471.89, CFI=0.96$ . Next it can be seen that the hypothesis of equal factor loadings cannot be rejected,  $\chi^2(8)=14.12, p>0.050$ . Likewise, we cannot reject the hypothesis that error variances are equal,  $\chi^2(4)=1.66, p>0.250$ . Finally, the hypothesis of equal correlations among factors is rejected,  $\chi^2(30)=79.45, p<0.001$ .

Given that factorial invariance has been established for the two groups, it is meaningful to examine the differences between the groups at the level of the latent variables in the model: loyalty, satisfaction, distributive equity, social equity, price and quality. When we do so, we find that non-complainers score significantly higher than complainers on all constructs except quality. For the non-complainers the scores on each construct involved are as follows: customer satisfaction (0.93, 0.08), customer-perceived equity (0.87, 0.07), loyalty (0.99, 0.08), price (0.60, 0.07), quality (-0.15, 0.08) and social equity (0.55, 0.08) compared to the complainers. All means are followed by their error terms in the parentheses. All differences are significant, again with the exception of the quality construct. Given the results above and due to large sample sizes, which may cause minor differences across the two groups to become significant (Jöreskog and Sörbom 1996), the measurement model was then tested in both samples. The fit statistics for the measurement model are summarized in Table 5.2 below.

*Table 5. 2: The goodness-of-fit statistics for the measurement model in both groups*

Model	Chi-square p-value (df)	RMSEA	Stand. RMR	GFI	AGFI	NNFI
Non-compl. (n= 638)	226.45 p=.00 (df =63)	0.061	0.034	0.96	0.93	0.96
Compl. (n=211)	137.22, p=.00 (df =63)	0.076	0.043	0.91	0.86	0.94

In Table 5.2 both absolute and incremental fit statistics (Bollen 1989, Gerbing and Anderson 1993, Marsh et al.1988) are reported for the measurement model. Of the absolute fit statistics we examine the chi-square and GFI (Jöreskog and Sörbom 1989), SRMR (Bentler 1995), the RMSEA

(Browne and Cudeck 1993, Steiger 1989). Of the incremental fit statistics we review AGFI (Jöreskog and Sörbom 1989, Bentler 1983) and NNFI (Bentler and Bonett, 1980). According to the different cut off criteria (see Hu and Bentler 1998, 1999 for an overview), we can conclude that the measurement model is within the acceptable range of all fit statistics but the chi-square, for both the complainers and the non-complainers. Again, due to relatively large sample sizes (638 and 211 respectively) and the chi-square's sensitivity to sample size, this is not a very good indicator of model fit. Minor misspecifications may become significant due to sample size. This measure is therefore only included for the sake of providing a more complete picture of the model. The RMSEA is below .08, the SRMR is low, GFI is well above .90, as is NNFI. AGFI is also relatively high in the non-complaining group, which is good. In the complaining group AGFI did not reach the acceptable level of .90, although it is close. We do not think that this is a serious threat to the validity of the measurement model in these two groups however, and can thus conclude that this model is confirmed by the above tests, which is in support of Hypothesis 3.

### **Customer satisfaction and customer-perceived equity: two of a kind?**

In order to test the discriminant validity between customer satisfaction and customer-perceived equity suggested in Hypothesis 2, a higher order factor analysis in line with Bollen's (1989) recommendations was conducted followed by chi-square difference tests in accordance with Anderson and Gerbing's (1988) suggestions. The higher order test provided poor goodness-of-fit statistics: a chi-square of 162.49 (df=4), RMSEA=0.59 and NNFI of 0.24, indicating that these constructs do not belong to the same underlying factor. The chi-square difference tests did however not indicate that these constructs are indeed distinct, as it did not improve significantly ( $\Delta\chi^2 = 4.77$ , df=1) when phi (the correlation between satisfaction and equity) was given an unconstrained value. Of equal importance, the drivers of customer satisfaction versus customer-perceived equity were tested. These findings are summarized in Table 5.3 below<sup>5</sup>.

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<sup>5</sup> These results are to some extent depending on the treatment of missing data.

Table 5.3: Goodness-of-fit statistics by analysis

Model/ Goodness of fit	Unconstrained	Constrained	Semi- constrained
Chi-square	90.84 (df=36), p=0.0	286.72 (df=39), p=0.0	93.17 (df=37), p=0.0
RMSEA	0.082	0.085	0.082
NNFI	0.94	0.93	0.94

Table 5.3 shows that the exploratory model, where no constraints are introduced, provides better fit statistics than the model where customer-perceived equity is allowed to be driven by social equity only, and not price and quality. In the same model, customer satisfaction is driven by price and quality. However, in the exploratory model, in which all drivers are allowed to drive both equity and satisfaction, we do not find support for social equity as a driver of customer satisfaction, while the remaining paths are all relatively strong and significant (see Table 5.4). This leaves us with a model where customer-perceived equity is driven by social equity, price and quality; whereas customer satisfaction is driven by price and quality only. These findings support Hypothesis 2, which states that customer-perceived equity is a more social construct driven by social equity as well as price and quality. In this study, quality does not only consist of tangible elements such as facilities and equipment, but also of intangible elements such as characteristics of the service and the service staff. This differs from how service quality is operationalized in the study conducted by Lervik and Johnson (2000). Actually, both quality and price seem to drive customer-perceived equity to the same extent as social equity. This indicates that, although customer-perceived equity is a social construct, over time, as the customer gains expertise, his ability to evaluate other dimensions increases, which in turn increases the importance of quality and price in his evaluation. All in all we can therefore conclude that Hypothesis 2 is supported, and that the findings of Lervik and Johnson (2000) are replicated and extended.

Table 5.4: Path coefficients

Paths	Coefficient
Price→	0.62
Satisfaction	(0.09)
	7.00
Quality→	0.34
Satisfaction	(0.08)
	4.29
Social equity→	0.70
distributive equity	(0.11)
	6.43
Price→	0.19
Distributive	(0.07)
equity	2.76
Quality→	0.26
Distributive	(0.10)
equity	2.56

## Two-group analyses of causal models

When testing Hypotheses 4 and 5, we applied the same hierarchy of tests to the causal models as when we tested Hypotheses 1 and 3. In this model, customer-perceived equity is modeled to be an antecedent to customer satisfaction, which in turn drives customer loyalty. Again, the test was conducted by comparing complainers and non-complainers. Both the complete and the partial mediation version of the model were tested. Because of the extensive amount of analyses that we had to conduct and the ensuing volume of results, most of the results are provided in a narrative summary.

### The traditional causal model: complete mediation

First, we tested a version of the traditional causal model where all drivers were completely mediated by customer-perceived equity, customer perceived-equity was in turn modeled to effect customer satisfaction, and this eventually drove customer loyalty. When we ran the hierarchy of tests recommended by Bagozzi and Edwards (1998) and Bollen (1989), the results provided poor goodness-of-fit statistics: GFI and RMSEA were outside the acceptable range, indicating that these groups do indeed have individual models. The GFI for the comparison between complainers and non-complainers varied from 0.86 to 0.88, while the RMSEA varied from 0.088 to 0.095. Characteristic of these comparisons is the fact that while the GFI decreased, that is worsened, as the number of constraints increased, the

RMSEA decreased, that is improved, without ever achieving an acceptable score. When reviewing the chi-square difference tests, we find that there are few significant differences when testing the various constraints. There is one exception, however: the error terms of the lambda  $y$ 's, which are the indicators operationalizing the endogenous variables. Other than that we do not find any differences when comparing these two groups at this stage. This does not mean that there are no differences across the groups, however. As this is the complete mediation version, these findings merely tell us that customer equity mediates the effects of social equity, quality and price on customer satisfaction and loyalty, and that customer satisfaction has an effect on customer loyalty. Far from contradicting any of our hypothesized relationships, these findings actually support them. What does prove somewhat troublesome is the fact that the path between customer-perceived equity and customer satisfaction is not significantly different across the two groups. When we take into account that the model achieved a poor fit when its form was tested, however, we can conclude that we had a poor model to start with. This means that the paths do not achieve a significantly better or worse chi-square from the base model. From this we can conclude that the samples probably do not share the same model, but more detailed analyses are needed to identify whether or not the paths are significantly different across the groups. As the first test indicates that the groups should be analyzed separately, it is unlikely that these groups share the same model with the same relationship between the constructs.

### **The paths in the complete mediation version**

In order to investigate the differences and similarities further we compared the two groups again, this time in a path-by-path manner. Here, we constrained the measurement model to be the same across the two groups by giving  $\psi$ s and  $\phi$ s invariant values: that is the correlation between the endogenous ( $\psi$ s) and exogenous ( $\phi$ s) variables are fixed to be the same in both groups (Jöreskog and Sörbom, 1996). Again, we used the chi-square tests to identify the differences. While the path was fixed in the one sample it was freed in the other. The chi-square was compared to the base model, where there are no constraints, but with the  $\psi$ s and  $\phi$ s being invariant across the groups. Our results this time show that the paths are indeed different across the groups. We find that the path between social equity and distributive equity achieves a significant difference from the base model of chi-square  $\Delta$  188.3,  $df=1$ ,  $p>0.001$ , RMSEA = 0.099 and GFI=0.87; the path between price and distributive equity achieves a chi-square  $\Delta$  65.4,  $df=1$ ,  $p>0.001$ , RMSEA = 0.098 and GFI=0.87; the path between quality and distributive equity achieves a chi-square  $\Delta$  51.6,  $df=1$ ,  $p>0.001$ , the path between distributive equity and satisfaction achieves a chi-square  $\Delta$  636.43,

df=1,  $p > 0.001$ ; and finally, the path between customer satisfaction and loyalty achieves a chi-square  $\Delta 535.37$ , df=1,  $p > 0.001$ . These findings tell us that the models are indeed different across the two groups. In addition, we can see from the chi-square difference tests that the paths vary in their degree of difference. For instance, the results suggest that the path between quality and distributive equity differs less markedly across the groups compared to the other paths, followed by the path between price and distributive equity, and the path between social equity and distributive equity. The path achieving the greatest chi-square  $\Delta$  is the path between distributive equity and satisfaction, followed by the path between customer satisfaction and loyalty. These findings are supported by the RMSEA. Intuitively, when compared to the previous tests, where the measurement model was not constrained to be the same, our results may seem conflicting. We do not think that this is the case, however, but believe that the reason why all the gammas (the paths between the exogenous and the endogenous constructs) are significantly different is due to the simplicity of the model. As the picture is probably more complex than that modeled in the complete mediation model, even more details are needed to be able to draw conclusions.

We now introduce the partial mediation model. Notice that in addition to equity being able to have a direct effect on loyalty, there are two additional factors here. Firstly, by allowing both equity and satisfaction to explain variation in loyalty, we provide a direct test of Hypotheses 4 and 5. Secondly, partial mediation is common in attitude models (Bagozzi, 1994), of which satisfaction models are one variation (Johnson et al., 2001). Now, we repeat the procedure from above.

### **The traditional causal model: partial mediation**

When we tested the partial mediation version of the traditional model, we found that the paths between the exogenous and the endogenous variables (chi-square  $\Delta = 46.44$ , df=7,  $p < 0.001$ ), the error terms of the y indicators (chi-square  $\Delta = 35.13$ , df=8,  $p < 0.001$ ) and the correlation between the exogenous variables (chi-square  $\Delta = 23.14$ , df=3,  $p < 0.001$ ) are all significant in that they vary across the groups. As was the case in the complete mediation model, the GFI gets progressively worse in line with the number of constraints introduced, (variation from 0.85 to 0.90) while the RMSEA improves (variation from 0.087 to 0.092) without either of these goodness-of-fit statistics achieving an acceptable level.

### **The paths in the partial mediation version**

When we proceeded to the path-by-path analysis of the partial mediation model, we found that the paths between social equity and distributive equity, price and distributive equity; price and satisfaction; quality and satisfaction; satisfaction and loyalty; and distributive equity and loyalty varied across the two groups. Their chi-square  $\Delta$  are 131.20, 54.05, 21.03, 17.95, 12.55 and 9.57 respectively, all with 1 degree of freedom. They are, with the exception of the path between distributive equity and loyalty ( $p < 0.005$ ), significant at  $p < 0.001$ . In all cases the GFI is the same (0.88), while the RMSEA varies between 0.079 and 0.085. Judging by the size of the chi-square, the path between social equity and distributive equity reveals the greatest difference across the groups, followed by the paths between price and distributive equity, price and satisfaction, quality and satisfaction, satisfaction and loyalty, and distributive equity and loyalty. These findings are supported by the RMSEA.



## Identifying the better fitting model

In order to identify the better fitting model, all models were run in both samples. These analyses provided the following results

*Table 5.5: Goodness-of-fit statistics for the different models by group*

<b>Model</b>	<b>Chi-square p-value (df=18)</b>	<b>RMSEA</b>	<b>Stand. RMR</b>	<b>GFI</b>	<b>AGFI</b>	<b>NNFI</b>
<b>Traditional causal model</b>						
Non-compl. (n=638)	81.56 p=0.00	0.086	0.049	0.96	0.92	0.95
Compl. (n=211)	38.49 p=0.0	0.083	0.035	0.95	0.89	0.96
<b>Alternative causal model</b>						
Non-compl. (n=638)	34.17 p=0.00	0.043	0.024	0.98	0.97	0.99
Compl. (n=211)	32.19 p=0.00	0.070	0.034	0.95	0.91	0.97
<b>Traditional model, complete mediation</b>						
Non-compl. (n=638)	346.34 p=0.00	0.080	0.053	0.93	0.89	0.93
Compl. (n=211)	155.38 p=0.000	0.076	0.047	0.90	0.86	0.94
<b>Traditional model, partial mediation</b>						
Non-compl. (n=638)	236.64 p=0.00	0.064	0.038	0.95	0.92	0.96
Compl. (n=211)	155.01 p=0.000	0.081	0.047	0.90	0.85	0.93
<b>Alternative model, partial mediation</b>						
Non-compl. (n=638)	351.06 p=0.00	0.084	0.045	0.93	0.88	0.93
Compl. (n=211)	158.38 p=0.00	0.082	0.047	0.90	0.84	0.93

Table 5.5, cont.: Goodness-of-fit statistics for the different models by group

<b>Better fitting model</b>						
<b>Modified alternative model, partial mediation</b> Non-compl. (n=638)	164.96 p=0.00 (df=67)	0.061	0.037	0.95	0.92	0.96
<b>Modified traditional model, complete mediation</b> Compl. (n=211)	146.04 p=0.00 (df=69)	0.074	0.044	0.91	0.86	0.95
<b>Model incl. commitment</b>						
Non-compl. (n=638)	633.71 p=0.00 (df=155)	0.073	0.046	0.90	0.87	0.93
Compl. (n=211)	376.12 p=0.00 (df=160)	0.080	0.051	0.85	0.80	0.91

### Traditional causality

From Table 5.5 we see that the traditional model (equity → satisfaction → loyalty) fits both the non-complainers and the complainers relatively well, although the RMSEA scores are somewhat high. In the complainers group, the RMSEA is 0.083, the SRMR 0.035, the GFI 0.95, the AGFI 0.89 and the NNFI 0.096. In the non-complaining group the numbers are 0.086, 0.049, 0.96, 0.92 and 0.95 respectively. With the exception of the AGFI, these statistics indicate that this model fits better in the complainers' sample than in the non-complainers' sample.

### Alternative causality

When we run the alternative model (satisfaction → equity → loyalty), however, we see that it achieves very similar goodness-of-fit statistics to the traditional model in the complainers' sample. Again, the exception is found in the RMSEA score. This time the RMSEA score is .070 in the complainers' sample, which is an improvement from the traditional model. The rest of the goodness-of-fit statistics are almost identical. This indicates that these are equivalent models in their basic versions and that we need to take the comparison a step further in order to identify the most efficient model for this sample.

In the non-complainers' sample on the other hand, we see a clearer picture. Not only does the RMSEA improve to .043, but the other goodness-of-fit statistics improve as well. The SRMR is now .024, the GFI 0.98, the AGFI 0.97 and the NNFI 0.99. All indicating that this model is a better model than the first one.

### **Adding the drivers**

#### **Traditional model, complete mediation**

Next, we add the drivers of satisfaction and equity to the model, that is social equity, price and quality. In the complete mediation model we let equity completely mediate the effects of all three drivers on satisfaction and loyalty. In the complainers' sample this model provides a RMSEA score of 0.076, a SRMR of 0.047, a GFI of 0.90, an AGFI of 0.86 and an NNFI of 0.94.

In the non-complainers the numbers are 0.080, 0.053, 0.93, 0.89 and 0.93 respectively. Indicating that this model fits this sample poorer than the it fits the complainers' sample.

#### **Traditional model, partial mediation**

When testing the partial mediation version of the traditional model both equity and satisfaction are allowed to mediate the effects of social equity, price and quality on loyalty. Also, we open up for direct effects of social equity on loyalty, price on loyalty and distributive equity on loyalty. In the complainers' sample this model provides a RMSEA of .081, SRMR of 0.047, GFI of 0.90, AGFI of 0.85 and an NNFI of 0.93, indicating that this model needs further refinements. In the non-complainers' sample the numbers are 0.064, 0.038, 0.95, 0.92 and 0.96 respectively, indicating that this model's statistics are all within an acceptable range.

#### **Alternative model, partial mediation**

In the alternative model, partial mediation version, the same paths are allowed as in the traditional model, with one important exception, satisfaction and distributive equity do now exchange roles again. This version of the alternative model provides poorer statistics than the traditional model does - in the complainers' sample. Now, the RMSEA is 0.082, the SRMR 0.047, the GFI 0.90, the AGFI 0.84 and the NNFI 0.93. This is also the case in the non-complainers' sample, where the statistics are 0.084, 0.045, 0.93, 0.88 and 0.93 respectively.

## **Better fitting models**

From the findings summarized in Table 5.5 above we can draw that the traditional model fits the complainers' sample better than it does in the non-complainers' sample. The opposite is true for the alternative model, although this model seems to fit better in both samples than the traditional model does. But, in the complainers' sample this is only the case until the drivers of equity and satisfaction are included in the model. Now, it seems like the traditional model, complete mediation version is the better fitting one in this sample. When testing the partial mediation version of both the traditional and the alternative model, we see that the statistics become somewhat poorer. The poorest statistics are achieved by the alternative model. Thus we draw that the traditional model is the better fitting model in the complainers' sample, however refinements of the model is required.

Already in the first stages of the analyses, we recognize that the alternative model seems to achieve better goodness-of-fit statistics than the traditional model in the non-complainers' sample. Although when we add the drivers of equity and satisfaction this picture becomes less clear. In fact, when comparing the alternative model to the traditional model, partial mediation version that is, the traditional model achieves better fit. Rather than indicating that we should choose the traditional model over the alternative model in this sample at this stage, this is an indication of the need for a further examination of the models. Such an examination should consist of reviewing the size and significance of the paths as well as take the factor loadings into account in (Bagozzi and Edwards, 1998). This way we should avoid that neither model provide improper solutions.

In order then to identify the better fitting model in the complainers' sample, we start with the traditional model, partial mediation version and delete the insignificant paths. This leaves us with the following model, see Figure 5.3 below.

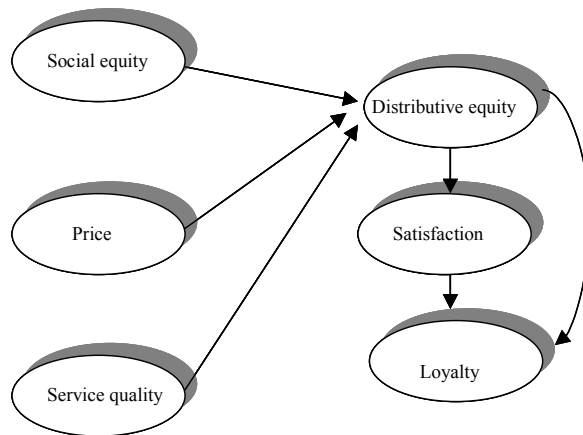


Figure 5.3: Empirical model – complainers

In Figure 5.3 the better fitting model identified in the complainers’ sample is presented. From the model we see that the effects of social equity, price and service quality on satisfaction and loyalty are mediated by distributive equity. Distributive equity has a direct effect on both satisfaction and loyalty, while satisfaction is the construct being closest to loyalty in this context. When reviewing the factor loadings and error terms, we further find that this is a proper model solution. The goodness-of-fit statistics for this model is summarized above in Table 5.5. With the exception of the AGFI, they are all within an acceptable range, thus indicating a good model.

We then proceed to identify the better fitting model in the non-complainers’ sample. Although the initial results supported the alternative model, we will at this stage review both the traditional model, partial mediation and alternative model, partial mediation version simultaneously. In doing so, we delete the insignificant paths and review the factor loadings again. The model receiving better support is as illustrated in Figure 5.4 below.

