MASTER

The effect of consumer attributions about the motivations of providers for the introduction of Self-Service Technologies, on the on-going customer relationship

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Award date:
2013

Eindhoven, March 2013

The effect of consumer attributions about the motivations of providers for the introduction of Self-Service Technologies, on the on-going customer relationship

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in partial fulfilment of the requirements for the degree of

Master of Science
in Innovation Management

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TUE. School of Industrial Engineering.
Series Master Theses Innovation Management

Subject headings: (Adoption of) Self-Service Technologies, Attribution Theory, On-going Customer Relationship, Consumer Attributions, Profit Attribution, Customer Oriented Attribution

Abstract

This master thesis describes a project conducted internally at Eindhoven University of Technology aiming to investigate whether consumer perception about the motivations for providers to introduce Self-Service Technologies have an effect on the customer relationship. This research investigates a paradox; as, when a provider is trying to increase loyalty through all kinds of customer value enhancing programs of which innovations are a part, consumers will form both positive and negative perceptions about the provider's motivation for these innovations. Especially these negative perceptions (i.e. the customer's perception that the provider is introducing new technology purely to reduce their own costs and not for any customer benefits), might jeopardise the provider's initial 'customer oriented' goal. To investigate whether this is true, a conceptual model is developed on the basis of prior research in the fields of Customer Relationship, Adoption of Self-Serving Technology an Attribution Theory. This model is mainly based on the work of Sirdeshmukh, Singh and Sabol (2002) and Weijters, Rangarajan, Falk and Schillewaert (2007). On this model we placed the positive and negative customer perception as so the see whether they would have an effect on it. The model is tested with data gathered by means of a survey on the use of self-scanning equipment at a large Dutch groceries retailer. The main conclusion of this research is; both positive and negative attributions do affect the customer relationship model. While the positive attribution positively affects customer value, the negative attribution moderates this effect negatively.

Management Summary

This master thesis project is executed at Eindhoven University of Technology. It starts with providing an academic basis on three relevant literature fields; Attribution Theory, Customer Relationship and Adoption of Self-Service Technologies, which it aims to combine into one model. The result is a model of customer relationship in which a Self-Service Technology has replaced the Front Line Employee, including the effects of customer perceptions about the provider's motivations for introducing the Self-Service Technology. Subsequently, this model is tested by analysing data gathered with a survey conducted in the retail industry. The resulting model provides insights, both practical and for literature.

Problem Statement

The literature study during the preparation phase of this project resulted in the following problem statement: "*In case of self-service experiences, to what extent will positive and negative consumer perceptions about the provider's motivation for SST introduction influence the on-going customer relationship with the firm?"* Elaborating on problem statement, this research aims to investigate whether the effects of these consumer attributions moderates the customer relationship through value.

Conceptual model

The conceptual model was constructed by using two models provided by earlier research from Sirdeshmukh, Singh and Sabol (2002) and Weijters, Rangarajan, Falk and Schillewaert (2007). The model by Sirdeshmukh, Singh and Sabol (2002) provides a good foundation for our own model due to the split of constructs influencing customer loyalty, by partial moderation through value, into 'Trust in Management Policies and Practices' [MPPs] and 'Trust in Front Line Employee' [FLEs]. The model by Weijters, Rangarajan, Falk and Schillewaert (2007) provides a component of 'Attitude towards Self-Service Technology' together with its dimensions which, when used to replace the Front Line Employee part in the model by Sirdeshmukh, Singh and Sabol, results in a model that can be used in a Self-Service Technology context.

No prior research is available for the effects of the Customer Oriented Attribution and the Profit Attribution. On the principle of relational investment, positive attributions are recognized to be value enhancing. Therefore the Customer Oriented Attribution was placed to have a direct effect on Value. On the other hand due to negativity bias, Profit Attribution is expected to have a moderating effect the Customer Oriented Attribution - Value relationship. Its direct effect on Value is expected to be limited. The resulting model is displayed in Figure 1.