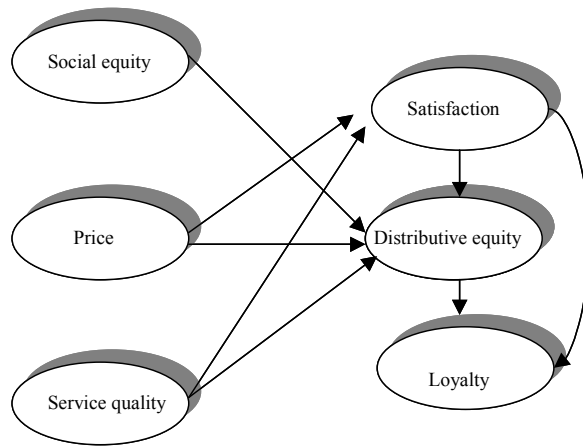


Figure 5.4: Empirical model - non-complainers

In Figure 5.4 the better fitting model identified in the non-complainers' sample is presented. From the model we see that the effects of price and service quality on loyalty are mediated by both distributive equity and satisfaction. Satisfaction has a direct effect on both distributive equity and loyalty, while distributive equity is the construct being closest to loyalty in this context. The goodness-of-fit statistics for this model is summarized above in Table 5.5. They are all within an acceptable range, thus indicating a good model.

Based on these findings we can conclude that we find support for Hypotheses 3 and 4.

### **The effects of equity and satisfaction on commitment**

In order to test the effects of equity and satisfaction on affective and calculative commitment, we run six different OLS regression analyses, three in each sample. In which affective and calculative commitment are defined as the dependent variables, and satisfaction and equity as the independent variables. The results are presented in Table 5.6 below.

Table 5.6: The effects of equity and satisfaction on commitment

Independent variable	Affective commitment		Calculative commitment	
	Complainers Std. beta	Non-complainers Std. beta	Complainers Std. beta	Non-complainers Std. beta
equity	.711 (14.51), p=0.00	.633 (20.34), p=0.00	.462 (7.47), p=0.00	.372 (9.10), p=0.00
<b>R<sup>2</sup></b>	<b>.51</b>	<b>.40</b>	<b>.21</b>	<b>.14</b>
satisfaction	.679 (13.34), p=0.00	.585 (18.10), p=0.00	.445 (7.17), p=0.00	.327 (8.71), p=0.00
<b>R<sup>2</sup></b>	<b>.46</b>	<b>.34</b>	<b>.20</b>	<b>.11</b>
equity	.449 (6.82), p=0.00	.437 (12.22), p=0.00	.298 (3.38), p=0.00	.271 (5.99), p=0.00
satisfaction	.365 (5.55), p=0.00	.336 (9.40), p=0.00	.228 (2.58), p=0.00	.383 (3.83), p=0.00
<b>R<sup>2</sup></b>	<b>.57</b>	<b>.47</b>	<b>.24</b>	<b>.16</b>

T-values in parentheses

From Table 5.6, we can see that hypotheses 6 and 7 are partly supported. On the one hand, in the complainers' sample customer-perceived equity has a larger effect on affective commitment than on calculative commitment. That is, the beta coefficient is stronger (.711 versus .462), as is the t-value (14.51 versus 7.47). The R<sup>2</sup> is also indicating that more of the variance is explained in affective commitment (.51) as compared to calculative commitment (.21). This is in direct contrast to what is postulated in Hypothesis 6. On the other hand, in the non-complainers' sample, customer-perceived equity has a larger effect on affective commitment than on calculative commitment as well. That is, the beta coefficient is stronger (.633 versus .372), as is the t-value (20.34 versus 9.10). The R<sup>2</sup> is also indicating that more of the variance is explained in affective commitment (.40) as compared to calculative commitment (.14). This is in accordance with Hypothesis 7. Also from this table we can see that satisfaction as well has significant effects on both affective and calculative commitment in both samples. Like equity, satisfaction has a stronger effect on affective than calculative commitment in both samples. From the last three rows of the table, we can conclude that both equity and satisfaction have significant effects of affective as well calculative commitment when they are entered the equation simultaneously. Although it seems like equity may have stronger effects on both types of commitment than satisfaction has in the complainers' sample. In the non-complainers' sample, the beta coefficients indicate that satisfaction has a stronger effect on calculative commitment than equity does, still the t-value of the equity coefficient is stronger.

### **Adding commitment to the model**

Our final step in this part of the analysis is to add affective and calculative commitment to the better fitting model for each group. The statistics from this model are also summarized in Table 5.5 above. We can see that, although the model still achieves acceptable statistics in both samples, the goodness-of-fit statistics are somewhat poorer when we add commitment. That the goodness-of-fit statistics get worse is probably due to the fact that the model becomes more complex, as parsimonious models are usually favored in LISREL (Jöreskog and Sörbom, 1989).

Furthermore, when the commitment constructs are added to the non-complainers' model we see that the weights change. Now, the path between distributive equity and calculative commitment is stronger than the path between distributive equity and affective commitment, while the t-value and the error term indicate a more reliable and stronger relation between distributive equity and affective commitment. The same is true when comparing the relation between satisfaction and affective commitment to the one between satisfaction and calculative commitment. Another important finding when adding commitment to the non-complainers' model is that the direct effects of both distributive equity and satisfaction on loyalty are no longer significant. Rather it seems like their effects are now mediated through commitment. Similar to the results above, affective commitment seems to have a weaker relation to loyalty than calculative commitment has as long as the weights are considered. The constructs do however exchange roles when the t-value and error terms are considered.

When adding the commitment constructs to the complainers' model, we have to remember that satisfaction now is the construct closest to loyalty. Thus, the effects of distributive equity on affective and calculative commitment are now mediated by satisfaction. As is the case in the non-complainers' model, the weights change. Again, the path between satisfaction and calculative commitment seem to be the more powerful one, while the t-value and the error term seem to indicate that the relation between satisfaction and affective commitment is the more reliable and stronger one.



## **The PLS results**

At this stage we compared the traditional model to the alternative model in both groups to identify which one provided the better fit. The proposed models were evaluated using PLS (Fornell, 1992; Fornell et al., 1996) consistent with the procedure used in Johnson et al. (2001) and Lervik and Johnson (2000). We started out the analyses by determining which one of the two models fit better in each sample. We did so by comparing the simplest versions of the models, that is the causality between the three key constructs: equity, satisfaction and loyalty. Our results indicate that the traditional model is the better one to explain loyalty among complainers, while the alternative model is the better one to account for non-complainers' future loyalty to the service provider. That is, the explained variance in customer loyalty, which is the most important latent variable, is higher when running the traditional model in the complainers' sample than under the alternative model (0.559 versus 0.392 respectively). The opposite is true in the non-complainers' sample, where the explained variance in loyalty is 0.347 under the traditional model and 0.392 under the alternative model. Next, we compared the path coefficients in the models. From this comparison we found that the path between satisfaction and loyalty is stronger than the path between equity and loyalty in the complainers' sample, while the opposite is again true in the non-complainers' sample. By comparing the explained variance in the latent variables and the path coefficients we verify the same results as provided in LISREL.

Now that these models are identified and the LISREL results replicated, we proceed to a more in-depth and thorough evaluation of the models in their full versions. Due to our previous findings in LISREL and verification in PLS, we will only focus on an extended version of the traditional model in the complainers' sample. For the same reasons, we will only focus on the extended version of the alternative model in the non-complainers' sample.

We will now continue by discussing the quality of the measurement model and then go on to examine the latent variable model results of these extended versions of the models.

*Table 5.7: Average communalities by group*

<b>Variables</b>	<b>Complainers (n=211)</b>	<b>Non-complainers (n=638)</b>
Satisfaction	0.549	0.697
Equity	0.542	0.729
Loyalty	0.795	0.802
Affective commitment	0.554	0.530
Calculative Commitment	0.272	0.472
Social equity	0.603	0.785
Price	0.388	0.679
Quality	1	1

Overall, we see from Table 5.7 that the measurement variable (MV) loadings for each sample are relatively large and positive, with average communality being greater than 0.5 in 11 of 14<sup>6</sup> cases (78 %). The majority of the exceptions are found in the calculative commitment construct, with some being found in the affective commitment construct. This implies that both the calculative commitment and affective commitment constructs consist of more than one component or latent variable and may thus need further refinement. Price, social equity, satisfaction and distributive equity all have one occurrence of communality below 0.5, but, since these are found in only one sample, we do not believe that this poses a serious threat to these constructs and we should be careful about drawing any conclusions based solely on this evidence.

The next criterion we used to evaluate the validity of the measurement model was the discriminant validity of the model. Here, we explored whether each latent variable (LV) or construct shared more variance with its MVs (indicators than it did with other constructs in the model. This was examined by looking at the percentage of MV loadings to exceed the LV correlations (Johnson et al., 2001). There were 20 out of a total of 308 comparisons across the two groups (approximately 6.5 %) where an LV correlation exceeded an MV loading for the two constructs involved. There were slight variations across the two groups as to which constructs were involved. For instance, in the non-complainers' group all but the MV loading reflecting affective commitment were above the LV correlations. In the complainers' group 19 MV loadings fell below the LV correlations. In essence, these loadings represented four different latent variables: price, satisfaction, distributive equity and calculative commitment. While

<sup>66</sup> The "Quality" constructs are not included in this percentage as they are principal components, with an average communality of 1.

distributive equity was only registered once, the three other constructs were registered more than 3 times. From this we can conclude that weaknesses that exist are concentrated in the price, satisfaction and calculative commitment constructs, though, once again, we do not think these are serious threats since they are only found in one sample.

To evaluate the latent variable results, we first examined the size and significance of the predicted path coefficients. We then examined the ability of the model to explain variation in the endogenous variables, with particular reference to equity, satisfaction and loyalty. Table 5.8 reports the size and significance of each path for each sample. Following Fornell et al. (1996) and Johnson et al. (2001), jackknife estimates were generated to evaluate the significance of the paths. As the majority of the path coefficients are significant, only those paths that are not significant ( $p > 0.05$ ) are marked in the table. Out of the 30 paths (15 paths \* 2 groups), 16 paths are significant (53 %), see Table 5.8.

*Table 5. 8: Path coefficients by group*

<b>Path coefficient</b>	<b>Complainers</b>	<b>Non-complainers</b>
Quality→ Satis	0.208	0.476
Quality→ Equity	0.119*	0.415
Price→ Satis	0.056*	0.333
Price→ Equity	0.626	0.149
SocEq→ Satis	0.154*	0.010*
SocEq→Equity	0.070*	0.237
Equity→Satis	0.486	NA
Satis→Equity	NA	0.131* (**)
Equity→Loyalty	0.185*	0.421
Satis→ Loyalty	0.626	0.338
Equity→Affcom	0.269*	0.083* (**)
Equity→Calcom	0.070*	0.221
Satis→Affcom	0.285*	0.167
Satis→Calcom	0.626	0.125
Affcom→Loyalty	0.104*	0.026*
Calcom→Loyalty	0.109*	0.044

(\*\*) Almost significant at  $p < 0.05$

When reviewing Table 5.8, it is important to note that some of the paths are just tested and not meant to be significant, hence the hypotheses which will be discussed more thoroughly at the end of this chapter. In the complainers' sample we see that the paths between quality and satisfaction, price and distributive equity, distributive equity and satisfaction, satisfaction and loyalty, and satisfaction and calculative commitment are all significant. In the non-complainers sample the paths between quality and satisfaction,

quality and distributive equity, price and satisfaction, price and distributive equity, social equity and distributive equity, distributive equity and loyalty, satisfaction and loyalty, distributive equity and calculative commitment, satisfaction and affective commitment, satisfaction and calculative commitment, and calculative commitment and loyalty are significant. In addition, the path between distributive equity and affective commitment and the path between satisfaction and distributive equity is very close to being significant at  $p < 0.05$ , and is significant at  $p < 0.10$ . All in all we can draw that the size and significance of the paths in the PLS analyses support the findings from the LISREL analyses. The second indicator of the models' performance is their ability to explain important latent variables, primarily in equity, satisfaction and loyalty but also in affective and calculative commitment. The variance explained ( $R^2$ ) in the endogenous variables by group is reported in Table 5.9.

*Table 5.9: Variance explained in the latent variables by group*

<b>Variance explained <math>R^2</math></b>	<b>Complainers</b>	<b>Non-complainers</b>
Satisfaction	0.407	0.490
Equity	0.436	0.599
Loyalty	0.597	0.470
Affcom	0.093	0.058
Calcom	0.110	0.097

From Table 5.9 we can see that the explained variance in the key latent variables is relatively high. In the complainers' sample, more variance is explained in the loyalty construct than in equity and satisfaction, but this is not the case among the non-complainers. Here, although there is only a slight difference, both satisfaction and equity receive a higher explained variance than loyalty (0.490 and 0.599 respectively). The overall customer satisfaction range is from 0.407 in the complainers' group to 0.490 in the non-complainers' group, the measures for equity range from 0.436 in the complainers' group to 0.599 in the non-complainers' group, while variances for the other endogenous constructs (affective and calculative commitment) are generally lower. Affective commitment ranges from 0.058 to 0.093 whereas calculative commitment is somewhat higher, ranging from 0.097 to 0.110. This could be due to the fact that these constructs have only two antecedents or drivers: satisfaction and distributive equity.

## Summary of hypotheses testing

In Table 5.10 below, the results from the hypothesis tests are summarized.

*Table 5.10: Summary of hypothesis testing*

<b>Hypotheses</b>	<b>LISREL</b>	<b>PLS</b>	<b>OLS Regression</b>
<b>H1:</b> There are differences between complainers and non-complainers concerning the underlying processes that govern their intentions to be loyal to the service provider in ongoing service exchanges.	Supported	Supported	NA
<b>H2:</b> Customer satisfaction and customer-perceived equity are different constructs with different antecedents and consequences in ongoing service exchanges. While customer satisfaction is a more rational evaluation, driven by price and quality, customer-perceived equity is a more social and affective evaluation, driven by social equity as well as price and quality.	Supported	Partially supported	NA
<b>H3:</b> There are no differences between complaining customers and non-complaining customers concerning the content of customer-perceived equity, customer satisfaction and customer loyalty. The constructs mean the same to complainers and non-complainers in ongoing services exchanges.	Supported	Supported	NA

Table 5.10, cont.: Summary of hypothesis testing

Hypotheses	LISREL	PLS	OLS Regression
<b>H4:</b> For customers with no reason to complain, equity is the overall attitude-like evaluation that is closer to customer loyalty than customer satisfaction.	Supported	Supported	NA
<b>H5:</b> For customers with reason to complain, dis/satisfaction is the overall attitude-like evaluation that is closer to customer loyalty than customer-perceived equity.	Supported	Supported	NA
<b>H6:</b> Complaining customers' perception of equity will have a greater effect on calculative commitment than on affective commitment.	Not supported	Not supported	Not supported
<b>H7:</b> Non-complaining customers' perception of equity will have a greater effect on affective commitment than on calculative commitment.	Supported	Supported	Supported

From Table 5.10 we see that Hypotheses 1, 3, 4, and 5 are supported by both the CSA and the partial least square analyses, whereas Hypothesis 2 receives only partial support in PLS. Hypothesis 6 does not receive support, while Hypothesis 7 receives full support in both the OLS regression analysis, LISREL and PLS.

## Discussion

The overall objective of this article was to investigate the differences across complainers and non-complainers in their evaluation of services. We assumed that there were differences in the causality of the antecedents in the underlying cognitive evaluation processes, and that these differences impacted on the customers' commitment to stay with the service provider in different ways. Based on a theoretical review, we developed a set of seven hypotheses. In order to determine the extent to which complainers and non-complainers are different, we applied a framework for two-group analyses as suggested in the structural equation modeling literature. In order to verify our results, we additionally ran partial least square analyses.

### **Differences across complainers and non-complainers**

First of all, our findings support Hypothesis 1 by indicating that complainers and non-complainers do indeed undergo different cognitive processes when evaluating services. These evaluation processes differ first and foremost in the causal relationship between the antecedents to customer loyalty, which in turn have different effects on the customers' intended future loyalty to the service provider. The fact that complainers and non-complainers have different cognitive evaluation processes implies that these two groups should not be pooled when analyzed (Bagozzi and Edwards, 1998), but should be examined separately.

We also find support for Hypothesis 2. However, while the hypothesis is fully supported using the LISREL software, it is only partially supported when using the PLS software. In essence, the LISREL results indicate that customer satisfaction and customer-perceived equity are different constructs. Here, customer-perceived equity is a more social construct, driven by social equity, price and quality. Customer satisfaction on the other hand is a more rational construct, driven by price but not social equity. The LISREL results are based on a discriminant validity test and a higher-order factor test, where the two samples are pooled. When using the PLS analyses, as a complementary procedure, we separated the two samples in order to provide the strongest possible test. In the PLS analyses, the drivers of customer-perceived equity are confirmed in the non-complainers' sample, while social equity and quality are not found to drive customer-perceived equity in the complainers' sample. Likewise, the drivers of customer satisfaction are confirmed in the non-complainers' sample, whereas price does not seem to be a driver of customer satisfaction in the complainers' sample. This lack of support in the PLS analyses may be due to the missing values and the replacement of these values with serial means. These missing values are found in price and quality, and may have had a relatively strong effect on a complainers' sample that consisted of only 211 respondents. This procedure is not used in LISREL, where the pair-wise deletion or the list-wise deletion methods are used (Jöreskog and Sörbom, 1996), which may explain the discrepancy in results.

Our findings further indicated that the measurement model was the same across the two groups; that is, all the constructs in the models are perceived in the same way by complainers and non-complainers alike. Thus Hypothesis 3 is supported.

We then proceeded to test Hypotheses 4 and 5, the two proposed causal models. The first, traditional model is where equity drives customer satisfaction, which in turn drives customer loyalty. The second model is

referred to as the alternative model, where customer satisfaction is proposed to drive customer equity, which in turn drives customer loyalty. We found that the alternative model is the better predictor of customer loyalty for non-complainers. The traditional model, on the other hand, is a better predictor of customer loyalty for complainers. This supports Hypotheses 4 and 5, both of which were backed up by LISREL and PLS analyses.

When testing Hypothesis 6, we found support in neither of the analyses, but instead discovered that customer-perceived equity had a stronger effect on affective commitment than on calculative commitment in the complainers' sample. This indicates that when customers have complained there is a potential for turning them into affectively committed customers, who will be loyal as long as they are provided with satisfactory compensation. However, this argument can be turned upside down by contending that if the customer does not receive satisfactory compensation, the service provider may make a lifelong enemy, who may actively seek to boycott and harm the service provider (Hart and Johnson, 1999).

Hypothesis 7 receives full support in the LISREL but not the PLS analyses. Again the discrepancy in these findings may be due to the procedure for treatment of missing values. Thus, indicating that for non-complainers customer-perceived equity has a stronger effect on affective than calculative commitment.

All in all, based on our results we can conclude that we find support for our proposed models and hypotheses.

### **Weaknesses**

Although certain weaknesses are obvious in this study, we do not consider them to pose serious threats to the validity and reliability of the findings. First of all, the number of respondents varied across the groups. To counter this, we randomly sampled 156 respondents from each group and then ran the same analyses; these tests provided the same results, leading us to return to the original sample size. Secondly, the number of missing values for price, quality, and affective and calculative commitment was relatively high. These missing values have been replaced by series means in the PLS analyses, which tend to neutralize and minimize differences, leading to a situation when conducting the PLS analyses in which the paths involving these two constructs may have become insignificant. We consider this a stronger test, however, as it indicates that our models are in fact equally robust since they still provide results very close to what is hypothesized. Thirdly, the explained variance of calculative and affective commitment was relatively low. On the other hand, as they clearly contribute to explaining the variance



in loyalty, we think that they are appropriate measures with an improvement potential. The dilemma in this case is that these measures are relatively well-established and replicated in organizational behavior literature, as well as to a certain extent in relationship marketing literature, especially in a business-to-business context. Overall, we think that the low level of explained variance in these two constructs may be due to the fact that only two antecedents are included in our models; in future studies, one should consider including other antecedents in order to increase the explained variance.

### **Strengths**

Overall, the strengths of the study are the implications it has for both theory and management. In the study both positive and negative service experiences were investigated. In order to do so, we divided the respondents into two different groups, complainers and non-complainers, instead of pooling them into the same sample as is the most common procedure. We applied the two-group analyses procedure, and demonstrated how this may be a relevant way to proceed when dealing with different but comparable customer segments. We used well-established constructs tested in several industries, which should increase the probability that external validity is achieved. Results usually found in experiments where the data is collected in a cross-sectional survey are also achieved here. An indication of the potential for improvements to modeling is illustrated by the results achieved when moving from transaction-specific to cumulative models of customers' evaluations. Despite minor differences across the two groups, we can see a general trend of improvement by modeling our way, demonstrated by the increase in the explained variance in loyalty. Last but not least, we have introduced and tested the relationship between customer-perceived equity and commitment, provided new insights and knowledge about the relationship between these constructs, and demonstrated that this is a constructive way to proceed in the future.

### **Managerial implications**

Clearly, these findings will have implications for managers in several respects. To begin with, without this knowledge marketing strategies may be misguided and service delivery systems poorly designed. Furthermore, the findings will have implications for modeling, measuring and tracking key drivers of customer loyalty since we can conclude that customer-perceived equity should be included in modeling not only when measuring customers' evaluation of negative service encounters, but positive service encounters as well. Not least, it is noteworthy that distributive equity seems to be about fairness, price and quality, as well as social equity. All in all it is important

for managers to recognize the need for different models for complaining and non-complaining customers.

#### **Avenues for future research**

This study opens up for several avenues of future research. As the study only addresses the distributive principle of justice, the remaining procedural and interactional justice principles should also be explored in a similar fashion. The fact that we identify two different models of customers' evaluation: equity first and satisfaction first, triggers new questions, especially in view of the fact that we are witnessing a transformation and improvement from a transaction-specific to a cumulative evaluation context . It seems particularly relevant in this context to pursue the different roles customer-perceived equity may adopt in different customer service provider interactions and different customer service provider relationships depending on which relationship phase the customer may find himself insofar, only the tip of the iceberg has been identified concerning the different roles played by both customer-perceived equity and the customer -service-provider relationship. One fact remains clear, however: we have determined with certainty that there are differences across complainers' and non-complainers' evaluation of services, which are rooted in the difference between transaction-specific and cumulative service evaluations.

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## **CHAPTER 6**

### **Modeling and Testing Different Types of Relationships in Consumer Markets**



# **Modeling and Testing Different types of Relationships in Consumer Markets**

Line Lervik Olsen

## **Abstract**

For some time now, marketers have been paying extensive attention to customer/service-provider relationships due to the importance of successfully handling these relationships in their every detail. For the most part, knowledge of customer/service-provider relationships is conceptual; that is, there is a lack of research focusing on operationalizing and testing different customer/service-provider relationships. The goal of this study is to operationalize, model and empirically test three different kinds of customer/service-provider relationships: the service encounter, the pseudo-relationship and the service relationship, as based on the work of Gutek and colleagues. A set of 14 hypotheses are developed and tested; using data gathered from the hotel industry, we find general support for the proposed models.

## **Introduction**

Substantial attention has been paid to marketing's shift in focus from discrete transactions to developing and maintaining customer relationships (Grönroos, 1994; Gummesson, 1995; Gutek, 1995; Sheth and Parvatiyar, 1995). Today, relationship principles have virtually replaced short-term exchange notions in both marketing thought and practice (Fournier, 1998). This paradigm shift (Deighton, 1996; Fournier, 1998; Grönroos, 1994), driven as it is by customers who have ever increasing information and choice, is unlikely to abate (Johnson, 1998).

In the new economy, rather, interactions between customers and service-providers take many different forms; technology, for instance, now allows customers to interact with service-providers at arm's length (Meuter et al., 2000). With quick and inexpensive access to increased information, customers can easily choose among multiple alternatives on a transactional basis rather than interacting with a single supplier on a relational basis. At the same time, we see that the relational form of interacting with a service-provider is likely a lasting phenomenon insofar as it offers many advantages to both customers (Gwinner et al., 1998) and service-providers (Fornell and



Wernerfelt, 1987; Rust et al., 2000, 1995; Zeithaml and Bitner, 1996). As a consequence, firms are facing new and more diverse competitive situations where customers demand services both in discrete/transactional and cumulative/relational ways.

It is increasingly evident that there has been a rapid infusion of technology into industries of all varieties, introducing different interaction alternatives for customers and service-providers (Bitner et al., 2000). If technology is causing the new economy to become an arena for creating and enhancing “looser” customer–service-provider relationships, then marketing in practice and marketing in theory are diverging. This observation, if true, would be in contrast to the underlying theme in relationship marketing literature, indicating that customer/service-provider interactions parallel close interpersonal relationships, such as friendship and marriage (Berscheid, 1994; Gremler and Gwinner, 2000; Price and Arnould, 1999).

It may be, rather, that at least some customers prefer ‘colder’ and more distant relationships to their service-providers. On the other hand, there are certainly other perspectives available for analyzing the customer-service-provider relationship, as typically seen in economical theories applied to industrial marketing. These two perspectives represent extreme poles: the economical theories are more rational and calculative, while theories on interpersonal relationships are more irrational and affective. We consider the optimal approach to investigating customer/service-provider relationships to be a hybrid of these perspectives, further complemented with other relevant theories such as those from the attitude and service marketing literature.

In recent articles, Gutek and her colleagues (Gutek, 1995, Gutek, 1997, Gutek, 1999a, Gutek et al., 1999b, 2000) advocate a new framework for analyzing different kinds of customer/service-provider interactions. Underlying their framework is the suggestion that customer/provider contacts be initially viewed as interactions between strangers. The authors refer to these interaction types as service encounters and pseudo-relationships, which, over time, may take on the form of a service relationship. Clearly, we would expect these different kinds of contact types or interactions to include different dimensions varying in degree of rationality and affectivity. Although this framework seems to offer an appropriate solution to our concerns, it remains to be operationalized and adjusted to customer satisfaction and loyalty models.

It is as such the goal of this study to successfully operationalize the content of Gutek et al.’s customer/service-provider interactions and apply the framework as an extension to previous customer satisfaction and loyalty

models. To complement the two perspectives mentioned above - and in line with previous work on customer satisfaction and loyalty modeling (such as summarized in (Johnson et al., 2001) - we suggest the application of attitude theories to this context. New and valuable insights could well be reached by applying attitude theory more rigorously to this context than has been done in earlier research, such as that of (Cronin and Taylor, 1992).

Thus, we conclude that the continuing proliferation of different customer/service-provider interactions conveys the need for research extending beyond the conceptual meaning of customer relationships. Instead of focusing exclusively on customer relationship management, managers as well as academics must understand both discrete transactional and cumulative relational demand; we have, in essence, to know what drives satisfaction with a transaction as opposed to a relationship. Further, we need to gain insight into the cognitive processes behind discrete and relational exchanges (MacIntosh and Gentry, 1995).

The research question driving this study is therefore as follows:

*What are the antecedents and consequences of discrete and relational exchanges in consumer markets?*

To investigate our question, we have combined the framework developed by Gutek and colleagues with inter-organizational theories, attitude theories and service marketing literature. Different causal models are suggested and tested depending on somewhat different conditions. Our models integrate the above-mentioned perspectives into the theory of reasoned action (Ajzen and Fishbein, 1980), the theory of planned behavior (Ajzen and Madden, 1986) and the Norwegian Customer Satisfaction Barometer (NCSB) model (Johnson et al., 2001). We argue that the two varying conditions in the theories of reasoned action and planned behavior parallel differences in the causal models of the service encounter and the pseudo-relationship. The service relationship model, for its part, is built as a true hybrid of the business-to-business and interpersonal relationship, as founded in the NSCB.

In order to investigate these three different ways for customers and service-providers to interact – that is, the service encounter, and pseudo- and service relationships - we have conducted a cross-sectional survey in the hotel industry using three different samples. These samples were selected according to special criteria or, specifically, recency and frequency of interactions based on the theory of trying (Bagozzi and Warshaw, 1990) and in line with Gutek et al.'s guidelines (1997, 1999a, 1999b). The survey method was preferred to other methods, due to its widespread use when

collecting customer satisfaction and loyalty data (Johnson et al., 2001). As achieving external validity is an important goal of this study (Churchill, 1999), the survey was further chosen over other research models so that insights from this study could be generalized to other contexts as well.

In order to identify the proper dimensions of each type of interaction and to be able to distinguish between them, it is necessary to review previous research on the service encounter, the pseudo-relationship and the service relationship. The purpose of the review is to identify both potential missing dimensions of the service encounter and proper dimensions of the pseudo- and service relationships, in order to ultimately conclude which dimensions predict customer loyalty under each condition. However, before we review each interaction type, we will take a step back and revisit why attitude theories may offer a relevant perspective to apply to our research context.

#### **Why attitude theories?**

There are several reasons we think more insight could be gained by applying attitude theory more rigorously to this context. Firstly, the link between customer satisfaction and customer loyalty bears resemblance to the relationship between attitude, intention and behavior (Cronin and Taylor, 1992). Secondly, the cumulative construct of customer satisfaction seems to already be a good operationalization of customer satisfaction and predictor of loyalty; researchers have been able to increase the explained variance of loyalty to more than 60% (see Johnson et al., 2001), indicating as a consequence that the cumulative, attitude-like approach is helpful in gaining insight into customer/service-provider relationships. In keeping with this promising advancement, this construct might have the potential to explain even more variance in loyalty if we managed to identify any missing dimensions. Attitude models, for example, suggest different dimensions that we could include in our new models of customer satisfaction and loyalty.

Further, there are at least three generations of attitude theories and numerous experiences to draw upon. In an article by Bagozzi (1992), three important theoretical contributions are presented: the theories of reasoned action (Ajzen and Fishbein, 1980), of planned behavior (Ajzen and Madden, 1986) and of trying (Bagozzi and Warshaw, 1990). Each of these models applies to somewhat different conditions; we argue that these varying conditions to some extent parallel the differences between the causal models of transactions and relationships. Finally, to quote Petty et al. (1994), we learn from the attitude literature that strong attitudes are:

- (a) relatively easy to come to mind (accessible);
- (b) relatively persistent and stable over time;
- (c) relatively resistant to challenge from competing messages; and
- (d) relatively predictive of the person's attitude relevant behavior (p.117-118).

Thus, in increasingly competitive situations as described above, where defensive marketing strategies are considered the most appropriate, achieving these characteristics - should be of great interest to service marketers as they facilitate the process of gaining a loyal customer base (Zeithaml and Bitner, 1996).

### **Research on commercial exchanges**

In the inter-organizational marketing literature several researchers have been seeking to define the content of relationships between business partners (Macaulay, 1963; MacNeil, 1974, 1978, 1980; Dwyer et al., 1987; Noordewier et al., 1990; Heide, 1994). From these seminal works, we have learned that the nature of an exchange should fall somewhere on the continuum between a discrete transaction and a relationship. In the service marketing literature, several researchers apply this continuum when distinguishing between the service encounter and a relationship, as for example in the work of Liljander and Strandvik (1995) and Lovelock (1988). Gutek, (1997, 1999a) does as well, but she includes a further hybrid of the service encounter and the service relationship - that is, the pseudo-relationship, a form of interaction that may be placed at the middle of the discrete transaction/relationship continuum. In the next section we will address each of these three contact types.

### **The service encounter: application and extension of the theory of reasoned action**

It is clear from the literature that the service encounter plays several different roles; as the moment-of-truth (Normann, 1991; Carlzon, 1989), for instance, as a necessary part of a relationship (e.g. Liljander and Strandvik, 1995) and as a truly discrete episode consistent with the definitions provided in the inter-organizational literature of a discrete transaction (e.g. Dwyer et al., 1987).

Applying the discrete transaction to the business-to-consumer context is not in itself new as it has previously been discussed by researchers such as Lovelock (1988). However, recently, Gutek (1995,1997,1999a) and Gutek et al. (1999b, 2000) have contributed to the delineation of the service construct by elaborating on the nature of this interaction as compared with others. They suggest that a service encounter takes place between two strangers who

do not expect to interact in the future, and argue that customers consider service-providers to be functionally equivalent and therefore interchangeable in service encounters. As a result, it makes no difference in principle to the customer which provider delivers the service (Guttek, 1999a, p. 605). Finally, they argue that there is no reciprocal identification present in a service encounter.

We agree that the service-providers may be seen as equivalent and that customers feel they have a true choice, as is consistent with the main assumption underlying the theory of reasoned action – that is, customers’ volitional control (Ajzen and Fishbein, 1980; Bagozzi, 1992). Bagozzi, (1992) explains, “a volitional behavior is an action that a person is able and intends to perform, and whose execution no factors prevent” (p. 180). As this demonstrates the applicability of the theory of reasoned action to our context, compared to other relevant theories such as the theory of planned behavior and the NCSB model, we propose that:

H1: The extended version of the theory of reasoned action is the better model when measuring the content of the service encounter than the extended version of the theory of planned behavior and the extended version of the NCSB model.

Most of the previous research on the service encounter is closely connected to research on customer satisfaction and loyalty, as these are important goals for most service industries (Hennig-Thurau and Klee, 1997; Rust et al., 1995, 2000). Today, service encounter satisfaction is well established as a “consumer’s dis/satisfaction with a discrete service encounter [for example] a haircut” (Bitner and Hubbert, 1994; Guttek, 1995, 1997), as based on a comparison of expectations to performance on service quality attributes (e.g. Bitner and Hubbert, 1994; Cronin and Taylor, 1992; Johnson et al., 2001).

However, in the studies mentioned above, the link between customer satisfaction and customer loyalty in terms of retention has been weak and at times even non-existent (Hennig-Thurau and Klee, 1997). In accordance with Bolton (1995) and others like Johnson et al. (2001), the weakness of the link may be due to the transaction-specific measures of satisfaction applied in these studies, which in fact lend as such support to Guttek et al.’s assumptions of no intended future interactions. We nonetheless think that whose definition provides a somewhat problematic understanding of the service encounter as it disregards the possibility of future interactions between the customer and service-provider. This, from our point of view, is not the only role a service encounter may play.

As argued above, a service encounter may also be the first step towards a pseudo- or service relationship - that is, an initial phase as paralleled in the works of Dwyer et al. (1987) and Jap and Ganesan (2000) on relationship phases, and thus implicitly predictive of future interactions. Still, we consider service encounters to be of such a character that customers will remember them distinctly; they may recollect them clearly due to a low frequency of interactions with a given service-provider, or remember a particular service encounter if the interaction was their first or of a critical character (Smith et al., 1999).

As customers are able to remember the encounter distinctly, they will most likely have a clear memory as well of their prior expectations of the service-provider. The service-provider's performance dis/confirms the customer's expectations based on this specific encounter (Oliver, 1980) and customer dis/satisfaction results. This transaction-specific satisfaction is more transient or fleeting in nature and more similar to a state-of-mind than an attitude (Johnson et al., 2001). However, ultimately it will predict the customer's future interaction with the service-provider (e.g. Hirschman, 1970; Zeithaml et al., 1996). Thus, we propose the following causality:

H2: In service encounter evaluations, customers' expectations have positive effects on service quality. Service quality has a positive effect on customer satisfaction, which in turn has a positive effect on customers' future behavioral intentions towards the service-provider.

Although customer satisfaction is considered by most researchers to be the key predictor of customers' future behavioral intentions (e.g. Hennig-Thurau and Klee, 1997), it is most likely not the only one. Johnson et al., (2001) recently established support for replacing the value construct previously included in satisfaction models with a pure price construct. They modeled the price construct to have both an indirect effect on loyalty through customer satisfaction and a direct effect on loyalty. The latter path was significant in two of the five industries under study.

While support for the direct effect of price on loyalty in the above study was mixed, we think that price will have a direct effect on behavioral intentions such as loyalty in service encounters. Customers may perceive price as a clear and objective attribute for comparing service-providers in their choice between otherwise equivalent competitors. However, as price is a previously known factor to the customer in these trials, we do not predict that it will have an effect on customer satisfaction in this context. Price is not experience-based as is satisfaction (Oliver, 1993), therefore it will have a direct effect on behavioral intentions. Thus we propose that:

H3: In service encounter evaluations, price has a positive and direct effect on customers' future behavioral intentions towards the service-provider.

From the theory of reasoned action (Ajzen and Fishbein, 1980) we learn that subjective norm – what the closest family and friends think about our intentions - has an effect on customers' behavioral intentions. This variable has not been included in previous satisfaction and loyalty modeling. We think, however, that more of the variance in behavioral intentions can be explained by including subjective norm. We believe, specifically, that this will increase explained variance as the characteristics of services - intangibility, heterogeneity, perishability, and production and consumption, taking place simultaneously as in, for example, Zeithaml et al. (1985) - clearly are influenced by what is referred to as situational and dispositional factors in social psychology (Ross and Nisbett, 1991). Even for service encounters that do not involve the physical presence of a service representative, such as withdrawal of money from an ATM, subjective norm is relevant as the customers' interaction may also be influenced by the imagined presence of other people (e.g. Ajzen and Fishbein, 1980). Thus we propose that:

H4: In service encounter evaluations, subjective norm has a positive effect on customers' future behavioral intentions towards the service-provider.

Based on these observations and hypotheses, we suggest the following conceptual model for grasping the quintessence of a service encounter.

**The proposed model: service encounter**

All in all these propositions can be modeled as in Figure 6.1 below.

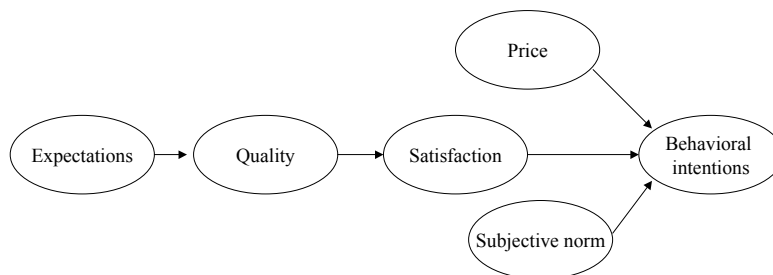


Figure 6.1: Conceptual model of the service encounter.

From Figure 6.1, we see what drives customer satisfaction and loyalty in service encounters. Customers' expectations are modeled to have positive effects on perceived service quality; in turn, service quality drives customer satisfaction, which is the main driver of behavioral intentions such as loyalty. Customer loyalty is however also influenced by price and subjective norm.

### **Pseudo-relationship: application and extension of the theory of planned behavior**

Unlike the service encounter, the pseudo-relationship has not been subjected to much research. Actually, the first group of researchers to apply this concept to the business-to-consumer context was Gutek and colleagues (1995, 1997, 1999a, 1999b, 2000) from their studies we learn that a pseudo-relationship is a hybrid of the service encounter and the service relationship. It takes place when the customer comes back to the same organization but interacts with a different service-provider in each encounter. Customer information is stored so that it is available to any of the organization's service-providers. A typical example of a pseudo-relationship is customer loyalty programs, such as airlines' frequent flyer mileage programs or a hotel's frequent stayer system. According to the key features of a relationship as presented by Gutek. (1999a) – namely reciprocal identification, expected future interaction and history of shared interaction - customers who engage in a pseudo-relationship will have such bonds to the company only, and not to any given service-provider or individual. Gutek further explains that the pseudo-relationship may actually have more in common with a service encounter than a service relationship, in that customers interact with a different service-provider on each occasion. In some cases, a pseudo-relationship may be based on simple practicalities such as location of the company and, in others, on lack of choices (Gutek, 1999a). This is a central feature of a pseudo-relationship and it leads us to the applicability of the theory of planned behavior, as suggested by (Ajzen and Madden, 1986).

This theory builds upon the weakness of that of reasoned action, in that the main assumption underlying the theory of planned behavior is the recognition that people do not always have complete volitional control. In order to grasp situations not under complete volitional control, Ajzen and Madden (1986) introduced the concept of perceived behavioral control. They define the construct as a "person's belief as to how easy or difficult performance of the behavior is likely to be" (Ajzen and Madden, 1986, p. 457). As customers engaging in a pseudo-relationship may be motivated to continue their interaction with the same company by some kind of



imperfection in the market, we think that perceived behavioral control is a relevant construct to include when trying to model and measure pseudo-relationships. Thus we propose that:

- H5: The extended version of the theory of planned behavior is the better model when measuring the content of the pseudo-relationship than the extended version of the theory of reasoned action and the extended version of the NCSB model.
- H6: In pseudo-relationships, perceived behavioral control has an effect on customers' future behavioral intentions towards the service-provider.

Originally, the theory of planned behavior was identical to the theory of reasoned action, with the exception of course of perceived behavioral control. We believe however that there is another important distinction to be made between the service encounter and the pseudo-relationship. This distinction is based on the discrete nature of a service encounter versus the cumulative nature of the pseudo-relationship due to the repeated interactions taking place. These repeated interactions cause customers to evaluate the service company in a more overall and attitude-like way (Johnson et al., 2001), leading to two consequences that are not likely to occur in service encounters: the measurement of customers' expectations and the dimensionality of the 'satisfaction' construct. As argued by Johnson et al., (2001) and based on the work by Rust et al., (1999), "customers' expectations become more rational or precise, leading to confirmation rather than disconfirmation of expectations" (Johnson et al., 2001, p.228). Expectations, further, either become passive or cease to exist in these situations (Oliver, 1997); building on Johnson et al.'s suggestion, then, expectations should be eliminated as a construct when using cumulative satisfaction measures.