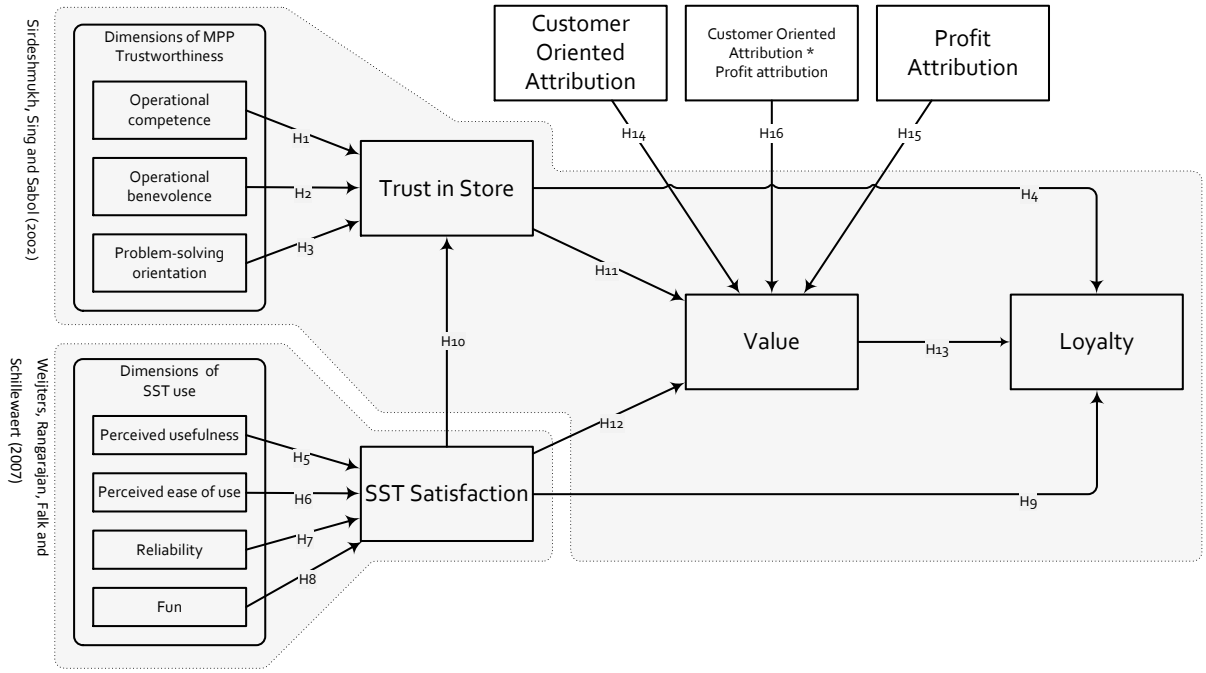

Figure 1: Conceptual Model

Testing of the model

The model is tested by means of a survey in a retail context. Many of the scales used in prior research are reused in this research. For the Profit Attribution and Consumer Oriented Attribution no source was available. They are defined in this research as follows:

- *Customer Oriented Attribution* is the customer's positive perception of customer centric motivations of the firm, like enhancing service value, for the introduction of Self-Service Technologies
- *Profit Attribution* is the customer's negative perception of ego centric motivations of the firm, like increasing profit, for the introduction of Self-Service Technologies.

By consulting the handbook of marketing scales (Bearden and Netemeyer, 2011), scales for these constructs were found.

The data was collected in retail setting among users of self-scan technology at Albert Heijn, the largest supermarket chain in the Netherlands. We assume; if a negative effect is measured within the group of voluntary users, this effect is most certainly present among those who do not freely chose to use the Self-Service Technology. With this assumption it is possible to test the model with a sample of only users of SSTs. A sample size of 100 participants is the minimum requirement.

Results

The basis of the model worked in large parts as expected. Several issues are noted; both the dimension of 'Trust in Store' and the dimensions of 'SST Satisfaction' were not distinguished by the factor analysis as anticipated. However the dimension were merely additional to provide a more complete picture on the used constructs from Sirdeshmukh, Singh and Sabol

(2002). Furthermore it is noted that the direct relationships of 'Trust in Store' and 'SST Attitude' towards 'Loyalty' were insignificant. However, these two items do affect Loyalty through the partial mediating effect of 'Value'. This suggests that customer's evaluations of value in relational exchanges appear to carry great weight in their loyalty judgement.

Key to this research, effects were found of the two attributions on this customer relationship model. A direct significant effect of the Customer Oriented Attribution on Value (β_{CO_attr} = 0.24, p <0.01) provides proof for a successful relationship investment of the provider by introducing an SST. However, the Profit Attribution, which did not have a significant direct effect on Value, significantly moderated this 'Customer Oriented Attribution – Value' relationship (β_{Profit_attr} = -0.26, p <0.10), providing proof for negativity bias. A better understanding of this moderating effect is gained by plotting a 2-way interaction effect. From this we found that for Value, customers who perceive the provider is ego centric driven when introducing the Self-Service Technology, are not affected anymore by their Customer Oriented Attribution. Even though their perception of Value is slightly increased, their perception of ego centric motivations undo any effect any positive attribution might have triggered, conform the negativity bias. However customers, who perceive the introduction of the SST not to be motivated by ego centric motivations of the provider, are highly sensitive to their perception of Customer Oriented Motivations. For these customers, a high Customer Oriented Attribution results in a substantial positive effect on Value, as they perceive the introduction of the SST solemnly for their benefit. On the other hand, a low Customer Oriented attribution results in a substantial negative effect on Value. If these people don't see the added value of introducing an SST they probably consider it as a waste of resources.