If we eliminate the expectation construct, we still need to measure the driver or antecedent of customer satisfaction, namely service quality; however, we only have to measure the customers' perception of performance along the service quality attributes in accordance with Cronin and Taylor (1992), Parasuraman et al. (1994) and Zeithaml et al. (1996). Furthermore, as customer satisfaction now is a more attitude-like construct, it is likely that we will be able to increase variance in behavioral intentions if we extend the satisfaction construct to include other dimensions of the attitude construct as well.

When defining attitude, researchers such as Petty and Wegener (1998) and Penrod (1986) lean to the works of Bem (1970), Insko and Schopler (1967), and Oskamp (1977), where attitude is defined as a “predisposition to respond in a negative or positive way to a particular object, event or issue” (Penrod, 1986, p.349). Another frequently cited contribution is as well Gordon Allport’s classic work on attitudes and his definition as a “preparation or readiness for response... it is not the behavior but the precondition of behavior” (Penrod, 1986, p. 249). A third valuable model of attitude, finally, is the tripartite model tested by Breckler (1984). According to this model there are three components of an attitude: the affective, the cognitive and the behavioral. Research has however yielded unclear results as to how interrelated these three components actually are (Bagozzi, 1978).

Reviewing current satisfaction and loyalty models indicates that the cognitive (satisfaction) and the behavioral (intentions) dimensions are already included; according to the tripartite model, an affective dimension is then missing in the existing models. Due to suggestions from researchers such as Dube’ and Morgan (1998) and Bagozzi et al. (1999), as well as the work of Oliver (1993, 1997) and Westbrook and Oliver (1991), we predict that including emotions in the model will increase the predictive validity of the cumulative ‘satisfaction’ construct. Additionally, as a pseudo-relationship bears to a certain extent similarities to a service relationship - in that reciprocal identification may be present between the customer and the company - we think customer equity should be included as a dimension of the “extended” satisfaction construct, due, further, to the nature of equity as being very close to reciprocity (Bagozzi, 1975).

In earlier studies (e.g. Lervik and Johnson, 2000), customer perceived equity seems more an irrational and affective than a rational and calculative construct. An extension of the affective component to customer perceived equity will, we believe, contribute to the predictive validity of the new service attitude. Finally, we suggest that subjective norm may in fact decrease in importance due to perceived behavioral control; however, as subjective norm is part of the theory of planned behavior, we will keep it in the proposed model in order to measure the pseudo-relationship. What others think of the intended behavior of an individual is irrelevant if it is beyond the perceived behavioral control of the individual to act consistently with their opinions, due to for example external constraints or obstacles. Thus we propose that:

- H7: In pseudo-relationships, the service attitude - including satisfaction, emotions and customer-perceived equity - will have a positive effect on customers' future behavioral intentions towards the service-provider.
- H8: In pseudo-relationships, subjective norm will have less effect on customers' future behavioral intentions towards the service-provider than perceived behavioral control.

**The proposed model: pseudo-relationship**

These hypotheses can be summarized and modeled as in Figure 6.2 below.

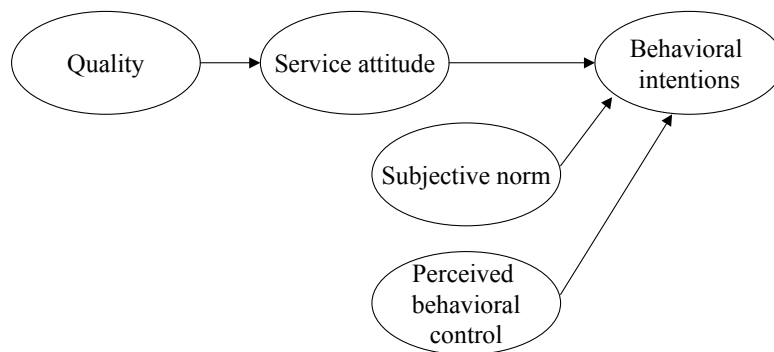


Figure 6.2: Conceptual model of the pseudo-relationship

Figure 6.2 demonstrates the drivers of customer satisfaction and loyalty in pseudo-relationships: service quality drives customers' service attitude, which in turn is the main driver of behavioral intentions such as loyalty. Customer loyalty is also influenced by perceived behavioral control and subjective norm.

**Service relationship: extending the Norwegian Customer Satisfaction Barometer Model**

Customer relationships have been the subject of investigation since the Norwegian Customer Satisfaction Barometer (NCSB) model was first used in 1995 (Johnson et al., 2001). The model has been under continuing development in response to changing customer demands and provides a good starting point for modeling the service relationship. We suggest updating the model further, as we now have recognized that customers may engage in different types of interactions or relationships.

In the NCSB model, price along with dimensions of quality based on the SERVQUAL scale (Zeithaml et al., 1990) are modeled to drive cumulative customer satisfaction. Customer satisfaction in turn is modeled to drive customer behavioral intentions directly and indirectly through affective commitment, calculative commitment and reputation (Johnson et al., 2001). In order to grasp the quintessence of the service relationship and distinguish it from the service encounter and the pseudo-relationship, it is necessary to briefly review the current, conceptual and empirical work on the customer/service-provider relationship.

### **Dimensions of a service relationship**

Despite the growing body of conceptual work seeking to define relationship contents efficient definitions of the concept are lacking, with the exception of Gutek (1997). Thus, for the purpose of this paper we will rely on Gutek's (1997) definition of a service relationship. Accordingly,

“a service relationship occurs when a customer has repeated contact with a particular provider. Customers and provider get to know each other, both as individuals and as role occupants”.

In service relationships, reciprocal identification is present as

“[t]he customer and the service-provider expect and anticipate future interaction, and over time, they develop a history of shared interaction that they can draw on whenever they interact to complete some transactions” (p. 140).

This is in line with the summary provided by Fournier (1998) of what should qualify as a relationship in the interpersonal domain. To summarize briefly, relationships according to Fournier (1998) can be said to:

- 1) involve reciprocal exchange between interdependent parties;
- 2) [be] purposive, they have a meaning to the person;
- 3) [be] multiplex, they range across several dimensions and take many different forms; and
- 4) [be] process phenomena, they evolve over time and change in response to the contextual environment (p. 344).

These conditions will serve as guideline for our approach to identify the essence of the service relationship.

There has been extensive attention paid in the literature to which dimensions may constitute a relationship in the business-to-business context (Bagozzi, 1975; Dwyer et al., 1987; Gouldner, 1961; Gundlach et al., 1995; Gundlach

and Murphy, 1993; MacNeil, 1974, 1978; Morgan and Hunt, 1994; Ouchi, 1980; and Wilson and Mummalaneni, 1986) to mention but a few. Of all the dimensions suggested, three of the most frequently applied are commitment, trust and reciprocity. Heide (1994) refers to these dimensions as relational norms; typically, when they are present, the exchange is moving away from the discrete pole and toward the relational (Heide, 1994).

Researchers investigating business-to-consumer relationships have to some extent applied dimensions identified in the business-to-business context as well. One such example is the NCSB model, in which affective and calculative commitment are included based on the work of Kumar et al. (1994) and Meyer and Allen (1984), and adjusted to the customer/service-provider relationship by Samuelsen (1997) and Samuelsen and Sandvik (1997). Other researchers, meanwhile, such as Johnson and Auh (1998) and Hart and Johnson (1999), have applied trust to customer satisfaction and loyalty modeling, in line with the works of for example Morgan and Hunt (1994). A couple of studies as well investigate the role of reciprocity in ongoing customer/service-provider relationships; typically, these studies focus on customer perceived equity, which is very close to the reciprocity concept (Bagozzi, 1975) as mentioned above, but have however been conducted in a service recovery or failure context (Smith et al., 1999; Tax and Chandrashekar, 1992; Tax, 1993; Tax et al., 1998).

Recently, Olsen and Johnson (forthcoming) conducted a study in which they investigated and compared the role of perceived equity in both complainers' and non-complainers' evaluation of services. They found customer perceived equity to indeed be an important dimension of both non-complainers' and complainers' service evaluations and their commitment to the service-provider, but in different ways. There are, however, no studies known to date that have applied reciprocity, commitment and trust to satisfaction and loyalty modeling simultaneously, and empirically tested their relevance to the customer/service-provider relationship. In other words, moving away from the discrete transaction towards the service relationship calls for including trust, commitment and reciprocity as dimensions of the service relationship. Thus, we can draw the conclusion that:

H9: The extended version of the NCSB model is the better model when measuring the content of the service relationship than the extended version of the theory of reasoned action and the extended version of the theory of planned behavior.

Although there are clear differences between pseudo- and service relationships, they share one important feature: the cumulative, attitude-like

perception of their service experiences, based on an evaluation along cognitive and affective dimensions, predicting the customers' future behavioral intentions toward the service-provider. While the cognitive dimension is reflected by the satisfaction construct, the affective dimension is reflected by emotions and reciprocity. As in pseudo-relationships, we believe the main driver of this service attitude to be service quality, and that service quality should be measured based on the customers' perception of the service-provider's performance. Due to the cumulative nature of this evaluation, customers' expectations cease to exist over time, making it superfluous to measure expectations. Thus we can conclude that:

H10: In service relationships and similar to pseudo-relationships, the service attitude has a positive effect on customers' future behavioral intentions towards the service-provider.

In the NCSB model, support was found for including both affective and calculative commitment as dimensions of customer loyalty (Johnson et al., 2001); in four of five industries, both constructs were positively affected by satisfaction. Thus, we choose to keep these constructs in our model of the service relationship, and propose that:

H11: In service relationships, the service attitude has a positive effect on affective commitment and calculative commitment.

However, as a service relationship takes place between two individuals, the customer and the service-provider, we consider affective commitment to be a stronger predictor of behavioral intentions than calculative commitment. We can therefore postulate that:

H12: In service relationships, affective commitment has a stronger effect on customers' future behavioral intentions than calculative commitment does.

The importance of trust to the customer/service-provider relationship has been demonstrated by for example Garbarino and Johnson (1999), Hart and Johnson (1999), Johnson and Auh (1998) and Morgan and Hunt (1994). According to Hart and Johnson (1999), trust is important as a determinant of customer loyalty. They argue, that is, that "the type of company customers are passionately loyal about doing business with is a company they can trust to always act in their best interest – without exception" (Hart and Johnson, 1999, p. 11). Trust, then, may be defined for our purposes as "the attainment of a level of satisfaction and resulting loyalty at which customers are comfortable forgoing problem-solving" (Johnson and Auh, 1998, p. 15).

Yet this construct has not to date been included in the NCSB model. Based on studies of trust in close relationships, for example in Rempel et al. (1985), it is our contention that as long as trust is important in “ordinary” commercial exchanges, it is at least as important in service relationships; these are based on a high degree of contact with the same service-provider, with a high degree of self-disclosure frequently being required from the customer and sometimes the service-provider as well.

Selnes (1998) finds that satisfaction has a significant effect on trust, that trust has a significant impact on intentions of future enhancement, and that enhancement drives continuity. Additionally, he finds that trust has no significant effect on continuity. However, according to previous research such as in Hrebiniak (1974), Achrol (1991) and Morgan and Hunt (1994), it is more likely that trust has positive effects on relationship commitment. In fact, deRuyter et al. (2001) found support for their hypothesis that trust was positively related to affective commitment, but negatively related to calculative commitment. In their study, trust was also found to be positively related to intentions to stay. Based on these findings, we believe that trust will be influenced by the customers’ service attitude towards the service-provider, and that it will affect affective commitment to the service-provider positively and the calculative commitment dimension negatively. Thus we can suggest that:

H13: In service relationships, there is a positive effect of service attitude on trust, which in turn has a positive effect on affective commitment and a negative effect on calculative commitment.

Last but not least, although we think that the effect of calculative commitment is of less importance than that of affective commitment, we will as mentioned above retain calculative commitment in the model in order to test this hypothesis. Likewise, we believe that price is of less importance in service relationships than other more irrational factors; we think that if price has a role in service relationships, it only indirectly affects behavioral intentions, and this through calculative commitment. Thus we can propose that:

H14: In service relationships, price indirectly affects customers’ future behavioral intentions towards the service-provider through calculative commitment.

## The proposed model: service relationship

All in all these hypotheses can be modeled as in Figure 6.3 below.

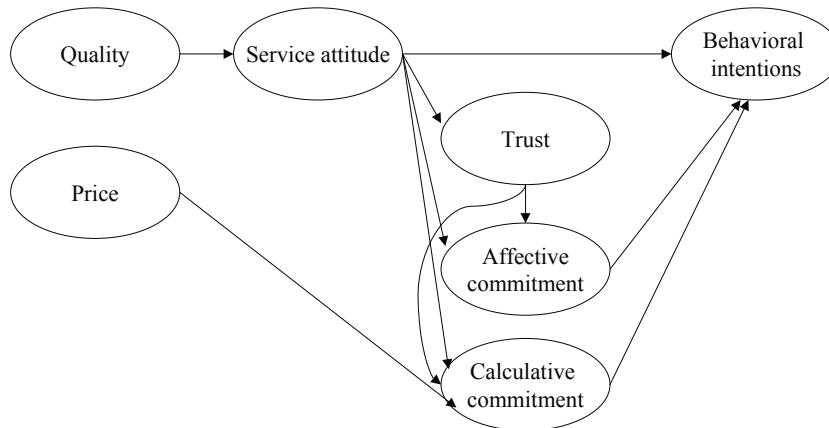


Figure 6.3: Conceptual model of the service relationship

From Figure 6.3 we see that service quality drives customers' service attitude, which is the main driver of behavioral intentions such as loyalty. The service attitude has additional effects on trust, and affective and calculative commitment, while trust itself has an effect on affective and calculative commitment as well. Both affective and calculative commitment, finally, are modeled to have positive effects on behavioral intentions.

### Contribution

By testing the above hypotheses we seek to contribute to the service and relationship marketing literature with new insights regarding the contents of different customer/service-provider interactions, insights that should trigger further research as well as provide managerial implications. It is an important aspiration for us to achieve external validity so that our results can be generalized to other service industries.

### Methods

A cross-sectional design was chosen for the purpose of this study in line with previous research on customer satisfaction and loyalty modeling, such as in for example Fornell (1992), Fornell et al. (1996) and Johnson et al. (2001). An international hotel chain served as the context of investigation, and was chosen because Gutek's (1995, 1997) framework remains to be tested in this



particular context. This required that we further developed the screening statements used by Gutek et al. in previous studies. In order to identify the different types of interactions, Gutek and colleagues (Gutek et al., 1999b) developed the following screening statements:

“I have a regular physician I normally see for medical care”.

If the respondent reported this statement to be true, then the interaction was categorized as a service relationship. The next statement the respondent was presented with was:

“I have a regular clinic where I go for medical care”.

If the respondent reported the first statement to be false and the second statement to be true, then the interaction was sorted as a pseudo-relationship. And, if the respondent reported both statements to be false, the interaction was considered a service encounter.

As the hotel industry is not a context where it is common to approach the same contact person each time, special selection criteria had to be developed to identify the right respondents for each type of interaction. These selection criteria were developed in line with Gutek's (1995, 1997) work and in cooperation with the management of the hotel chain. Gutek's statements were in other words used as complementary questions. For the sake of identifying service relationship customers, those with at least 10 stays at the same hotel over the past 12 months were selected; pseudo-relationship customers had to stay at at least 10 different hotels during the last 12 months, while service encounter customers were required to have only 1 stay at a hotel over the last 12 months. The hotel chain provided customer lists for each sample. Although an international hotel chain was used, only Norwegian customers were approached. The respondents were interviewed by telephone (CATI) by a professional marketing research bureau. Prospective respondents, who were not available on the first call, were called back three times before a substitute was picked. Each interview lasted approximately 15 minutes.

### **Measures**

All three groups were asked the same questions. The only differences were of a minor grammatical character as a transaction-specific evaluation was requested in the service encounter questionnaire, while a cumulative evaluation was sought in the pseudo- and service relationship questionnaires. The sole difference between the latter two is a reference to the hotel chain in the pseudo-relationship questionnaire and a reference to a particular hotel in

the service relationship questionnaire. A ten-points Likert scale was applied to customer satisfaction, service attitude, expectations, service quality, loyalty, affective commitment, calculative commitment and trust. The questionnaires consisted of different scales and included positive values only (from 1 to 10). Respondents were provided with a “don't know” and a “don't want to tell” category in case of indifference, lack of knowledge, or unwillingness to respond.

### **Expectations and service quality**

Based on Oliver (1980), Parasuraman et al. (1988) and Zeithaml et al. (1990), we measured customers' expectations on the same dimensions as we measured performance or service quality. This led to four questions referring to expectations: “overall expectations about provider”, “expectations about physical environment, such as interior and facilities”, “expectations about products, such as room and breakfast” and “expectations about service, such as at front desk, from housekeeping, and/or in restaurant”. Later, the respondents were again presented these same four questions, yet with reference this time to how well the provider performed on the dimensions in order to measure service quality.

### **Price**

Price was as well measured by four questions, again in line with Johnson et al. (2001): “overall price on products and services”, “price compared to quality”, “price compared to other providers” and “price compared to expectations”.

### **Customer satisfaction**

Customer satisfaction was operationalized in line with current research. That is, the transaction-specific measures applied in the service encounter questionnaire are based on Andreassen and Lervik (1999), while the cumulative satisfaction questions are based on established scales found in works such as Johnson et al. (2001) and Olsen and Johnson (forthcoming). Although the questions have different points of reference, the dimensions of the satisfaction construct are the same. The questions address “overall satisfaction”, “performance compared to expectations” and “performance compared to an ideal provider in the category”.

### **Service attitude**

For the purpose of measuring service attitude, we extended the customer satisfaction construct to include reciprocity and emotions. The reciprocity dimension is represented by one question based on a review in Lervik and Johnson (2000) and Olsen and Johnson (forthcoming), and deals with “overall fairness”. Likewise, emotion is reflected in a single question

representing “overall emotion – positive or negative”. The selected question was chosen based on advice found in the literature (e.g. Oliver, 1997) relevant to the ongoing research discussion of how to measure emotions.

### **Subjective norm and perceived behavioral control**

Subjective norm was measured based on Ajzen and Fishbein (1980), prompting us to develop one statement: “Most people who are close to me, think I should stay at XX”. Perceived behavioral control was measured based on Ajzen and Madden's work (1986) and led to the question: “Mostly it is up to me where I should stay”.

### **Commitment**

Calculative and affective commitment were operationalized based on the works of Johnson et al. (2001), Kumar et al. (1994), Meyer and Allen (1984), Samuelsen (1997) and Samuelsen and Sandvik (1997), although some adjustments were necessary. Affective commitment was measured by the following three statements:

“I intend to continue staying at XX, because I feel like being part of the family”.

“I intend to continue staying at XX, because I treasure XX and those who work there”.

“I prefer XX to others, because I like XX and those who work there”.

Likewise, calculative commitment was measured by three statements:

“I continue to stay at XX, because switching will lead to loss of time and increasing costs”.

“No other alternatives”.

“I have adjusted my needs to provider’s offers”.

### **Trust**

Trust was operationalized in accord with Hart and Johnson (1999) and Johnson and Auh (1998). Three statements were presented to the respondents:

“XX and its employees are 100% honest and truthful to me”.

“I trust XX and its employees always and without exception to act in my best interests”.

“I feel that XX and its employees never will exploit me as a customer”.

### **Customer loyalty**

As in previous works by Johnson et al. (2001), Lervik and Johnson (2000) and Olsen and Johnson (forthcoming), customer loyalty was measured using three of Zeithaml et al.'s (1996) suggested indicators: the likelihood of “recommendations of provider to friends”, of “engaging in positive word-of-mouth” and of “repurchase”.

### **Missing values**

An analysis was run to determine the extent of missing values in the data set. All of the variables hold a very low number of missing values, and we can conclude that there is as such no threat to our data set. Still, the variables that suffer the most from missing values all operationalize the price construct; the highest number was achieved by the variable “price compared to other hotels you know of”. Of the 689 respondents, 66 did not answer this question - in other words, less than 10 percent. This variable is followed by “the overall price of the hotel’s products and services”. Here 60 respondents, or approximately 9%, did not answer the question. These variables were followed by “price compared to expectations”, with 59 missing responses (approximately 9%) and “price compared to quality”, with 46 responses missing, or approximately 7%. For all other variables the missing values were below 5%, with the exception of the variable operationalizing subjective norm, “most people who are close to me think I should stay at XX”, which lacked 50 answers, or approximately 7%. No variable, then, needs to be excluded from the study due to a high number of missing values.