The main managerial implications drawn from these results are; when introducing an SST, be aware that customers will form attributions about your motivations for introducing them. Two in particular;

- A positive Customer Oriented Attribution: the consumers think the SST was introduced for their benefit)
- A negative Profit Attributions: the consumer's thinks the SST was introduced to benefit the provider.

Ideally the provider has the customer convinced that the motivations for introducing the SST are in their benefit. In this case the positive attribution has the strongest positive effect on value and therefore loyalty. However when the customer is also convinced of the ego centric motivations of the provider to introduce the SST value will not be increased regardless of any positive attributions. The effect is rendered to zero, no positive or negative consequences. Worst case, customers that perceive neither benefit for themself or for the provider will see no sense in introducing an SST. Surprisingly this implicates that these consumers can better be made aware of the provider's benefits because then at least the negative effect is prevented.

Preface

This report describes a project that I have executed internally at Eindhoven University of Technology. This project represents the final part of my study Industrial engineering at Eindhoven University of Technology.

As a Graduate student in Innovation Management, more specifically the research field of new technology adoption, I have delivered a model for the on-going customer relationship when dealing with the Self-Service Technology as opposed to dealing with a Front Line Employee. In addition I expanded this model with the effects of a customer's positive and negative attributions on the provider's motivations for introduction of new Self-Service Technologies.

I would like to thank several people that helped me throughout this master thesis projects. First of all, I would like to thank Prof.dr. E.J. Nijssen, my primary supervisor, for all his support, input and useful feedback moments during my entire project. We had regular meetings which were both enlightening and diverting, they helped me to overcome challenges I experienced during my project. Furthermore I would like to thank dr. J.J.L. Schepers, my second supervisor, for his critical view on the project and his useful feedback. In addition I would like to thank Marc Bogers and Marc Stijbosch, store managers of the Albert Heijn stores in Aalst and Waalre, for their cooperation in the data gathering process.

Finally, I would like to thank my family and friends who have supported me during my entire study and especially during this master thesis project.

Reinier Klaasse Bos

March 18, 2013

List of Abbreviations

AH	Albert Heijn
AVE	Average Variance Extracted
CRM	Customer Relationship Management
FLE	Front Line Employee
MPP	Management Policies and Practices
SST	Self-Service Technology
TAM	Technology Acceptance Model
WOM	Word of Mouth

List of Definitions

Albert Heijn:	The largest supermarket chain in the Netherlands with stores in every region, having a market share of 33% in 2012.
Attribution - external:	The inference that a person is behaving a certain way because of something about the situation he or she is in.
Attribution - internal:	The inference that a person is behaving in a certain way because of something about the person, such as attitude, character or personality.
Attribution logic:	States that an observer is assumed to attribute a performance or outcome to an agent when a performance is subject to change, and if this change is under the agent's control
Attribution theory:	Concerned with how individuals interpret events and how this relates to their thinking and behaviour, it assumes that humans try to determine why people do what they do.
Commitment:	An enduring desire to maintain a valued relationship.
Consumer Trust:	The expectations held by the consumer that the service provider is dependable and can be relied on to deliver its promises.
Controllability:	Contrasts causes one can control such as skill/efficacy, from causes one cannot control such as aptitude, mood, others' actions and luck.
Profit Attribution:	The customer's negative perception of ego centric motivations of the firm, like increasing profit, for the introduction of Self-Service Technologies.
Customer Oriented Attribution:	The customer's positive perception of customer centric motivations of the firm, like enhancing service value, for the introduction of Self-Service Technologies.
Customer satisfaction:	A consumer's affective state resulting from an overall appraisal of his or her relationship with a service provider.
Ease of use:	Refers to the ease of the process leading to a final outcome.
Enjoyment:	The extent to which the activity of using technology is perceived to provide reinforcement in its own right, apart from any performance consequences that may be anticipated.
Expectancy:	The subjective likelihood of future success.
Inference:	The reasoning involved in drawing a conclusion or making a logical judgement on the basis of circumstantial evidence and prior conclusions rather than on the basis of direct observations.
Locus of control:	The extent to which individuals believe that they can control events that affects them.
Loyalty:	An intention to perform a diverse set of behaviours that signal a motivation to maintain a relationship with the focal firm, including allocating higher share of the category wallet to the specific service provider, engaging in positive word of mouth and repeat purchasing.
Negative bias argument:	The fact that negative experiences are better encoded compared to positive experiences, therefore they are remembered more easily.
Non-users:	Those who currently do not use the concerning Self-Service Technology.
Operational benevolence:	The behaviours that reflect underlying motivation to place consumer's interest ahead of self-interest.
Operational Competence:	The expectation of consistent component performance from a partner or provider.
Past-users:	Those who used the concerning Self-Service Technology before but do not use it anymore.