In the LISREL analyses, we applied both the pair-wise and list-wise deletion methods when treating the missing values. However, due to the lower number of respondents resulting from the list-wise method, we prefer the pair-wise deletion method and will therefore only present findings from the analyses when this method is applied. It should nonetheless be noted that the pair-wise deletion method has been criticized in the literature as possibly providing a non-positive definite covariance matrix and an ambiguous sample size (Schumacker and Lomax, 1996).

In the PLS analyses we replaced the missing values with series means, consistent with previous work such as by Johnson et al. (2001).

### **Analysis procedures**

In line with recent work on customer satisfaction and loyalty modeling, such as in Johnson et al. (2001), Lervik and Johnson (2000), and Olsen and

Johnson (forthcoming), we used two popular methods for estimating the SEM models with latent variables; that is, covariance structure analysis (CSA) using LISREL and partial least squares, or PLS (Fornell, 1982).

Based on maximum likelihood estimation, CSA is particularly well suited to evaluate the relative fit of competing theoretical models (Bagozzi and Yi, 1994). In contrast, PLS is essentially an iterative estimation procedure that integrates principal-components analysis with multiple regression (Fornell and Cha, 1994; Wold, 1966). Whereas CSA explains covariance, the objective of PLS is to explain variance in the endogenous variables in a satisfaction model that has bottom-line managerial relevance, such as satisfaction or loyalty. Thus PLS is particularly well suited to operationalize quality, satisfaction and loyalty models (Johnson and Gustafsson, 2000; Steenkamp and van Trijp, 1996) and is used, for example, to estimate all of the major national satisfaction index models (Johnson et al., 2001).

The common denominator of both methods is to first test the measurement model followed by the causal. When applying CSA, we follow the procedure suggested by Anderson and Gerbing (1988); when using PLS, we use the routine described in for instance Johnson et al.'s article (2001). As the purpose of this study is to propose and test alternative models, we employ both of these estimation methods. Specifically, we first used LISREL in order to test the different models, and then verified our findings by conducting the same analyses using PLS. We took this relatively comprehensive approach to ensure that our findings would be robust (Kujala and Johnson, 1993).

#### **Data distribution procedure**

In order to not violate the assumptions underlying the CSA and ensure that the data was normally distributed (Jöreskog and Sörbom, 1996), we also ran our CSA analyses using normal scores - a procedure recommended by Jöreskog and Sörbom (1996) that converts skewed data to a normal distribution without compromising their characteristics. We used this procedure in addition to the ordinary LISREL procedure, in which the covariance matrix is not normalized. We do so in order to be certain that the models perform well under both circumstances. Our findings indicate that all models convert when both procedures are applied; in the following tables, however, we only present the results from the LISREL analyses run on the original and skewed data set. The procedure of giving the data normal scores has however not been applied to the PLS analyses, as it was not necessary due PLS' tolerance for skewed data.

## **Results**

### **Respondents' characteristics**

There were in total 689 hotel customers interviewed in this study. Of these, 142 respondents comprised the service encounter sample, 247 the pseudo-relationship sample, and 300 constituted the service relationship sample. Of the service encounter customers, 31 were women and 111 men, whereas there were 18 female and 229 male customers in the pseudo-relationship sample and 41 women and 259 men among the service relationship customers. With an overall total of 90 women and 699 men participating in the study as a whole, there were some differences across the three samples concerning level of education and income. In the service encounter sample the average income per household is 607 358 as measured in NOK (equal to USD 71, 364, N=123 ). Among these respondents 8% had elementary school as their highest educational level, while 35% had completed high school and 56% held a college or university degree (1% did not provide an answer). In the pseudo-relationship sample the average income per household was slightly higher 625,372 NOK (equal to USD 73,480, N=215). Among these respondents, 5% had elementary school as their highest educational level, while 44% had high school and 50% held a college or university degree (1% did not provide an answer). In the service relationship sample, the income per household was even higher, at an average of 670,931 NOK (equal to USD 78,833, N= 274); among these respondents, 5% had only elementary school, 32% high school, while 62 % had a college or university degree (again, 1% did not provide an answer).

### **Regular contact persons**

According to Gutek et al.'s studies (1997, 1999a, 1999b), respondents in a service relationship – as opposed to a pseudo-relationship or service encounter - report having “a regular physician”, or a personal service-provider. Conducting this study in the hotel industry, however, could potentially pose a somewhat greater challenge to this criterion, as it may not be common to have a personal service-provider/contact person in this context. We nonetheless consider it possible for customers to feel they are in a service relationship with a particular hotel and its employees. We therefore asked all respondents independent of which type of interaction they engaged in, if they had a regular contact person at the hotels they visited. In the service encounter sample, 10 respondents reported having a regular contact person (7%), compared with 6 respondents (2%) reporting the same in the pseudo-relationship sample, and 34 (11%) in the service relationship sample. This suggests that in the hotel industry as well, if to a lesser extent, customers engaging in service relationships are more likely to have a regular contact person than those in a service encounter or pseudo-relationship.

### Frequency and recency of interactions

As customers' experience is a key concept when trying to grasp the differences between evaluations of service encounters, pseudo-relationships and service relationships, a particular set of screening criteria was used. From the customer base of the hotel chain we were able to identify customers that had stayed at a hotel within the chain only one night over the past twelve months. These customers could however have stayed as well at other hotels in other chains, as reflected in their response pattern on the frequency and recency questions. With regard to frequency, these customers had on average spent approximately 20 nights a year at hotels, and 19 nights over the past 12 months; of these customers, 39% had stayed at a hotel less than one month ago.

In the pseudo-relationship segment, we selected hotel customers from the hotel chain's customer base who had visited at least 10 different hotels within the chain over the past 12 months. On average, these customers report spending approximately 50 nights a year at hotels and 47 nights over the past 12 months; of these customers, 73% had stayed at a hotel less than one month ago.

In the service relationship group, we again selected hotel customers from the hotel chain's customer base. This time the customers had to have stayed at the same hotel at least 10 times over the past 12 months. On average these customers report that they spent approximately 51 nights a year at hotels, and 48 nights over the past 12 months; of these customers, 74% had stayed at a hotel less than one month ago.

### Replication of Gutek's results

Table 6.1: Level of score variable by group

Variable	Service encounter customers <sup>(a)</sup>	Pseudo-relationship customers <sup>(b)</sup>	Service relationship customers <sup>(c)</sup>
Service attitude	7.13 <sup>(c)</sup>	7.28	7.47 <sup>(a)</sup>
Loyalty	7.79 <sup>(b&amp;c)</sup>	8.27 <sup>(a)</sup>	8.42 <sup>(a)</sup>
Frequency of interactions over the past 12 months	18.95 <sup>(b&amp;c)</sup>	47.30 <sup>(a)</sup>	48.01 <sup>(a)</sup>

Table 6.1 above summarizes the results from the ANOVA analyses run to compare the mean scores in each group by the two main latent variables - that is, customers' service attitude and customer loyalty, as well as the frequency of interaction variables. Consistent with Gutek's results from 1999(a), we find that customers engaging in service relationships report significantly higher or more positive scores on the service attitude questions than do customers engaging in service encounters. The customers engaging in pseudo-relationships do not have significantly higher scores on service attitudes than service encounter customers, nor do they have significantly lower scores on service attitudes than service relationship customers. When reviewing the means on customer loyalty, we see that service encounter customers report a lower score; that is, they are significantly less likely than service relationship customers to be loyal to the service-provider in the future. The service encounter customers' scores on loyalty are also significantly lower than the pseudo-relationship customers' scores, while the pseudo-relationship customers' scores are not significantly different from the scores in the service relationship group. Finally, we observe the same result as in Gutek's (1999a) study: service encounter customers have significantly - less interaction with the service-provider than customers engaging in both pseudo- and service relationships. Pseudo-relationship customers and service relationship customers are not significantly different from each other in this respect.

### Relationship phases

*Table 6.2: Relationship phase by group*

<b>Relationship Phase</b>	<b>Service encounter customers (N=142)</b>	<b>Pseudo-relationship customers (N=247)</b>	<b>Service relationship customers (N=300)</b>
Initial	24 (16.9 %)	5 (2.0 %)	2 (0.7 %)
Growth	37 (26.1 %)	56 (22.7 %)	48 (16.0 %)
Maturity	53 (37.3 %)	158 (64.0 %)	209 (69.7 %)
Decline	13 (9.2 %)	15 (6.1 %)	26 (8.7 %)
Do not know	15 (10.6 %)	13 (5.3 %)	11 (3.7 %)
Missing	0	8 (3.2 %)	4 (1.3 %)

According to the percentages provided in Table 6.2, we see that service encounter customers report to a larger extent than the other groups that they are in the initial or growth phase of a relationship. Compared to service encounter customers, pseudo- and service relationship customers show a greater tendency to find themselves in the maturity phase of their relationship. Fewer service encounter customers report that they are in the decline phase than any other phase, while pseudo- and service relationship



customers have a higher tendency to report themselves as in the decline phase than in the initial phase of a relationship. Across the three groups, finally, we see that the percentage of service relationship customers reporting being in the decline phase is almost as high as in the service encounter group.

## **CSA results**

### **Testing the models**

When developing and testing the models we followed the procedure suggested by Anderson and Gerbing (1988), complemented with the procedure suggested by Marsh (1990) and Bagozzi and Jeffrey (1998). First we conducted factor analyses to test the convergent validity of the variables by identifying the indicators best reflecting each construct. Secondly, we examined the discriminant validity of the key variables; that is, we selected the constructs most likely to correlate strongly with other constructs and reviewed them. This led us to examine the correlations between: i) quality and expectations; ii) satisfaction and quality; iii) satisfaction and affective commitment; iv) satisfaction and loyalty; v) service attitude and quality; vi) service attitude and affective commitment; and vii) service attitude and loyalty.

In order to address these correlations, chi-square difference tests were run in accordance with Anderson and Gerbing's (1988) suggestions: these tests indicated that all constructs were distinct. We can therefore conclude that findings from the factor analyses indicated that the constructs had convergent validity, while the chi-square tests revealed that the constructs achieved discriminant validity. We found therefore no reason to run higher order factor analyses to further test the discriminant validity, as suggested by Bollen (1989) and conducted in previous research, such as that of Olsen and Johnson (forthcoming).

The next step was to test the measurement models in line with suggestions by Anderson and Gerbing (1988). The measurement model test results revealed that the combination of indicators found in the better fitting measurement models would not necessarily be the combination of indicators that best suited the causal models; as a result, we chose the combination of indicators that worked best in the causal models, leading to only minor adjustments of the originally proposed models. We omitted one of the expectation indicators ("overall expectations") and one of the price indicators ("price compared to quality"), and the resulting combination of indicators were then used in both the covariance analyses and the partial least square analyses.

In order to test Hypotheses 1, 5 and 9, we first looked at the goodness-of-fit statistics each model achieved in the three different groups. Secondly, we reviewed the paths in the models to identify which ones were significant and which ones were not. Thirdly, we looked at the explained variance in the key variables and, finally, reviewed all factor loadings and error terms to ensure that we were dealing with proper solutions (Bollen, 1989). These statistics are summarized in the tables below.

*Table 6.3: Goodness-of-fit statistics achieved in the service encounter group*

Model	Chi-square (n=142)	RMSEA	SRMR	GFI	AGFI	NNFI	CFI
Service encounter	297.75 df=112 p=0.00	0.098	0.17	0.82	0.75	0.88	0.91
Pseudo-relationship	182.56 df=75 p=0.00	0.092	0.10	0.86	0.80	0.92	0.86
Service relationship	480.42 df=241 p=0.00	0.078	0.072	0.79	0.74	0.90	0.91

In Table 6.3 both absolute and incremental fit statistics (Bollen, 1989; Gerbing and Anderson, 1993; Marsh et al., 1996) are reported for the alternative models in the service encounter group. Of the absolute fit statistics we examine the chi-square and the GFI (Jöreskog and Sörbom, 1989), the SRMR (Bentler, 1995), and the RMSEA (Browne and Cudeck, 1992; Steiger, 1989). Of the incremental fit statistics we review the AGFI (Jöreskog and Sörbom, 1989; Bentler, 1983) and the NNFI (Bentler and Bonett, 1980).

According to the cut-off criteria, the RMSEA should be between 0.05 and 0.08; the lowest possible SRMR is frequently preferred, ideally more or less within the same range as the RMSEA, the GFI and AGFI should be around 0.90, and the NNFI and CFI should be around 0.95 (see Hu and Bentler, 1998, 1999 for an overview). Overall, according to the different cut-off criteria we can conclude that the service encounter model is not the better fitting model in the service encounter group. In other words, all of the goodness-of-fit statistics are poorer for this model than the alternative models when testing it in the service encounter group.

Furthermore, we see that neither the pseudo- nor the service relationship model performs well in this sample. Rather, then, than choosing the better

fitting model among three relatively poor ones, we look at the modification indexes suggested for the service encounter model - after all, our literature review indicates that it is the more appropriate model for this sample. Acting consistently with the modification indexes leads us to model a path between price and quality, which in fact improves the goodness-of-fit statistics. The chi-square decreases to 208.49 (df=111), the RMSEA to 0.077, and the SRMR to 0.054. The remaining statistics improve as well; the GFI increases to 0.85, the AGFI to 0.80, NNFI to 0.94, and the CFI to 0.95. With this modification, we can now conclude that the service encounter model is the better fitting in this group.

However, according to Hu and Bentler (1999), the goodness-of-fit statistics such as RMSEA and the SRMR may also depend upon the value of some other fit statistics, such as the CFI and NNFI. And, when these statistics are close to 0.95, the RMSEA should approach 0.05 and the SRMR 0.08. Actually, according to the findings of Hu and Bentler (1999), the combinational rules with CFI < 0.96 and SRMR > 0.08 or 0.10 result in the least of Type 1 and Type 2 errors and are thus most preferable as long as the sample size is less than or equal to 250. The RMSEA and SRMR for the new service encounter model deviate somewhat from this observation; according to these rules, then, the new service encounter model is the better fitting model in the service encounter group but, as demonstrated, it still has potential for improvement.

Table 6.4 presents the goodness-of-fit statistics achieved by testing the alternative models in the pseudo-relationship group.

*Table 6. 4: Goodness-of-fit statistics achieved in the pseudo-relationship group.....*

Model	Chi-square (n=247)	RMSEA	SRMR	GFI	AGFI	NNFI	CFI
Service encounter	305.35 df=112 p=0.00	0.078	0.18	0.88	0.84	0.91	0.93
Pseudo- relationship	164.11 df=75 p=0.00	0.067	0.074	0.92	0.88	0.96	0.96
Service relationship	463.74 df=241 p=0.00	0.057	0.065	0.87	0.84	0.94	0.94

The results in Table 6.4 would suggest that the pseudo-relationship model is the better fitting in the pseudo-relationship group when compared to the service encounter model, based on a better combination of goodness-of-fit statistics. That is, the SRMS is closer to 0.08, the GFI higher than 0.90 and the AGFI closer to 0.90, while the NNFI and the CFI are both above 0.95.

The pseudo-relationship model achieved better goodness-of-fit statistics than the service relationship model as well, with a better overall combination of statistics. Further, although the service relationship model has a lower RMSEA (0.057) than the pseudo-relationship model, both the GFI and AGFI are further from the acceptance level than in the pseudo-relationship model, as is the SRMR (0.065). Concerning the NNFI and the CFI, finally, the pseudo-relationship model performs better than the service relationship model, but only marginally. Thus we can draw the conclusion that based on the goodness-of-fit statistics, the pseudo-relationship model is the better fitting in the pseudo-relationship group.

In Table 6.5, the goodness-of-fit statistics for the alternative models tested in the service relationship group are presented.

*Table 6.5: Goodness-of-fit statistics achieved in the service relationship group*

Model	Chi-square (n=300)	RMSEA	SRMR	GFI	AGFI	NNFI	CFI
Service encounter	422.98 df=112 p=0.00	0.087	0.22	0.87	0.83	0.90	0.91
Pseudo-relationship	232.98 df=75 p=0.00	0.088	0.095	0.89	0.85	0.94	0.95
Service relationship	572.31 df=241 p=0.00	0.071	0.084	0.86	0.82	0.93	0.94

From Table 6.5 we can see that the service relationship model achieves the best combination of goodness-of-fit statistics in the service relationship group when compared to the service encounter model. The RMSEA, SRMR, NNFI and CFI are all closer to the acceptance level in this model than the statistics provided by the service encounter model. Still, compared to the pseudo-relationship model, the service relationship model performs somewhat more poorly; that is, it provides lower GFI, AGFI, NNFI and CFI than the pseudo-relationship model does, although the latter two measures are only marginally better in the pseudo relationship model. In contrast, the RMSEA and SRMR are somewhat better in the service relationship model. Thus, as both the pseudo- and service relationship models have their strengths and weaknesses when tested in this group, we have to look to other criteria in order to decide which model is the better fitting in this group.

In Table 6.6, we provide an overview of the paths in the service encounter model by group.

Table 6.6: Paths in the service encounter model by group

Paths	Service encounter customers	Pseudo-relationship customers	Service relationship customers
Expectation → quality	0.54 (0.09) 6.19	0.27 (0.07) 3.77	0.18 (0.06) 2.88
Price → loyalty	0.08 (0.06) 1.29*	0.03 (0.05) 0.52*	-0.09 (0.04) -2.12
Subjective norm → loyalty	0.03 (0.05) 0.55*	-0.07 (0.05) -1.39*	0.05 (0.04) 1.21*
Quality → satisfaction	0.91 (0.08) 11.44	0.89 (0.07) 12.71	0.97 (0.06) 17.64
Satisfaction → loyalty	0.79 (0.08) 9.81	0.72 (0.06) 11.46	0.81 (0.05) 15.19

\*=not significant at  $p < 0.05$

From Table 6.6, we see that only three of the paths are significant when testing the service encounter model in the service encounter group. This is also the case in the pseudo-relationship group; here, too, the same paths are found to be insignificant yet the results point in opposite directions from those in the service encounter model. More specifically, the path closest to significance in the service encounter group (price → loyalty) is not as close in the pseudo-relationship group, while the path closest to significance in the pseudo-relationship group (subjective norm → loyalty) is not as close in the service encounter group. In the service relationship group, this path is also insignificant. The path from price to loyalty, meanwhile, is significant but negative. All these paths were hypothesized to be significant, though as only 3 of 5 are in fact significant in the service encounter group, the model may need further refinements in order to more efficiently measure service encounter customers' evaluation of discrete transactions.

In Table 6.7, we provide the same overview of the paths yet in the pseudo-relationship model by group.

Table 6. 7: Paths in the pseudo-relationship model by group

<b>Paths</b>	<b>Service encounter customers</b>	<b>Pseudo-relationship customers</b>	<b>Service relationship customers</b>
Quality → service attitude	0.93 (0.09) 10.34	0.93 (0.07) 12.75	0.98 (0.06) 16.86
Service attitude → loyalty	0.84 (0.08) 10.61	0.74 (0.06) 11.75	0.79 (0.05) 14.60
Subjective norm → loyalty	0.03 (0.05) 0.55*	-0.05 (0.05) -1.01*	0.04 (0.04) 1.10*
Perceived ehavioral control → loyalty	0.04 (0.05) 0.88*	0.05 (0.05) 1.11*	0.13 (0.04) 3.29

\*=not significant at  $p < 0.05$

Though all paths were hypothesized to be significant, we see here that in neither of the groups are all paths in the pseudo-relationship model significant. In fact, the model has fewer significant paths in the pseudo-relationship group than in the service relationship group, while the same paths are insignificant in the service encounter group as in the pseudo-relationship group. In the service relationship group, on the other hand, only one of the paths is insignificant. All in all, these findings indicate that this model in its current form needs further refinement in order to become an appropriate model for measuring pseudo-relationship customers' evaluations of pseudo-relationships.

In Table 6.8, we provide the same overview of the paths in the service relationship model by group.

*Table 6.8: Paths in the service relationship model by group*

<b>Paths</b>	<b>Service encounter customers</b>	<b>Pseudo- relationship customers</b>	<b>Service relationship customers</b>
Quality→ service attitude	0.92 (0.09) 10.32	0.92 (0.07) 12.69	0.97 (0.06) 16.73
Price→ calculative commitment	0.20 (0.18) 1.09*	0.17 (0.12) 1.43*	0.16 (0.12) 1.29*
Service attitude→ trust	0.53 (0.10) 5.33	0.58 (0.08) 7.66	0.59 (0.07) 8.87
Service attitude→ affective commitment	0.71 (0.10) 6.80	0.62 (0.08) 8.24	0.62 (0.06) 10.59
Service attitude→ calculative commitment	0.30 (0.20) 1.54*	0.04 (0.13) 0.32*	-0.14 (0.14) -1.01*
Trust → affective commitment	0.19 (0.08) 2.51	0.21 (0.06) 3.30	0.26 (0.05) 4.84
Trust→ calculative commitment	-0.22 (0.12) -1.80*	0.12 (0.10) 1.15*	-0.12 (0.10) -1.24*
Service attitude → loyalty	0.58 (0.11) 5.47	0.58 (0.08) 6.97	0.47 (0.06) 7.40
Affective commitment → loyalty	0.35 (0.10) 3.54	0.22 (0.08) 2.84	0.43 (0.06) 7.08
Calculative commitment → loyalty	-0.03 (0.06) -0.55*	-0.03 (0.06) -0.51*	-0.04 (0.05) -0.99*

\*=not significant at  $p < 0.05$

From Table 6.8 we see that when testing the service relationship model in the three groups, four of the paths turn out to be insignificant. These results

are consistent across all groups: that is, the same paths measure as significant or insignificant across groups. Some variation is however found when it comes to how close or far from being significant the insignificant paths are. As most of the paths in this model are significant, we can conclude that the service relationship model provides an appropriate approach to measuring service relationship customers' evaluations of service relationships, however minor refinements may be necessary here as well. These refinements should be considered when reviewing results from the testing of hypotheses.

In Table 6.9, the explained variance of the key variables in each model is presented by group.

*Table 6.9: Explained variance of key variables by group (squared multiple correlations for structural equations)*

<b>Model/ Variable</b>	<b>Service encounter customers</b>	<b>Pseudo- relationship customers</b>	<b>Service relationship customers</b>
<b>Service encounter model</b>			
Loyalty	0.67	0.53	0.66
Satisfaction	0.83	0.80	0.94
Quality	0.30	0.07	0.03
<b>Pseudo- relationship model</b>			
Loyalty	0.70	0.55	0.64
Service attitude	0.86	0.86	0.96
<b>Service relationship model</b>			
Loyalty	0.77	0.57	0.72
Service attitude	0.84	0.85	0.95
Trust	0.28	0.34	0.35
Affective commitment	0.68	0.58	0.63
Calculative commitment	0.17	0.08	0.03

In Table 6.9 the explained variance of the latent variables are listed by group. We see that the explained variance achieved by the service encounter model is higher when testing the model in the service encounter group than when testing the same model in the pseudo-relationship group. This is also the case when comparing the explained variance achieved in the service



encounter group to that achieved in the service relationship group, with the exception of the satisfaction construct.

When comparing the explained variance across groups in the pseudo-relationship model, we find that the explained variance achieved by loyalty in the pseudo-relationship group is lower than in both of the other groups. The service attitude construct achieved the same amount of explained variance in the service encounter group as in the pseudo-relationship group, while that measured in the service relationship group is somewhat higher on this same variable.

Reviewing the explained variance results in the service relationship model indicates that service attitude and trust achieved higher explained variance in the service relationship group than in the other groups. Loyalty and affective commitment reached a high level as well, but it seems that the variance of these constructs is slightly better explained in the service encounter group. Finally, calculative commitment achieved a very low degree of explained variance.

Overall, we can conclude that the service encounter model performed better in the service encounter group concerning the explained variance of the key constructs. Although both the pseudo- and service relationship model achieved a relatively high portion of explained variance in their respective key constructs, we cannot say that these models performed better in their respective groups; we can, rather, conclude that they performed well across all three groups.

Finally, it is important to note that the explained variance of satisfaction or service attitude and loyalty is relatively high in all three models, across all three groups. More variance in the construct is explained when moving from satisfaction to service attitude; we also increase the explained variance in loyalty when looking from the service encounter model to the service relationship model. This is as well the case when moving from the service encounter model to the pseudo-relationship model in two of the groups – specifically, the service encounter and pseudo-relationship groups. In the service relationship group, the service encounter model achieved higher explained variance in loyalty than the pseudo-relationship model.

In general, we can conclude that we have improved the explained variance of the key constructs of satisfaction and loyalty in this study, with the explained variance of affective commitment being as well relatively high in all groups. Trust achieved a fair amount of explained variance while quality and calculative commitment seemed to be poorer constructs in this respect.

**Factor loadings and error terms**

Finally, we reviewed the factor loadings and error terms of each model in each group, as suggested by for example Bagozzi and Edwards (1998). Our review indicates that the factor loadings are generally high (above .70) and error variances low to moderate (below .40) in most cases. All but a couple of the error terms are significant and therefore true score variance can be said to be satisfactory.

There is some variation found across the three groups, though we can on the whole conclude that the service encounter model performs well in all three groups according to this criterion, as does the pseudo-relationship model. The service relationship model indicates however some challenges concerning the calculative commitment construct, trust and service attitude. Some of the factor loadings reflecting these three constructs are below but close to .70, and some respective error terms somewhat above .40. Furthermore, the correlations among factors are low to moderate and thus reveal that the components in the model are unique and not interrelated.

Based on the above summary of results from the covariance analyses, we can conclude that Hypothesis 1 is supported. Our conclusion is based on three of the four criteria. That is, specifically, that the model received support according to the goodness-of-fit statistics and explained variance while the factor loadings and error terms further demonstrate that the model provides a proper solution, if the significance of the paths revealed only mixed support. In other words, we find general support for the extended version of the theory of reasoned action as a better fitting model when measuring customers' evaluations of discrete transactions.

When testing Hypothesis 5, we find partial support for the extended version of the theory of planned behavior as the better fitting model when measuring customers' evaluations of pseudo-relationships. More specifically, the model received support based on the goodness-of-fit statistics, and the factor loadings and error terms indicated that the model converted and provided a good solution. The significance of the paths and explained variance in key constructs, however, indicated mixed support; some of the paths turned out to be insignificant, with the explained variance generally but not particularly high in the pseudo-relationship group. We conclude therefore that the pseudo-relationship model received some support, but needs further refinement in order to better grasp the content of these customers' evaluations.

Hypothesis 9 also receives support. Most of the paths in the model are found to be significant, the explained variance is in general relatively high, and the

factor loadings and error terms show that the model provides proper solutions. However, as indicated by the goodness-of-fit statistics and a couple of insignificant paths, the model may need further refinement in order to better grasp the quintessence of these customers' evaluations of service relationships.

### **Size and significance of the paths**

Based on the findings summarized in Table 6.6, we can determine that Hypothesis 2 is supported, and Hypotheses 3 and 4 are not. We find specifically support for the paths suggested in the service encounter model, with the exception of those between price and loyalty, and subjective norm and loyalty.

From the results presented in Table 6.7, we see that Hypothesis 6 is not supported; in other words, that perceived behavioral control does not have an effect on customers' future behavioral intentions towards the service-provider. We do however find support for Hypotheses 7 and 8, indicating that service attitude consists of the proposed dimensions as well as having a positive effect on customers' future behavioral intentions towards the service-provider. Although neither perceived behavioral intentions nor subjective norm has a significant effect on behavioral intentions in the pseudo-relationship group, we find indications that perceived behavioral control has nonetheless a somewhat stronger effect on behavioral intentions than subjective norm in that this path is closer to being significant, as is in line with Hypothesis 8. On the other hand, the path coefficients are the same (0.05) in this group, which is not the case in the service encounter and service relationship groups. Here the path coefficient of the relationship between perceived behavioral control and loyalty is higher than those reflecting relationships between subjective norm and loyalty. While the latter path is insignificant in both these groups, that between perceived behavioral control and loyalty is significant in the service relationship group.

Table 6.8 provides an overview of the results from testing Hypotheses 10, 11, 12, 13 and 14, and indicates that Hypotheses 10 and 12 are supported, while 11 and 13 only partially so. Hypothesis 14, meanwhile, is not at all supported; that is, the relationship between service attitude and calculative commitment turns out to be insignificant and negative rather than positive and significant as originally suggested. The path between trust and calculative commitment is negative as proposed, but insignificant. Further, the paths between price and calculative commitment and calculative commitment and behavioral intentions measure as insignificant as well.

## **PLS results**

### **Testing the models**

For the purpose of verifying the findings summarized above, the proposed models were estimated using PLS, following the practice of Fornell (1992) and Fornell et al. (1996), and consistent with the procedures used in Johnson et al. (2001) Lervik and Johnson (2000), and Olsen and Johnson (forthcoming). Again, for the sake of testing Hypotheses 1, 5 and 9, all three models were tested in all three groups with the goodness of each model discussed along the following criteria: average communalities of latent variable, path coefficients, and variance explained in the key latent variables.

### **The average communality**

According to Johnson et al. (2001) and Fornell and Cha (1994), we should first evaluate the quality of the measurement model and then examine the latent variable model results.

The measurement loadings (MV) for the service encounter model are all relatively large and positive. That is, all of the latent variables exceed an average communality of .707 in the service encounter and service relationship groups, thus more than 50% of the variance in the variables is explained (Fornell and Cha, 1994). In the pseudo-relationship group, quality (.706) was just below the cut-off value, but extremely close to being accepted. All in all we can draw that the average communality of the service encounter model is acceptable.

When reviewing the pseudo-relationship model, we find that the average communality exceeds .707 for all latent variables when tested in the service relationship group. In the service encounter group the service attitude variable (.618) is somewhat below the suggested acceptance level. This is also the case in the pseudo-relationship group, where the service attitude variable achieves an average communality that is slightly higher (.632), while quality is just below the acceptance level (.706). Although two of the latent variables are below the suggested acceptance level, they are still relatively high and we can conclude that the average communality of the pseudo-relationship model is acceptable as well.

Most of the latent variables in the service relationship model achieve a high level of average communality. When tested in the service encounter group, only the service attitude (.618) and calculative commitment (.582) variables are below the acceptance level. These variables are also slightly below the acceptance level when testing the model in the pseudo-relationship group (service attitude achieves .632 and calculative commitment .511). In the

service relationship group, all but one of the latent variables achieve an average communality well above the limit; calculative commitment, however, is relatively weak (.383), which may indicate that this variable contains more than one component or latent variable (Johnson et al., 2001). Despite the average communality of the latter variable we can however conclude that, on the whole, the latent variables in the service relationship model achieve acceptable levels.

Our next step was to evaluate the discriminant validity of the measurement model by considering the percentage of MV loadings (indicators) that exceeds the correlations between the latent variables (LV). Again, we first look at the service encounter model and how it performs in the three groups; when reviewing the MV loadings, we find that across all three groups 4 of the MV loadings fall below the LV loadings, with all violations being discovered when examining the correlation between quality and satisfaction. However, as the total number amounts to only 2% of the 255 comparisons we review, we can conclude that discriminant validity is achieved in this model.

When reviewing the MV loadings in the pseudo-relationship model, we find that 24 of the MV loadings across all three groups fall below the LV loadings, or 14% of the 177 comparisons we make. Eighteen of the violations are identified when examining the correlation between service quality and service attitude, and the remaining 6 when examining that between service attitude and loyalty.

Finally, when evaluating the MV loadings in the service-relationship model, we find that 30 of the MV loadings across all three groups fall below the LV loadings, or 7% of the 432 comparisons we make. As in the pseudo-relationship model, 18 of the violations are identified when examining the correlation between service quality and service attitude and 6 of the correlations are found when examining that of service attitude and loyalty. The remaining 6 are more randomly distributed across the other constructs, indicating no particular pattern of weaknesses.

#### **Size and significance of the paths**

In order to next assess the latent variable results, we examine the size and significance of the predicted path coefficients, and subsequently evaluate the models' ability to explain variance in key latent variables.

Again, we first discuss the service encounter model, followed by the pseudo-relationship model and finally the service relationship model. Table 6.10 gives a summary of the path coefficients provided by the PLS analyses.

Table 6.10: Path coefficients in the service encounter model by group

Paths	Service encounter customers	Pseudo-relationship customers	Service relationship customers
Expectation→ quality	0.42 3.24	0.24 3.51	0.21 3.10
Price → loyalty	0.11 0.93*	0.06 0.73*	0.10 -1.55*
Subjective Norm → loyalty	0.15 1.70*	0.03 -0.71*	0.09 1.42*
Quality→ satisfaction	0.82 17.16	0.81 19.42	0.87 32.22
Satisfaction→ loyalty	0.71 8.82	0.63 9.50	0.74 13.73

\*=not significant at  $p<0.05$

Here we see that 3 of the 5 proposed paths are significant in all three groups. The two insignificant relations are found between price and loyalty and subjective norm and loyalty. We can then conclude that not all of the proposed paths in the service encounter model are supported, findings consistent with those provided by the CSA.

A summary of the path coefficient found in the pseudo-relationship model is provided in Table 6.11 below.

Table 6.11: Path coefficients in the pseudo-relationship model by group

Paths	Service encounter customers	Pseudo-relationship customers	Service relationship customers
Quality→ service attitude	0.84 21.24	0.84 27.51	0.89 44.44
Service attitude→ loyalty	0.80 14.22	0.70 13.56	0.71 15.43
Subjective norm → loyalty	0.10 1.42*	0.01 -0.35*	0.08 1.22*
Perceived behavioral control→loyalty	0.02 0.12*	0.07 0.47*	0.14 1.91*

\*=not significant at  $p<0.05$

In Table 6.11 we see that 2 of the 4 proposed paths are significant in all three groups. The insignificant relations are found between subjective norm and

loyalty and perceived behavioral control and loyalty. The latter path is, however, close to being significant in the service relationship group. All in all, we should draw that all of the proposed paths in the pseudo-relationship model did not all receive support-. Again, our findings are consistent with the results from the CSA.

In Table 6.12, we have summarized the paths for the service relationship model.

*Table 6.12: Path coefficients for the service relationship model by group*

<b>Paths</b>	<b>Service encounter customers</b>	<b>Pseudo-relationship customers</b>	<b>Service relationship customers</b>
Quality→ service attitude	0.84 21.03	0.84 27.24	0.89 54.20
Price→ calculative commitment	0.06 0.05*	0.13 -1.02*	0.21 1.18*
Service attitude→ trust	0.48 5.68	0.48 6.14	0.56 11.52
Service attitude→ affective commitment	0.64 9.12	0.57 8.93	0.62 10.42
Service attitude→ calculative commitment	0.26 1.95*	0.12 -0.72*	0.36 3.33
Trust → affective commitment	0.13 1.55*	0.21 2.69	0.19 2.82
Trust→ calculative commitment	0.05 -0.15*	0.05 -0.48*	0.06 0.11*
Service attitude → loyalty	0.59 6.38	0.56 6.98	0.45 4.82
Affective commitment → loyalty	0.30 3.05	0.22 2.36	0.40 4.35
Calculative commitment → loyalty	0.08 1.08*	0.02 -0.12*	0.06 -0.78*

\*=not significant at  $p < 0.05$

Table 6.12 shows that 5 of the 10 proposed paths in the service relationship model are significant when tested in the service encounter group, and that 6 of the proposed paths are significant when tested in the pseudo-relationship group. The relations between price and calculative commitment, service attitude and calculative commitment, trust and affective commitment, and trust and calculative commitment are found to be insignificant in the service encounter group, although the path between service attitude and calculative commitment is very close to being significant at  $p=0.05$ . The paths that lack support in the pseudo-relationship group are those between price and calculative commitment, service attitude and calculative commitment, trust and calculative commitment and between calculative commitment and loyalty. In the service relationship group, 7 of the proposed paths are significant, while the relations between price and calculative commitment, trust and calculative commitment and calculative commitment and loyalty are insignificant. Unlike the CSA results, these analyses provide support for the path between calculative commitment and loyalty. Overall, based on the number of significant paths, we can conclude that the service relationship model fits the service relationship group better than the two other groups, although not all of the proposed paths receive support.

Finally, we examine the explained variance of the key variables in order to determine the goodness of each model across the three groups. A summary of the variance explained in each model by group is provided in Table 6.13.



Table 6.13: Variance explained in the latent variables by group

Model/Variable	Service encounter customers	Pseudo-relationship customers	Service relationship customers
<b>Service encounter model</b>			
Loyalty	0.61	0.42	0.52
Satisfaction	0.66	0.65	0.75
Quality	0.17	0.06	0.04
<b>Pseudo-relationship model</b>			
Loyalty	0.68	0.50	0.59
Service attitude	0.71	0.70	0.79
<b>Service relationship model</b>			
Loyalty	0.72	0.52	0.64
Service attitude	0.70	0.70	0.80
Trust	0.24	0.22	0.31
Affective commitment	0.50	0.48	0.55
Calculative commitment	0.07	0.06	0.13

The results summarized in Table 6.13 show that two of the key variables in the service encounter model – namely, loyalty and quality - achieve higher explained variance in the service encounter group than they do in the pseudo- and service relationship groups. Satisfaction, for its part, achieve higher explained variance in the service relationship group than in either the service encounter and pseudo-relationship group. In the pseudo-relationship model, both loyalty and service attitude achieve a higher explained variance in the service encounter and service relationship groups than in the pseudo-relationship group. A review of the service relationship model, finally, indicates that loyalty achieve higher explained variance in the service encounter group than the other two, and that the remaining constructs all perform better in the service relationship group than in any other.

Consistent with the CSA, these results also indicate that more construct variance is explained when moving from satisfaction to service attitude. In particular, we see that explained variance increases from the service encounter model to the pseudo-relationship model, while it remains at more or less the same level in the service relationship model as it achieved in the pseudo-relationship model. The explained variance in loyalty is also increased when moving from the service encounter model via the pseudo-

relationship model to the service relationship model; we can therefore conclude that we have improved the explained variance of the key constructs in this study.

### **Testing hypotheses**

Based on the results from the PLS analyses presented above, and consistent with the findings provided by the CSA, we can now safely claim that the PLS analyses support Hypotheses 1 and 9. It is however harder to find support for Hypothesis 5, or specifically, that the extended version of the theory of planned behavior is the better model for explaining the pseudo-relationship. According to the number of significant paths, that is, this model seems weaker than the others; as the tests of the measurement model provide fair results, and the explained variance of key variables are relatively high, it is rather the causal model than the measurement model that lacks support.

The results from testing Hypotheses 2, 3 and 4 are summarized in Table 6.10. The findings suggest that Hypothesis 2 is supported, while Hypotheses 3 and 4 are not; that is, neither price nor subjective norm seem to have a positive direct effect on behavioral intentions in the service encounter group.

Findings from testing Hypotheses 6, 7 and 8 are provided in Table 6.11, where we can draw that Hypotheses 7 and 8 are supported, while 6 is not: perceived behavioral control, specifically, does not seem to have a significant effect on customers' future behavioral intentions towards the service-provider. Nor does subjective norm, but this construct is hypothesized to be less important than perceived behavioral control in this context, as is supported in that its path coefficient (0.01) is lower than the path coefficient of perceived behavioral control (0.07).

Testing Hypotheses 10 through 14 provided the results listed in Table 6.12, a review of which suggests that Hypotheses 10, 11 and 12 are supported. Hypothesis 13 yielded however only partial support, as trust did not have a significant negative effect on calculative commitment. Hypothesis 14, finally, did not receive support insofar as price did not have an indirect effect on customers' future behavioral intentions through calculative commitment.

*Table 6.14: Summary of results from hypotheses testing*

<b>Hypothesis:</b>	<b>Results: LISREL</b>	<b>Results: PLS</b>
H1: The extended version of the theory of reasoned action is the better model when measuring the content of the service encounter than the extended version of the theory of planned behavior and the extended version of the NCSB model.	Supported	Supported
H2: In service encounter evaluations, customers' expectations have positive effects on service quality. Service quality has a positive effect on customer satisfaction, which in turn has a positive effect on customers' future behavioral intentions towards the service-provider.	Supported	Supported
H3: In service encounter evaluations, price has a positive and direct effect on customers' future behavioral intentions towards the service-provider.	Not supported	Not supported
H4: In service encounter evaluations, subjective norm has a positive effect on customers' future behavioral intentions towards the service-provider.	Not supported	Not supported
H5: The extended version of the theory of planned behavior is the better model when measuring the content of the pseudo-relationship than the extended version of the theory of reasoned action and the extended version of the NCSB model.	Partly supported	Partly supported
H6: In pseudo-relationships, perceived behavioral control has an effect on customers' future behavioral intentions towards the service-provider.	Not supported	Not supported
H7: In pseudo-relationships, the service attitude, including satisfaction, emotions and customer-perceived equity, will have a positive effect on customers' future behavioral intentions towards the service-provider.	Supported	Supported
H8: In pseudo-relationships, subjective norm will have less effect on customers' future behavioral intentions towards the service-provider than perceived behavioral control.	Supported	Supported
H9: The extended version of the NCSB model is the better model when measuring the content of the service relationship than the extended version of the theory of reasoned action and the extended version of the theory of planned behavior.	Supported	Supported
H10: In service relationships and similar to pseudo-relationships, the service attitude, including satisfaction, emotions and customer-perceived equity, will have a positive effect on customers future behavioral intentions towards the service-provider.	Supported	Supported
H11: In service relationships, the service attitude has a positive effect on affective commitment and calculative commitment.	Partly supported	Supported
H12: In service relationships, affective commitment has a stronger effect on customers' future behavioral intentions than calculative commitment does.	Supported	Supported
H13: In service relationships, there is a positive effect of service attitude on trust, in turn trust has a positive effect on affective commitment and a negative effect on calculative commitment.	Partly supported	Partly supported
H14: In service relationships, price is indirectly affecting customers' future behavioral intentions towards the service-provider through calculative commitment.	Not supported	Not supported

## Discussion

There has been a tremendous focus on business-to-consumer relationships over the past few years. Marketing has in fact witnessed a shift in focus, from being transaction to relationship oriented. New developments in technology and increasingly demanding customers now require that service-providers be capable of interacting with their customers in multiple ways simultaneously. In order to meet these new requirements, insights into the antecedents and consequences of discrete transactional exchanges and cumulative relational exchanges have been needed.