Perceived relational investment:	The consumer's perception of the extent to which a retailer devotes resources, efforts and attention aimed at maintaining or enhancing relationships with regular customers.
Perceived Usefulness:	Attainment of the said outcome itself, like the benefits customers associate with using something, rather than the process leading towards it.
Principle of mastery:	People feel a need to understand, predict and control their environment.
Problem Solving Orientation:	The consumer's evaluation of management motivations to anticipate and satisfactorily resolve problems that may arise during and after service exchange.
Reciprocity Argument:	When providers act in a way that builds customer trust, the perceived risk with the specific service provider is likely reduced, enabling the consumer to make confident predictions about the provider's future behaviours.
Reciprocity:	Evokes the obligation toward others on basis of their past behaviour, it honours the notion that people should return good for good, in portion of what they receive.
Relationship commitment:	A customer's enduring desire to continue and willingness to make efforts maintaining a relationship with a service provider.
Relationship quality:	An overall assessment of the strength of a relationship between buyers and sellers.
Reliability:	Consistency and accuracy.
Satisfaction:	Reflects the degree a consumer derives positive feelings from a service encounter.
Self-Service Technology:	Produce as service independent of direct service employee involvement.
Stability:	Captures whether causes change over time or not.
Trust:	The perception of confidence in the exchange partner's reliability and integrity.
Trusting behaviours:	Related to the willingness to engage in risk-taking behaviour.
Trustworthiness:	A belief or confidence.
Users:	Those who still regularly use the concerning Self-Service Technology.
Value:	The consumer's perception of the benefits minus the costs of maintaining an on-going relationship with a server provider.
Word of Mouth:	The passing of information from person to person by oral communication.

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1. Introduction

As the service sector grows and globalizes (Spohrer and Maglio, 2008), driven by competition (Bitner, Brown and Meuter, 2000), providers search for continuity by means of customer loyalty. Providers spent many resources on a manifold of customer loyalty programs and attention to "shopping" experience and hope in return to enjoy the benefits related to loyal customers. These benefits include; longer relationships between company and a consumer which reduces service costs due to learning effects, together with the fact that over time loyal consumers build businesses by buying more, paying premium prices, and providing new referrals through positive word of mouth (Ganesh, Arnold and Reynolds 2000; O'Brien and Jones 1995; and Keaveney 1995).

Through innovation providers try to stay ahead of the competition by cutting costs and create extra value for the customer. This value, defined as the consumer's perception of the benefits minus the costs of maintaining an on-going relationship with a server provider (Sirdeshmukh, Singh and Sabol, 2002), is recognized by the customer relationship literature to be an important driver for loyalty. One of the innovations used by providers is Self-Service Technology [SST], defined as a technological interface that enables customers to produce services independently, and so without direct service employee involvement (Meuter, Ostrom, Roundtree and Bitner, 2000). Provider benefits to be gained by introducing Self-Service Technologies include; the opportunity to increase speed of delivery, precision and customization (Berry, 1999); the reduction of costs and increased productivity (Dabholkar, 1996), the improvement of competitiveness and increased market share (Kauffman and Lally, 1994), increased customer satisfaction and loyalty (Curran, Meuter and Surprenant, 2003); an opportunity to differentiate thought technological reputation (Meuter and Bitner, 1998); and the creation of a more homogeneous service environment (Dabholkar, 1996). Also many benefits for the consumer are recognized, such as; cost and time savings, greater control over the service delivery, reduced waiting time, a higher perceived level of customization (Meuter and Bitner, 1998); convenience of location (Kauffman and Lally 1994); fun or enjoyment from using the technology (Dabholkar 1994, 1996); efficiency, flexibility, and spontaneous delight (Bitner, Brown and Meuter 2000); and ease of use, convenience, and avoiding contact with the providers personnel (Meuter, Ostrom, Roundtree and Bitner, 2000). Common examples of SSTs are; public transport cards, ATM's, self-scanning in grocery stores and pin-and-go petrol stations, next to online SSTs such as; online banking, E-stores, and online health diagnosis sites.

However, we believe that consumers of the introduced SSTs will form positive and negative attributions about the provider's motivations for this introduction, which might lead to achieving the opposite of the intended purpose. How many of us have not experienced aggravation during self-check in at airports, wondered who designed interfaces for internet

banking, or experienced the stress of calling a customer service line with a question or complaint to find that a computer voice offers you simply no option to speak to a human being? According to De Wulf, Odekerken-Schröder and Iacubucci (2001), loyalty is driven by the consumer's perceived relational investment, defined as "the consumer's perception of the extent to which a retailer devotes resources, efforts and attention aimed at maintaining or enhancing relationships with regular customers" (Smith, 1998). The use of SST will either satisfy or dissatisfy consumers. Although relationship equity probably prevents extreme reactions in on-going exchange relationships (Tax and Brown, 1998), through this experience consumers will form an attribution on the provider's motivation for introduction. If the customer forms a positive attribution by thinking the provider is genuine and innovates for the sake of improving customer service, the introduction of SST will increase value and inevitably loyalty. However, when the consumer forms a negative attribution by thinking that the provider aimed for increasing profit, higher profits and shifting workloads towards the customer, the introduction of SST will decrease value and therefore decrease loyalty. This proposes a paradox were on the one hand the provider is trying increase loyalty through value, on the other hand the customer attributions obtained because of this introduction actually jeopardise loyalty.

1.1. Problem statement

Innovation is considered to be a 'double edged sword', while its purpose is to increase loyalty, negative attribution towards the provider's motivations for the introduction of the innovation is expected to reduce loyalty. As SST user's opinions on the accomplishment of the extra services are divided, two opposing attributions on the provider's motivation for introducing an SST are proposed; a positive attribution involving the idea that the provider has customer centric motivations for introducing the SST, such as to increasing customer service; and a negative attribution involving the idea that the provider has cost reducing motivation such as to increase profits rather than customer interests. These attributions arise when a consumer evaluates the extent to which the initial product performance corresponds to his or her level of aspiration compared to that service, and then question the cause of the outcome (Weiner, 2000). Positive and negative attributions are both believed to influence on-going customer relationship, therefore the problem statement central in this research is:

In case of self-service experiences, to what extent will positive and negative consumer perceptions about the provider's motivation for SST introduction, influence the on-going customer relationship with the firm?

1.2. Research Questions

Elaborating on the problem statement, this research aims to investigate whether the effects of the consumer attributions about the motivations of providers to introduce SST moderates the customer relationship. We will argue that as long as a consumer believes that the provider is driven by extra service delivery motivations the relationship is left unaffected or

even may be enhanced. However, if consumers believe that the new service was motivated by firm's self-interest then the relationship will diminish. As the Dutch saying goes; "*trust comes on foot but leaves on horseback*" [direct translation]. Drawing on Customer Relationship theory, SST Adoption literature and Attribution Theory, this research develops a model with corresponding hypotheses and test this model in a business-to-consumer environment by means of a survey. The problem statement is split up into several smaller research questions, setting out the course for the project. Research questions stated contain both those from a more scientific nature and those of more practical relevance. The following research questions are defined:

- Is there a basis in earlier research to connect a proper "customer relationship" model with attribution theory in a SST context, or is such a model to be constructed?
    - What would a "customer relationship model" for the SST context look like?
    - In what way would both the negative and the positive attributions connect to this model?
- Is there an effect of the customer attributions on the customer relationship et al?
    - How do the two attributions interact with the model and how can this behaviour be explained?
- Do customer attributions jeopardise value increasing intentions of providers? So in other words, do the motivations for introducing an SST outweigh the possible loss in customer loyalty?

1.3. Research Context

The project is carried out as a thesis project conducted within the "Innovation, Technology, Entrepreneurship and Marketing" department at Eindhoven University of Technology. No third party was directly involved with the project. Even though data was gathered in a retail context at several Albert Heijn locations, they did not in control the project or its course in any way. The data, gathered in this groceries retail setting was performed with use of a survey among all customers of the store. So, users, past users and non-users of self-scan equipment were included. The context therefore is; the adoption of Self-Service Technology, in the form of self-scanning equipment, within the groceries retailing industry. For convenience and due to the sample size, a sample will be taken from supermarkets within Eindhoven the Netherlands.

1.4. Contribution to literature

This thesis contributes in several ways to the literature. First of all, the study provides two new definitions/constructs for consumer perceptions about the motivations of providers to introduce a SST and tests them. They include; a *Profit Attribution* defined as the customer's negative perception of ego centric motivations of the firm, like increasing profit, for the introduction of Self-Service Technologies, and a *Customer Oriented Attribution* defined as the positive perception of customer centric motivations of the firm, like enhancing service value, for the introduction of Self-Service Technologies. Both definitions have their basis in

attribution theory, but are fixed instead of flexible on its three components; Locus of Control, Controllability and Stability. New scales are defined and these prove to apprehend the two constructs well with a Cronbach's Alpha of 0,816 for the Profit Attribution and a Cronbach's Alpha of 0,827 for the Customer Oriented Attribution. Secondly, the key concept of this thesis' contribution lies in the additive of attribution on the on-going relationship model, while former research on relationship aspects in combination with attribution theory mainly concerned itself with incidents. This long term view is important as the introduction of innovation is usually a continuing process, with innovations following up on each other rather than being a single event to a company. Thirdly, this thesis brings together service innovation and relationship marketing literature with Attribution Theory. The service innovation literature has mainly focussed on understanding internal business processes (e.g. Reijers, 2003), differences between service and product innovation processes (e.g. Nijssen, Hillebrand, Vermeulen and Kemp, 2006), and the adoption of innovations by customers (e.g. Dabholkar, 1996; Dabholkar and Bagozzi, 2002; Meuter, Ostrom, Roundtree and Bitner, 2000; Meuter, Bitner, Ostroma and Brown, 2005). However it has not been linked to the area of relationship marketing. This thesis addresses this missing link with the use of Attribution Theory, and makes it explicit by theorizing the effect of a customer's perception of the provider's motivation of introducing a self-service innovation, driven by its evaluation of the new self-service innovation. It develops a model of on-going customer relationship when dealings with Self-Service Technologies as a substitute for dealings with Front Line Employees. This model extends the possibilities of customer relationship research into a new context; one were customers are dealing primarily with an Self-Service Technology instead of a Front Line Employee interaction and with that making an evaluation of SST within the on-going relationship setting possible. Fourthly, with this thesis an important paradox is revealed and appointed to in this thesis. Where providers think to increase loyalty through creating extra value for the customers with their introduction of SSTs, the attributions about the motivations of the provider to introduce these SSTs might actually jeopardise their goals to the extent that it might actually reduce loyalty.