Of particular relevance to our study were recent works by Gutek and her colleagues (Gutek, 1997; 1999a; 1999b), in which they differentiate between three ways for customers and service-providers to interact with each other; that is, by engaging in service encounters, pseudo-relationships or service relationships. It was the goal of this study to successfully operationalize, model and test their framework, as empirical evidence of its existence was lacking.

We developed three different models. In the first model, we aspired to grasp the quintessence of the service encounter, in the second the pseudo-relationship, and in the third the service relationship. Our models were developed based on previous research on customer satisfaction and loyalty modeling in consumer markets, such as the Norwegian Customer Satisfaction Barometer. Central to our extensions were attitude theories, as well as theories on interpersonal and business-to-business relationships. Our new models led to a set of 14 hypotheses, which we chose to investigate in the hotel industry context.

The three groups of customers were identified based on selection criteria: in the end, there were 142 service encounter, 247 pseudo-relationship and 300 service relationship customers interviewed. We tested all three models in each group, with our analyses conducted in two steps. We first tested our models by running covariance structure analyses (CSA), and we subsequently verified our findings by using partial least square (PLS). Of the 14 hypotheses, we found full support for 7 in the CSA, while 3 were only partially supported, and 4 not at all. The PLS analyses provided similar results; here, eight of the hypotheses achieved full support, while 2 were only partially supported and the remaining 4 did not receive any supported at all. Before we go into a detailed discussion of results from the hypothesis testing, it is necessary to briefly review the descriptive statistics.

The descriptive statistics indicate that there are differences across the three groups investigated in this study in several respects. First of all, we see that income per household increases as we move from the service encounter pole towards the service relationship pole, with the pseudo-relationship group landing in the middle. Meanwhile, the educational level was lower in the pseudo-relationship group and higher in the service relationship group, whereas the service encounter group fell in-between the two.

In line with Gutek (Gutek, 1999a) results, we found that more service relationship customers reported having a regular contact person than did pseudo-relationship customers and service encounter customers, while, interestingly, a higher number of service encounter customers had a regular contact person than pseudo-relationship customers. The numbers were nonetheless very low in all three groups, which is likely explained by the fact that the hotel industry was the context of investigation, as it is not yet common in this industry to have your own contact person.

Also consistent with Gutek et al.'s (1999b) findings were the differences found across the groups concerning the level of satisfaction – or, in our case, service attitude, loyalty and frequency of interactions. That is, service relationship customers had a significantly more favorable service attitude than service encounter customers, were significantly more loyal than both service encounter customers and pseudo-relationship customers, and had a significantly higher frequency of interactions than service encounter customers. These results were somewhat in contrast to Gutek et al.'s findings, as they suggest that pseudo-relationship customers actually may have more in common with service relationship customers than service encounter customers with regard to their service attitude and loyalty. This may indicate that the pseudo-relationship customers' evaluations are not influenced negatively by a potential external constraint reducing their volitional control.

Finally, the customers reported which phase of the relationship they were in with their service-provider. Our findings indicate that most of the pseudo-relationship and service relationship customers found themselves in the maturity phase, with the growth phase most reported after that. The service encounter customers, however, reported a somewhat different pattern. Like the two former groups, most of the customers felt they belonged to the maturity phase, followed by the growth phase; however, in contrast to the other groups, several of the service encounter customers reported being in an initial phase as well. Although we did not develop any particular hypotheses with regard to the relationship phases, these findings make sense. In the service encounter, they reflect the many roles a service encounter may play,

while the findings concerning the pseudo- and service relationship reflect the fact that in order to be in either of the two relationships, customers must have a history of shared interactions with the service-provider.

A relatively extensive procedure was chosen in order to test the proposed models. We first tested the measurement models in both the CSA and PLS analyses. The results from the CSA suggest that the combination of indicators providing the best goodness-of-fit statistics did not do so when testing the causal models. Consequently, we chose the combination of indicators that worked best in the causal models, which led to minor re-specifications; that is, we removed only two of the indicators from the original list of suggested indicators. Further, the constructs all performed well when tested for discriminant and convergent validity. Although the PLS analyses revealed no such problems, we chose to use precisely the same set of indicators as in the CSA: the PLS analyses supported the findings from the CSA concerning the test of convergent and discriminant validity. We therefore conclude that all the indicators in the models reflect the constructs relatively well.

In order to decide which model fits best in each sample, we ran all three models in all three samples. In the CSA, we looked at the goodness-of-fit statistics, the path coefficients, explained variance in key constructs, as well as factor loadings and error terms. According to the goodness-of-fit statistics, we conclude that the service encounter and the pseudo-relationship models are the better fitting ones in their groups; the service relationship model on the other hand, provided more ambiguous results in this respect.

This situation is reversed when we look at the significance of the paths; here, we only achieved partially support for the service encounter and the pseudo-relationship model, while the service relationship model performed better. The pseudo-relationship model also yielded mixed support when the proportion of explained variance was reviewed; specifically, this model achieved a relatively high proportion of explained variance but not in the pseudo-relationship group in particular. This was to some extent the case for the service relationship model as well, which seemed to achieve a high proportion of explained variance in all groups rather than in the service relationship group in particular. Finally, the factor loadings and error terms indicate that all models provide proper solutions, although some refinements should be considered in the service relationship model based on these criteria.

All in all, based on the general CSA findings, we conclude that the service encounter and service relationship models are supported, while the pseudo-

relationship model received only partially support. Thus, the pseudo-relationship model may need further refinements in order to better measure the pseudo-relationship experience.

When evaluating the models based on the PLS analyses, we looked at the average communalities of the latent variables, the path coefficients and the variance explained in the key latent variables. Overall, the PLS provided the same results and conclusions as the CSA: the service encounter and service relationship models were supported, while the pseudo-relationship performed relatively well in some respects, but appeared to need further refinements.

When reviewing the paths of the service encounter model we found that those between price and behavioral intentions and between subjective norm and behavioral intentions lacked support in both the CSA and PLS analyses. There may be several reasons for this finding. First of all, we know that these constructs suffered some from missing values; we did not however think that this would compromise our analyses in any way as the missing values were less than 10%. The routine for replacing missing values in PLS is different from that used in CSA: while the pair-wise cases are deleted in CSA, they are replaced with series means in PLS. This method may neutralize the proposed effect of one variable on the other and provide insignificant paths.

Secondly, although we collected our data over a relatively long period of time and in three different samples, we have nonetheless an overrepresentation of men and perhaps as well of businesspeople in the study. These businesspeople may be less sensitive to price and peer pressure such as subjective norm, in that some of them may not even book or pay for hotel stays themselves. However, rather than having no effect on behavioral intentions the CSA results indicate that price may have an indirect effect on behavioral intention mediated by customers' perception of quality. The lack of a significant effect of subjective norm on behavioral intentions in this study may be due to for instance their previous experience, which is in line with preliminary findings from a study conducted by Andreassen and Olsen (2001). In this study, business men as opposed to students would be less influenced by their family or peers when making a decision about whether or not to complain in a failure situation. Thus, we should be careful when concluding that the paths between price and behavioral intentions and subjective norm and behavioral intentions are nonexistent; we should, rather, try to develop measures of price and subjective norms that are easier for respondents to answer in this context.

We should also test the model in several segments; we could, for instance, categorize respondents by asking the purpose of their hotel stay, as in whether it is vacation/leisure, conference, business or other activities. We could then test the models and compare the effects of these constructs on behavioral intentions.

The results from testing the paths in the pseudo-relationship model were also the same across CSA and PLS analyses. Surprisingly, we did not find support for the path between perceived behavioral control and behavioral intentions. Neither did we find support for a path between subjective norm and behavioral intentions, though this result was less surprising as a strong relationship was not expected here. It is however curious that perceived behavioral control had no effect on behavioral intentions, as it would seem likely that external obstacles or constraints be present in pseudo-relationships. Thus, we must conclude that we have not succeeded in grasping the essence of these obstacles, indicating that the operationalization of this construct requires further work.

With one exception, the CSA and PLS analyses provided the same findings when testing the paths in the service relationship model. The inconsistency was found when testing the effect of service attitude on calculative commitment. In contrast to the hypothesized relationship – namely, that service attitude would positively affect calculative commitment - we found that the effect was negative but insignificant in the CSA. The PLS analyses, on the other hand, supported the hypothesized relationship. This inconsistency could be caused by the different methods applied; while CSA focuses on covariance, PLS gives priority to explaining variance in the endogenous variable. In other words, service attitude may have an effect on calculative commitment as a predictor although the constructs may not be covariates. This inconsistency could as well be due to the weaknesses of the calculative commitment construct in its present form, as analyses indicated that reducing the number of indicators may actually provide different results, or, a positive relation between service attitude and calculative commitment. As we gave however priority to testing identical models in CSA and PLS, we chose to keep the same indicators in the models. In order to achieve consistent and more reliable results, the calculative commitment construct should be re-analyzed.

Interestingly, the proposed negative effect of trust on calculative commitment proved to be insignificant in our study. Although this finding was consistent across both methods, the effect was negative in the CSA and positive in the PLS analyses. Again, we must conclude that this is due to the different characteristics of the applied analyses. The fact that trust has less



effect on calculative commitment in this context is logical when taking into account that we are dealing with a service relationship that may more resemble an interpersonal relationship than a commercial exchange, in which case trust may be more likely to determine affective than calculative commitment, a feature we will revisit below. Another explanation for trust's lack of effect on calculative commitment may be that the effect of trust on loyalty is mediated by other constructs such as value, in line with results from Sirdeshmukh et al., (2002). What mediates the effects of trust on loyalty may nonetheless be due to context as well, another finding of Sirdeshmukh et al.'s study (2002).

Furthermore, both the CSA and PLS analyses suggest that price had no significant effect on calculative commitment, and that calculative commitment had no effect on behavioral intentions. The finding that price had no effect on calculative commitment may again be due to the treatment of missing values or the fact that some of our respondents may not pay for these services themselves. Consistent with a lacking effect of trust on calculative commitment, calculative commitment had no effect on behavioral intentions in service relationships. This lack of effect may have a couple of explanations. To begin with, if a service relationship more resembles a close interpersonal relationship it seems logical that calculative commitment carry no effect on behavioral intentions; such relationships will be more similar to friendships than business exchanges, consistent as well with the stronger effect of affective commitment seen on behavioral intentions than calculative commitment. Secondly, the calculative commitment construct suffered from low explained variance, and may therefore be a less powerful construct leading to low predictive validity, indicating that it, too, may need further refinement.

Overall, we can conclude based on our findings that customers do actually engage in the proposed types of interactions and that we to some extent have succeeded in operationalizing and testing the framework developed by Gutek and her colleagues.

### **Limitations**

While based on well-established literature, this study was to some extent of an explorative character, particularly when attempting to operationalize the pseudo-relationship model. In retrospect, the operationalization of this model would probably have benefited from an introductory qualitative study based on focus groups and in-depth interviews, due to the counter-intuitive finding that perceived behavioral control has no effect on behavioral intentions. Such a qualitative study might well have provided more insight into possible

obstacles customers in this context experience, and we could perhaps as such have provided better measures of these obstacles.

Choosing a cross-sectional survey design for the data collection procedure may pose some weaknesses to our study as well. That is, we are left with snapshot photos of the different interactions, of which at least the pseudo- and service relationships are highly dynamic in nature. It is likely that a study of different kinds of interactions, such as that undertaken here, would gain from a longitudinal design in which one could track the evolution of the relationships over years. Furthermore, we chose to focus on the customers' perspective in this study; it is clear, now, that it might have been to our advantage to study the different types of interactions in customer/service-provider dyads. After all, relationships consist of at least two parties, and studying dyads would in all probability help us to identify the differences and similarities across the proposed interaction types.

Despite these limitations and suggestions for improvements, however, we have succeeded in providing new insights into the three types of interactions studied as our results are based on extensive and solid analyses.

### **Avenues for future research**

We see several clear avenues for future research based on our study, beginning with a new research initiative based on the previously discussed limitations of our study. Secondly, we have only scratched the surface when it comes to investigating relationship phases and believe there is much to be gained by further exploring this topic. Questions remain unanswered, addressing for example the phases different relationships go through and establishing the latent and manifest variables in each of these phases. Another area in need of further research is the customers' motivation behind engaging in different types of interactions with a service-provider; little is known to date about why customers prefer one type of interaction to another, and to what degree different types of interactions are undertaken by the same customers simultaneously.

### **Managerial implications**

With this study we sought to contribute to the service and relationship marketing literature by providing new insights into the contents of different customer/service-provider interactions, insights we hope will trigger further research as well as provide managerial implications. We aspired, most importantly perhaps, to achieve external validity so that our results could be generalized to other service industries, as understanding the differences

between transactions and relationships from the customers' point of view is crucial to service managers operating in increasingly competitive environments.

If a customer and a service-provider have for example a long history of shared interactions, the customer will develop certain expectations about how the service-provider should treat him/her; meeting a service relationship customer the same way as a service encounter customer would be a violation of the customer's expectations of a service-provider's performance and relational norms (Heide and John 1992). Such violations could be very disappointing and dissatisfying to the customer and would most likely result in strong negative emotions towards the service-provider, with customer defection and negative word-of-mouth as potential consequences.

Likewise, it is important for managers to respect that some service encounter customers are not interested in engaging in closer service relationships. Service-providers attempting to 'marry' such customers may scare them off forever; on the other hand, many service encounter customers may in fact become future pseudo- or service relationship customers. Certainly, this situation poses a new challenge to managers when it comes to identifying 'who's who'; the ability to recognize this difference may actually become the most important predictor of a companies' future income, reputation, and ultimate success.

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## **CHAPTER 7**

### **Discussion and Concluding Remarks**



## **Discussion and Concluding Remarks**

### **Summary and discussion of findings**

As the cornerstone of service and relationship marketing, the link between customer satisfaction and customer loyalty has had a tremendous impact on managerial decision-making and academic works over the years. Despite lacking empirical research supporting this link, its existence seems to be assumed, independent of time and place. In the increasingly competitive situation in which companies currently find themselves, customer satisfaction and loyalty programs have been widely applied tools in winning and keeping customers; in academia, meanwhile, the impact of the link has been reflected in the continuing development of national customer satisfaction indexes. While these programs and research projects, however, are frequently treated as starting points rather than the core question of analysis, this link remains for a large part unexplored (Hennig-Thurau and Klee, 1997). To be more precise, the nature of the link has to some extent been investigated while other determinants of loyalty and intervening variables remain unexplored, such as intra-psychological, contextual or situational factors. At the same time, customer demands are changing: customers now expect to interact with service providers in a variety of ways, posing new challenges to management of service organizations and demonstrating as such the need to further investigate alternative determinants and intervening variables.

Based on these central observations, the overall research objective for this dissertation was to gain insight into the consequences for customer satisfaction and loyalty modeling of rapidly changing customer demands. In response to these changes, we aimed at developing models that included new and alternative determinants of customer loyalty and intervening variables that might affect the customer satisfaction and loyalty relation. This objective was operationalized into 5 different sub-research objectives, resulting in 5 different studies as summarized in Table 7.1, while Table 7.2 displays the purpose of each study.

*Table 7.1: Research objectives*

<b>Research objectives</b>
a) Identify and test new and alternative predictors of customer loyalty.
b) Explain more of the variance in the loyalty construct.
c) Learn from, adapt to and improve customer satisfaction models in response to the changing environment. Suggest a new and improved customer satisfaction model.
d) Distinguish between complainers and non-complainers in modeling. Identify the respective cognitive processes underlying customer loyalty.
e) Develop and test models on the differences between discrete transactions and relationships in consumer markets.

These research objectives were translated into the following purposes/goals for each study.

*Table 7.2: Purpose of study*

<b>Article/Chapter</b>	<b>Purpose of study</b>
Article 1/Chapter 2	To investigate present and future relative attractiveness as predictors of future repurchase intention.
Article 2/Chapter 3	To facilitate the learning, adaptation and improvement process of customer satisfaction and customer loyalty models by reviewing the evolution of the national customer satisfaction indexes.
Article 3/Chapter 4	To develop and test alternative models on the role that equity plays in mediating the effects of service quality on service satisfaction and loyalty.
Article 4/Chapter 5	To investigate the different roles equity may have in cumulative satisfaction models in different groups of customers, depending on whether or not they have experienced a critical service encounter.
Article 5/Chapter 6	To investigate three different ways for customers and service providers to interact: discrete transactions, pseudo relationships and service relationships. To develop these constructs, give them content and eventually test them.

**Findings from Article 1/ Chapter 2/: “Perceived relative attractiveness today and tomorrow as predictors of future repurchase intention”**

Inspired by findings from the interorganizational literature, the first alternative determinant of customer retention we identified was relative attractiveness today and in the future. Our reasons for testing the effect of this predictor were threefold. We were firstly concerned about the weak link between customer satisfaction and future repurchase intentions, while further concern was based on the observation that loyal customers are not necessarily satisfied ones. Finally, the literature on business-to-business relations indicated that customers’ perceptions about the service provider’s performance in the future would be of importance in their continuing relation to the service provider. Thus, we developed two hypotheses. The first proposed that perceived relative attractiveness today would have a positive impact on future repurchase intention; the second, meanwhile, proposed that both perceived relative attractiveness today and expected future relative attractiveness would have a positive impact on individual customers’ repurchase intentions. It further proposed that perceived relative attractiveness today rather than expected future relative attractiveness would have a positive impact on repurchase intentions for business customers.

These hypotheses were tested using survey data collected in the insurance industry, including both individual and business customers, with our findings providing support for both hypotheses. The fact that perceived relative attractiveness today was of such importance to future intent for both individual and business consumers is interesting; it demonstrates not only that the absolute dimension of customer satisfaction (disconfirmation of expectations) predicts retention, but rather support as well for Dick and Basu's (1994) conclusion that the “nature of relative attitudes is likely to provide a stronger indication of repeat patronage than the attitude toward a brand determined in isolation” (p. 10). As this was a transaction-specific study, we cannot be said to be strictly speaking of an attitude in this context; we do, however, think that this relative component will prolong the existence of the customer’s state-of-mind, thus increasing its positive effects on repurchase intention.

The fact that business customers’ repurchase intentions were not influenced by future relative attractiveness may be explained by organizations’ ability to act more rationally than individuals. That is to say, with a solid history of shared interactions to look back at, it is more rational to behave consistently with previous behavior than to rely on service providers’ promises about the future. Thus, we can infer that managing customers’ expectations implies different strategies in the business-to-business context than in the business-to-consumer context. Finally, this result highlights the need to take a more



cumulative perspective rather than simply address present attractiveness when modeling customer loyalty.

**Findings from Article 2/ Chapter 3: “The evolution and future of national customer satisfaction index models”**

As the impact of the link between customer satisfaction and loyalty is as well reflected in the continuing development of national customer satisfaction indexes, our next study focused on the strengths and shortfalls of these models as tools for predicting loyalty. We aimed at deriving a new and improved customer satisfaction model in order to increase the explained variance in loyalty. After our review, the following changes were proposed: i) replacing the value construct with a “pure” price construct; ii) replacing customer expectations with corporate image as a consequence of satisfaction; iii) including two aspects of relationship commitment as well as corporate image as drivers of loyalty; iv) incorporating the potential for direct effects of price on loyalty; and v) including complaint handling as a driver of both satisfaction and loyalty. Together these changes constituted the new and improved Norwegian Customer Satisfaction Barometer Model (NCSB).