1.5. Thesis Outline

The remainder of this article is structured as follows: First a theoretical background is provided on the relevant fields of literature for this thesis. These fields of literature are; Attribution Theory, Customer Relationship and Adoption of Self-Service Technology. In chapter 3 a conceptual model is proposed mainly on the work of Sirdeshmukh, Sing and Sabol (2002) and Weijters, Rangarajan, Falk and Schillewaert (2007), which serves as a basis to connect the two attributions to. Next to the conceptual model, control variables and extra variables are introduced and explained. Next, in chapter 4, the research design and method are presented, including; the setup of the survey, the data collection procedure and the quality criterion. Chapter 5 is concerned with the analysis of the data including; several assumptions, factor analyses and the regressions of the model, and its control variables. This thesis will end with conclusions and recommendations for further research.

2. Theoretical background

In regard of this project, three relevant fields of literature are studied; Attribution Theory, Customer Relationship and Self-Service Technology Adoption. The literature on Customer Relationship is interesting as it provides definitions for measurement. Self-Service Technology Adoption literature provides insights that lead to expectations on differences between the building of customer relationships in a FLE or SST context. Finally, attribution theory provides a new notion on the effect of the customer's perceptions about the provider's motivations for SST introduction. This chapter serves as preparation for the model construction in chapter 3.

2.1. Background: Attribution theory

Attribution theory is concerned with how individuals interpret events and how this relates to their thinking and behaviour, it assumes that humans try to determine why people do what they do. Attribution theory was first proposed by Heider (1958), but Weiner (1972) and colleagues developed a theoretical framework that has become a major research field of social psychology. In Heider's view people are like amateur scientists. They try to understand others people's behaviour by piecing together information until they arrive at a reasonable explanation or cause. In his view people can make two attributions; an internal attribution and an external attribution. Internal attribution refers to the inference[1] that a person is behaving in a certain way because of something about the person, such as attitude, character or personality. External attribution refers to the inference that a person is behaving a certain way because of something about the situation he or she is in. Weiner (1980) proposes the principle of mastery, which states that people feel a need to understand, predict and control their environment. The functional aspect of this principle is; if people can assign causes to events, they can manage themselves and their environment. Their attributions are also significantly driven by their emotional and motivational drives, whereby people mainly seek causal attributions for negative events (Weiner 2000). Blaming others and avoiding personal recrimination (or counter charge) are very real self-serving attributions. People will tend to make attributions to defend what they perceive as attacks, they will point to injustice in an unfair world and will even tend to blame victims for their fate as they seek to distance themselves from thoughts of suffering the same unfortunate situation. People will also tend to ascribe less variability to other people than themselves, seeing themselves as more multifaceted and less predictable compared to others. This may well because we can see more of what is inside ourselves and spent more time doing this.

In research the benefit of using Attribution Theory is found in the fact that it often provides a single sufficient explanation instead of using much of an individual's capacity to find the

[1] Inference is defined as the reasoning involved in drawing a conclusion or making a logical judgement on the basis of circumstantial evidence and prior conclusions rather than on the basis of direct observations.

best possible explanation (Fiske and Taylor, 2007). In consumer research, for instance, it has been used to study; consumer perceptions and marketing mix effects in individual service encounters (Bitner, 1990), employee versus organization service's failure (Kacen, Hess and Walker, 2008), internal vs. external reviewer's motivation in e-WOM (Sen and Lerman, 2007) and company-related vs. company unrelated performance (Tsiros, Mittal and Ross, 2004).

2.1.1. Attribution theory's inner workings

Attribution Theory builds on three dimensions to describe causal attribution (Weiner, 1979): Locus of control, Stability and Controllability. *Locus of control* is defined as the extent to which individuals believe that they can control events that affect them. *Stability* captures whether causes change over time or not. *Controllability* contrasts causes one can control such as skill/efficacy, from causes one cannot control such as aptitude[2], mood, others' actions and luck. Together Attribution Theory states; *an observer (consumer) is assumed to attribute a performance or outcome to an agent (provider) when a performance (i.e. of a new service or innovation) is subject to change, and if this change is under the agent's control* (Weiner, 2000). An example of an uncontrollable external attribution would be a power-failure at the airport which hampers the self-check-in system. The ability to operate the self-check-in system is not in the power of the consumer, but the consumer recognizes that the provider has momentarily no control over the failure, an "act of god". Another example of a controllable external attribution would be the firm's failure to present the customer with clear instructions or a good service-support option in case of problems or malfunction of the innovation. In this situation again the ability to operate the self-check-in system is not in the power of the consumer, however this time the provider actually is in control over the failure. In Table 1 an overview is provided in the form of a Locus-Controllability matrix on an example of a self-check-in at an airport, to provide better understanding of the two constructs. *Stability* captures whether the cause is likely to stay the same in the near future or can be changed. If a cause is attributed to a stable factor, observers will expect a similar result in the future and adjust their behaviour accordingly.

Table 1 Matrix Locus and controllability

	Uncontrollable	Controllable
Internal locus	Due to the consumer's blindness, using the self-check-in failed.	Due to hurry on the consumer's part, the self-check-in failed.
External locus	Power-failure at the airport which hampers the self-check-in system.	Self-check-in failure due to poor interface or unclear instructions.

In short; *Locus provides who is responsible, control provides whether the responsible party has control over the cause, and stability provides whether the cause is likely to recur*.

[2] The acquired or natural ability for learning and the competence in a specific area or discipline.

The three dimensions are important as they map into what are considered the two main determinants of motivation, namely; expectancy and value. When a cause is stable, then the same outcome will be expected again following a success or failure which conforms to *expectancy*, referring to the subjective likelihood of future success, and value, referring to the emotional consequences of goal attainment or nonattainment (Atkinson, 1964). This links stability to expectancy. On the other hand failure due to unstable factors, such as bad luck or lack of preparation because of having the flu for instance, will not be an indicator of further failure (Weiner, 1986). Locus and controllability particularly relate to feeling states, or the value of achievement outcomes. A cause may be internal to the person but quite uncontrollable, such as lack of height as the cause for not being selected for the basketball team (Weiner, 2000). Locus influences feelings of pride in accomplishment and self-esteem. Pride and increments in self-esteem require internal causality for success. One might be happy following a high grade on an exam, but pride will not be experienced if it is believed that the teacher only gives high grades. Controllability, connected with locus, influences whether guilt or shame is experienced following nonattainment of a goal. Attribution of failure to insufficient effort, which is internal and controllable, often elicits guilt, whereas an ascription to lack of aptitude which is internal but uncontrollable often evokes feeling of shame, embarrassment and humiliation.

Understanding these attribution processes and outcomes is important because the affect subsequent behaviour, determined by expectancy and value, which depends on thoughts as well as feelings (Weiner 2000), therefore attribution theory is appropriate for examining customer reactions to service failures (Working paper presentation at TU/e Seminar, van Vaerenbergh, 2012). Research confirms this by showing controllability and stability of positive or negative outcomes, to be influencing customer satisfaction, complaints and Word of Mouth. (Bitner, 1990; Tsiros, Mittal and Ross, 2004; Vázquez-Casielles, Río-Lanza, Díaz-Martín, 2007; Kacen, Hess and Walker, 2008; Xie and Hueng, 2012). Furthermore Vaerenbergh (2012) concludes that controllability attributions are more driven by emotions while stability attributions are more driven by satisfaction, and controllability attributions seem more temporal while stability attributions have a long-term impact on customer outcomes. Weiner (2000) argued that “Perceptions of controllability are of special interest because they link to inferences regarding personal responsibility, moral judgement, and moral emotions, including anger, sympathy and gratitude, so that they are at the very heart of social behaviour”.

2.1.2. Attribution in earlier research

So far research including attribution theory on customer behaviour is always performed by evaluating a (usually) negative incident with a service. For instance; a consumer is exposed to a specific form of self-service were the researcher stages a negative experience, after the encounter measurements are taken on the locus of control, controllability and stability dimensions, usually in combination with a loyalty measure. However, discrete transactions are rare and marketing needs to begin to recognize the importance of on-going buyer-seller

relationships, or a series of relational exchanges (MacNeil, 1980). Considering the evaluation of on-going consumer relationships, attribution could also be instrumental for understanding consumer responses towards new technologies, for instance the introduction of Self-Service Technology. We believe this is true because of the attribution logic which states that; *an observer is assumed to attribute a performance or outcome to an agent when a performance is subject to change, and if this change is under the agent's control*. When a provider decides to introduce a new innovation, for the current case in the form of a new SST, he inflicts a change of performance the moment the consumer decides to consider and adopt the technology. The consumer will assume that this new innovation is under control of the provider and its management. Depending on the level of fulfilment, the consumer will now reason whether this was the providers' intention or not, making a positive and negative attributions. Also, performance of the new SST will be evaluated against previous experience with the provider and its services.