Data was collected in Norway in five different service industries - banking, airlines, buses, trains and gas stations. All in all we found support for our suggested modifications, with the one exception that complaint handling was not very effective in affecting satisfaction or loyalty. Not least of all, this study demonstrated the importance of accounting for corporate image and commitment as predictors of loyalty; by including these variables, the explained variance increased significantly compared to that achieved in other national customer satisfaction indexes. Furthermore, this study demonstrated the problems involved with using value in a traditional sense as a predictor of customer satisfaction, due to its tautological relationship to quality and price drivers. The solution we proposed was to bring value back into the models using its psychological evaluation - or distributive justice, that is. However, to understand distributive justice it is essential to look at the distinction between transaction-specific and cumulative satisfaction as key moderator. Thus, this became the focus of our next two studies.

**Findings from Article 3/ Chapter 4: “Satisfaction versus equity as mediators of service quality on service loyalty in transaction-specific satisfaction models”**

Based on observations in our second study, and in response to the lack of empirical tests on alternative roles customer equity may play in satisfaction and loyalty models, we conducted two different studies focusing specifically on the role of equity. In the first study, three alternative models of the causal relationship between customer-perceived equity, satisfaction and loyalty were proposed and tested in a transaction-specific context. The data was collected in the banking industry through the Norwegian Customer Satisfaction Barometer. We first investigated whether equity mediated the effects of satisfaction on loyalty, or whether the relationship was reversed. Once the primary mediator was established, we tested whether the mediation was partial or complete by adding quality dimensions to the model. Finally, we tested whether the quality drivers had a direct effect on loyalty as well.

Our results indicated that customer-perceived equity was antecedent to customer satisfaction, which in turn drove customer loyalty. Secondly, we found that customer-perceived equity partially mediated the effects of the quality drivers on customer satisfaction and loyalty. Further, the way customer-perceived equity was mediating the effects of quality on loyalty differed from satisfaction in that customer-perceived equity seemed to be more of an affective and social construct than satisfaction; customer satisfaction, conversely, appeared to be of a more rational and cognitive nature. All in all, we inferred from this study that satisfaction remained the main mediator of service quality and customer-perceived equity on loyalty, while customer-perceived equity clearly played a role in mediating the effects of service quality dimensions on loyalty - dimensions of a more social character, that is.

Important to note is that these conclusions were drawn in a transaction-specific study; however, as one of the primary goals of this dissertation has been to respond to changes in marketing, customer-perceived equity should be further investigated in a cumulative context. Due to the shift in marketing from a transaction to relationship orientation, we believed customer-perceived equity would increase in importance insofar as this construct is closely related to reciprocity, central to any kind of relationship. Thus, the role of customer-perceived equity should be tested in a cumulative context as well.

**Findings from Article 4/ Chapter 5: “Customer-perceived equity: cause or effect of satisfaction in cumulative loyalty models”**

In addition to findings made through the first equity study, reviewing the literature left us with another concern. Based on the observation that customers were more emotionally involved with and observant of recovery services than routine services, we proposed that customers underwent different cognitive processes in their evaluation of critical versus routine service encounters. We assumed that there would be differences in the causality of the antecedents in the underlying cognitive evaluation and that these differences would impact the customers’ commitment to stay with the service provider.

A set of seven hypotheses was consequently developed, with data collected in the banking industry through the Norwegian Customer Satisfaction Barometer. Our results provided general support for the hypotheses: our findings indicated that complainers and non-complainers perceived the content of the satisfaction, equity and loyalty constructs in similar ways. Their decision whether or not to be loyal to the service provider in the future, meanwhile, appeared a result of different underlying cognitive processes, depending on whether the customers had had positive or negative experiences. Finally, we found that both equity and satisfaction had positive effects on customers’ commitment to the service provider, but in different ways. Equity’s effect on calculative and affective commitment depended on whether or not the customer had had positive or negative experiences with the service provider, while satisfaction seemed to affect calculative and affective commitment in different ways, but independent of the nature of the service experience.

Really only the tip of the iceberg has been identified concerning the different roles played by both customer-perceived equity and the customer–service provider relationship. The fact that we identified two different models of customers’ evaluation – equity ranking first in the complainers’ sample and satisfaction first among non-complainers - triggers new questions, especially in view of the transformation from a transaction-specific to a cumulative evaluation context. In this latter context, it seems particularly relevant to pursue the roles customer-perceived equity may adopt in different customer/service-provider interactions, in different customer/service-provider relationships and in different relationship phases.

**Findings from Article 5/ Chapter 6/: “Modeling and testing different types of relationships in consumer markets”**

In our fifth study, we addressed our final concern about customer satisfaction and loyalty modeling - namely, consequences of the emergence of different ways for customers and service providers to interact, an increasingly relevant issue in the new economy. Service companies now need to understand both discrete transactional and relational customer demands and to have the capacity to provide services in different ways simultaneously. This requires insight into alternative ways for customers and service providers to interact.

Among the available conceptual works on customer/service-provider interactions, we found the framework provided by Barbara Gutek and her colleagues (e.g. 1997; 1999; 2000) particularly relevant to the service context. Thus, we operationalized, modeled and tested their proposed three ways for customers and service providers to interact; that is, through service encounters, pseudo-relationships and service relationships. Based on our theoretical review, we developed a set of 14 hypotheses addressing the dimension of each type of interaction as well as the consequences for loyalty of these dimensions under each condition. The survey data was collected in the hotel industry and provided overall support for our hypotheses. The results did, however, provide stronger support for the proposed service encounter and service relationship models, while the pseudo-relationship model measured as somewhat weaker, indicating a need for further refinement.

Table 7.3: Summary of findings

Determinants/ Intervening variable	Dependent variable	Main findings
<b>Article 1/ Chapter 2/:</b> Relative attractiveness today, future relative attractiveness	Customer retention	Relative attractiveness today predicts both individual and business customers' future repurchase intentions. Future relative attractiveness predicts individual customers' future repurchase intentions. *Transaction-specific study.
<b>Article 2/ Chapter 3:</b> Value replaced with price Satisfaction Corporate image Complaint handling Calculative commitment Affective commitment	Satisfaction/loyalty Corporate image Loyalty Satisfaction/loyalty Loyalty Loyalty	Price predicts satisfaction and loyalty. Satisfaction predicts corporate image. Corporate image predicts loyalty. Complaint handling does not predict satisfaction or loyalty. *Cumulative study.
<b>Article 3/ Chapter 4:</b> Alternative roles of customer-perceived equity	Loyalty	Traditional causality supported. Perceived equity a social construct. *Transaction-specific study.
<b>Article 4/ Chapter 5:</b> Complainers versus non- complainers Customer-perceived equity	Loyalty Commitment/loyalty	Different determinants of loyalty depending on reason to complain or not. Customer-perceived equity has effects on calculative and affective commitment depending on the nature of the service encounter.
<b>Article 5/Chapter 6/:</b> Service encounters, Pseudo-relationships, service relationships	Loyalty	Different determinants of loyalty depending on the type of interaction. Service encounter and service relationship model supported. Pseudo- relationship needs further refinements.

## **Contribution of the studies**

This dissertation was meant to contribute to service and relationship marketing in general and customer satisfaction and loyalty modeling in particular. As a part of the research coming out of the National Customer Satisfaction Barometer in Norway, we especially wished to provide insights that would contribute positively to the future development of National customer barometers and indexes.

In a holistic perspective there are some common themes across our five studies that we find worthwhile to mention in discussing the contributions of this dissertation. The first central theme to emerge is that customer loyalty depends on multiple comparisons standards such as predictive expectations (i.e. disconfirmation or satisfaction), current or future forgone alternatives (i.e. regret) and normative expectations (i.e. equity or justice). This theme expands the traditional model of customer loyalty, and should make an important contribution to the marketing literature.

Another common denominator across these studies, providing valuable insights, is the indication that the strength of the relationship between alternative determinants and customer loyalty seem to depend on customers' expertise, knowledge or experience about the particular service. We find these indications when the relationship between perceived relative attractiveness and loyalty is investigated. In which respondents tend to consider themselves to lack expertise and knowledge about insurance services. Also customers' responses in terms of perceived equity and satisfaction seem to differ depending on whether prior experiences have been negative, neutral or positive. This is demonstrated when the relationship between customer perceived equity and loyalty and customer satisfaction and loyalty are studied in two different samples, complainers' versus non-complainers' that is.

Probably as a consequence of our tendency, in the National customer satisfaction barometers, to treat customer satisfaction as a cognitively-based measure unlike Oliver's (1997) conceptualization of satisfaction using affect based scales, an emerging theme from these studies is that loyalty models must incorporate affect or emotion in some manner in addition to cognitively based comparisons to standards. This is demonstrated by the effects that affective commitment has on loyalty as well as the need to include the "hotter" or more affective equity construct in addition to the "colder" more rational satisfaction construct in order to explain more of customer loyalty. All in all, our studies suggest that affect may be an important antecedent of customer loyalty, operating as a main effect or as a moderator variable.

Although recent research has discussed and demonstrated the relevance of emotions to marketing (e.g. Bagozzi et al. 1999; Smith and Bolton 2002), we think that we by our studies have contributed to the extension of this knowledge by demonstrating its relevance to different constructs as well. We do so by finding indications of that not only commitment seems to consist of a cognitive and an affective dimension, but that other constructs grasping customers opinions do as well. Despite its consistency with the attitude literature, this has for or a large part remained unexplored in contexts such as our own.

Furthermore, a contribution from our studies is the insights provided by comparing transaction specific customer loyalty models to cumulative loyalty models. We do so in different respects. First we compare the role that key constructs such as satisfaction and equity play under these different conditions and how it impacts their relation to customer loyalty. Second, we contribute to the marketing literature by hypothesizing how expectations, price, behavioral control and subjective norm influence behavioral intentions and how these relationships may differ depending on whether there is transaction, pseudo or “true” relationship. An important finding in this connection is that moving from transaction specific models towards cumulative models, typically improves the explained variance in customer loyalty, from approximately 20 to more than 50 %. An improvement that we think should be a significant contribution as well.

Finally, we think that our endeavors to test our hypotheses relatively thoroughly, using different kinds of analysis procedures, across different service industries, with representative samples of respondents have paid off in terms of findings that are solid and that should be easily generalized to several other industries.

#### **Limitations of the studies**

There are as well several limitations to these studies. Firstly, common to all studies is the fact that we have used Norwegian data only, which may constitute a potential weakness as Norway represents only a small economy. We consider Norway otherwise a good context for our studies, as it is known as well to have a very open economy.

Secondly, all studies have a cross-sectional design, with the survey data collected by computer-assisted telephone interviews. As this design only provides snap-shot photos of the phenomenon under study, we may have reduced our ability to draw causal inferences and to assess change over time, as opposed for example to having used a longitudinal design with panel data. Response effects may be another threat to the validity of our data set; such

effects may increase the measurement error and are either caused by the interviewer, the respondent, or the questionnaire (Schwarz et al., 1998). We have sought to avoid such problems by using well-established scales and professional interviewers. Additionally, as suggested by Hennig-Thurau and Klee (1997), a possibly relevant limitation to our studies is the fact that we measure customer satisfaction and the other applicable latent variables as well as behavioral intentions at the same time and through the same questionnaire, a method that may cause this data to be inherently correlated, leading as such to artificially strong relations.

Thirdly, as customer perceived equity and fairness are variables that are included in three of the five studies, we should pay attention to potential cultural differences between the US and Norway regarding interpretation of the meaning of these constructs. In Norway, equity and fairness may be perceived as slightly more thought-provoking than in the US, due to a strong social democratic tradition and less vocabulary for communicating these values than is found in the English language. We do not, however, consider this a significant problem as we have pre-tested our translations extensively and feedback from respondents indicates that these questions are intuitive and easy to understand. This is supported by the fact that these questions hold as well little missing data.

In addition to these limitations, each study has its particular weaknesses, which have been discussed sequentially in the dissertation.

### **Managerial implications**

In general, the managerial implications of these studies are relatively concrete. Insights from our research should provide managers with new and updated knowledge in response to the changes observed in current customer demands; having this information should increase the market orientation of service companies by increasing management's understanding of their customers (Kohli and Jaworski, 1990). According to their definition of market orientation (p. 6),

“market orientation is the organizationwide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments, and organizationwide responsiveness to it.”

Critical in fostering a market orientation, is the priority given to it by senior management, their commitment to the philosophy as well as how they communicate it to the rest of the organization. However, equally important



and often neglected in service companies is allocation of resources for spreading the market intelligence to the relevant departments in the organization as well as responding to the market based on the market information (Kohli and Jaworski, 1990; Zeithaml and Bitner, 1996).

Striving to become more market oriented, may well in turn provide an opportunity for managers to close potential service quality gaps and prevent marketing strategies from being misguided and service delivery systems from being poorly designed, both of which commonly result in dissatisfied and defecting customers (Zeithaml and Bitner, 1996). The potential gaps that most frequently occur in service organizations are: a) not knowing what the customers expect, b) not selecting the right service designs standards, c) not delivering to service standards and d) not matching performance to promises (Zeithaml and Bitner, 1996; Zeithaml et al. 1990).

In the text below, we will discuss how insights from our studies may help service managers become more market oriented and thus close service quality gaps or preventing them from occurring at all.

### **Generating market intelligence**

First of all in order to become more market oriented service managers should improve the tools for generating market intelligence. Our results should provide clear implications for improving the modeling, measuring and tracking of customer satisfaction and customer loyalty in various situations. In particular, our studies demonstrate the importance of multiple comparisons standards as predictors of individual customers' future retention. Modeling, measuring and tracking several comparison standards such as companies' perceived relative attractiveness today and in the future (regret), satisfaction and equity should thus be given priority by managers, rather than relying on one bench-marker alone. Also, we learned that the strength between alternative determinants and customer loyalty may depend on customers' expertise, experience and knowledge about the particular service. As such, it becomes critical to service managers to collect this information about their customers, as well. Furthermore our data tells us that customers' form opinions about services based on an affective dimension as well as a more rational or calculative dimension. When updating measurement tools, this observation should be taken into consideration and measures reflecting the affective dimension in addition to the cognitive dimension should be included in future surveys. Finally, service managers should ask their customers what kind of relationship the customers have to the service company, as we have findings indicating that the effects of expectations, price, behavioral control and subjective norm on

behavioral intentions vary depending on the type of relationship the customer engage in. Customers' self report of relationship type would complement nicely more objective data on customer status, typically collected through loyalty programs. All in all our studies introduces additional determinants of customer loyalty and, as a result, managers and market analysts should now have a more powerful tool whose relevance to strategic planning and management should therefore increase accordingly.

### **Dissemination of market intelligence and response to the market**

As discussed in the introduction of this dissertation, there seems to be a difference across service companies when it comes to their ability to realize their customer orientation priorities with all its implications. Typically, the less hierarchical and more flexible organization perform better in terms of customers' satisfaction and customer loyalty than traditional organizations. This is in line with Kohli and Jaworski (1990) definition and suggestions that improving the tool for and generating market intelligence will not be sufficient in order to improve the company's market orientation and ultimately close the service quality gaps (Zeithaml and Bitner, 1996). Rather, this information has to be disseminated to the relevant departments in the organization as well as reacted upon towards the market. Probably more so than generation of market intelligence, dissemination and organizational response are likely to be influenced by the presence of certain organizational factors such as: interdepartmental dynamics and organizational systems.

Interdepartmental dynamics may be broken down to: interdepartmental conflicts and connectedness as well as the concern for ideas from other departments. Typically, there is a negative relationship between interdepartmental conflicts and market orientation, while the relationship between connectedness and market orientation is positive, as is the relationship between concern for new ideas from other departments and market orientation (Kohli and Jaworski, 1990). This indicates that service managers in addition to being committed to a market orientation, should strive to reduce interdepartmental conflicts, reinforce interdepartmental connectedness and employees' openness to new ideas, in order to improve the premises for market orientation by dissemination and response.

Furthermore, service managers should carefully review the organizational systems to improve the company's market orientation. The organizational systems may be broken down to departmentalization, formalization, centralization, marked based reward systems as well as acceptance of political behavior, factors that may have different effects on the antecedents of market orientation. Although findings from organizational studies are somewhat ambiguous (Kohli and Jaworski, 1990) in this respect, there are

reasons to believe that service companies will benefit from flatter, more flexible and less centralized organizational structure both when it comes to communication and responsiveness or dissemination and response based on market intelligence (e.g. Carlzon 1989). Also, market based reward systems should be applied as incentives in order to promote and reinforce a market orientation among managers as well as employees in service companies (e.g. Zeithaml et al. 1990). Finally, political behavior as in promotion of self-interests should be strongly discouraged by service managers as it may be perceived as threatening to others' interests as well as engendering interdepartmental conflicts.

### **Closing the gaps**

Striving towards a market orientated organizational culture and closing service quality gaps do in many respects have compatible strategies. For instance do the antecedents of market orientation coincide with organizational factors increasing knowledge about customers' expectations (closing gap 1) and to some extent the development of the right service standards (closing gap 2). However, designing adequate services (also part of gap 2), delivering to service standards (closing gap 3) and matching performance to promises (closing gap 4) extend Kohli and Jaworski's (1990) perspective and thus require additional organizational factors (Zeithaml et al., 1990; Zeithaml and Bitner, 1996).

In order to design adequate services, service managers should work towards implementing a systematic service development process, paralleling the product development process, which should result in clearly defined services that connect the service design to the service company's positioning. Indicating clearly to the customers' what the company stands for. Connecting the design of services to company's positioning will further necessitate that the company select a few key areas as their focus. These key areas should be reflected in the measurement tools as well as drivers of the customer loyalty determinants discussed above in order to reveal potential discrepancies when it comes to what is constituting adequate service.

The company's capability to deliver to service standards will for a large part depend on the employees' ability and willingness to provide the right service to the right customers. Our studies tell us that customers' evaluations can be both rational and emotional and will depend on their previous experience as well as knowledge and expertise about the service. We also find that customers' are likely to engage in different kinds of relationships with service providers, determining the effects of expectations, price, behavioral control and subjective norm on behavioral intentions. Existing and new employees should thus be trained to recognize different kinds of customers

in terms of how much or what kind of previous experience they have with the company as well as their level of expertise about the service, and not the least what kind of relationship they have to the company, in order to provide the right service and emphasize the right determinants of customer loyalty during service delivery.

Finally, to match performance to promises we suggest that service managers give priority to communication of relevant information about the company's present and future plans concerning customer benefits; in order to strengthen the customers' perception of the company relative to the customers' standards, such information should be communicated on a continual basis.

Although this list of suggested actions by no means is exhaustive, we find these activities critical in order to create the right service environment. This way service managers should be better able to increase customer loyalty by knowing what the customers expect, selecting the right service standards, delivering to service standards as well as matching performance to promises.

#### **Avenues for future research**

In addition to improving upon the weaknesses in our studies, there are several avenues available for future research based on our work. To begin with, our first study might well make one consider using customer loyalty as the dependent variable in order to establish whether expected future relative attractiveness has the same effect on loyalty as it has on future repurchase intentions. Furthermore, this should be tested in different customer/service-provider relations.

Based on our second study, we suggest that our new and improved customer satisfaction model be tested in a wide range of industries and countries. As most of the industries represented in these studies are service companies, this research should be replicated in product-based industries as well.

Our third and fourth studies, in which we focus mainly on distributive justice and to some extent procedural, might inspire us in future research to include all three principles of justice (distributive, procedural and interactional) simultaneously. It seems particularly relevant in this context to pursue the different roles the rules of justice may adopt in different customer/service-provider interactions or relationships, as well as relationship phases. Also, by replicating and extending the work of Mattila (2001), it would be interesting to further explore the cognitive processes complainers and non-complainers undergo and their consequences for future loyalty in different kinds of customer/service-provider relationships.

In our fifth and final study, we have barely begun to scratch the surface when it comes to investigating different customer/service-provider relations and the phases these relations undergo. We think that much would be gained by exploring these relationships further; in particular, we need to more deeply investigate the content of pseudo-relationships, including their antecedents and consequences. This is based on our observation that customers seem to engage in pseudo-relationships in response to imperfections in the market and/or other constraints. An important issue, then, is to identify and test such constraints, which would provide valuable insights for both academics and managers. As far as relationship phases are concerned, meanwhile, questions addressing which phases different relationships go through and which are the latent and manifest variables in each of these phases still remain unanswered, indicating as such room for possible future research contributions. Yet another related area in need of further research is the customer's motivation to engage in different types of interactions with service providers; so far little is known about why customers prefer one type of interaction to another, and to what degree different types of interactions are practiced by the same customers simultaneously. Finally, we expect that applying a variety of designs and methods, such as qualitative research and experiments, when further investigating these topics would serve to broaden our perspective on and deepen our understanding of these challenging phenomena.

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