Research in an on-going customer relationship setting is relevant when a provider is introducing innovations more-often, which usually is the case, instead of a onetime introduction. Therefore in this research the focus is set on the attributions formed by consumers about the provider's motivations for introducing an innovation, which is a more general concept. These attributions are still formed during an SST encounter, but are not guided by a positive or negative incident, instead they are expected to be formed by the consumer's attitude towards the SST, before, during and after using it. These attributions are deemed important and can even be seen as a form of Relationship Equity, influencing, just like incidental attributions, the expectancy and value associated with the provider.

To implement attribution theory in an on-going customer relationship, a different approach is needed. In conventional Attribution Theory combined with Customer Relationship research a model on customer relationship is used whereby the three dimensions of attributions theory are implemented between the cause and effect. This is conform to Weiner's (2000) notion that "*Attributions play their role in post-initial outcome decision making; that is, attributions intervene and exert their influence after a product-related outcome and prior to the next choice"*. In the on-going research setting however it is hard to evaluate a locus of control, controllability and stability for an overall attribution about the provider, as they may differ across qualities, due to the non-incidental character of the research. Therefore a workaround is proposed involving two pre-set attribution dimensions that customers form about the provider's motivations for introducing SSTs.

2.1.1. Attribution in current research

We propose two opposing attributions consumers might form on the provider's motivations for introducing an SST with pre-set values on locus of control, controllability and stability. A positive attribution involving the idea that the provider has customer centric motivations for introducing the SST, such as to increasing customer value, and a negative attribution involving the idea that the provider has profit enhancing motivation such as to reduce costs

rather than increase customer value. Due to the defining of these two attributions, the three dimensions are locked in a pre-set state.

The pre-set state of the three dimensions for the attributions can be explained by scenario-based reasoning. For instance, even though the customer acts as a co-producer, and thus may be self to blame for a low level of fulfilment or performance of the new self-service technology, the customer will tend to blame this on the provider. In contrast, a positive experience, when the self-service is working well and fills a latent customer need, customers will make a positive evaluation. Although, as co-producers, customers will now accredit themselves (at least partly) for the successful outcome, they will also make a positive attribution towards the firm and its management. Therefore we expect, no matter the experience being positive or negative, the attribution on the motivation of the provider for introducing an SST will be evaluated on experiences with only an internal *locus of control*. All other associations a consumer might have with an external locus are not relevant for the company as providers are unable to control it and will not be blamed for it. As for *controllability*, just like interaction with an FLE, the use of an SST will be assumed by the customer to be under control of the provider. Again an attribution on the motivation of the provider for introducing an SST will be evaluated on experiences which were controllable by the provider as people will recognize uncontrollable events to be a case of bad luck not to be blamed on the provider. Uncontrollable events will also be out of scope for this project. Summarizing; for both positive and negative attributions on the provider's motivations for introducing an SST will be made on controllable events with an internal locus, in other words; events caused and under supervision of the provide. Only *stability* might actually be different for the positive or negative attribution. Within a Selling Orientation Attribution a stable situation is suspected due to the fact that the provider is not oriented on the consumer and therefore does not see the need to change the SST. Consumers will not expect that a provider, who is merely introducing SST for economic purposes, to enhance their SST as this will require monetary resources. On the other hand a provider that is acting in the best interest of the consumer is expected to keep on innovating and providing updates to the SST as so to increase customer value, resulting in an unstable attribution dimension.

2.1.2. Profit Attribution / Consumer Oriented Attribution

Consistent with the above, negative attribution is associated with the provider's self-interest driving the innovation or SST introduction to increase their own profits by reducing cost or shift the burden to customer. Such a negative thought involving the perception of ego centric motivations by the firm, like increasing profit, is defined as a *Profit Attribution*. This construct is expected to diminish the relationship with the provider. On the other hand, a positive attribution concerns the provider's SST introduction behaviour to be interpreted as beneficial for the customer. This positive notion of the provider aiming to enhance service value and thus acting with customer centric motivations is called *Customer Oriented Attribution*. This construct is supposed strengthen the relationship with the provider.

2.2. Background: Customer relationship

Due to an increasingly competitive environment characterised by rising customer recruit costs, loyalty is the marketplace currency of the 21st century (Singh and Sirdeshmukh, 2000). Therefore organizations are implementing technology based solutions such as Customer Relationship Management [CRM] systems in the hope that they will improve productivity (McDonough, 2001), increase customer satisfaction (Burghard and Galimi, 2000) and increase profitability (Reichheld, 1996).

Customer relationship literature acknowledge the principle of reciprocity, which is the expectation that people will respond favourably to each other by returning benefits for benefits, and responding with either indifference or hostility to harms. Reciprocity is defined as the key feature to explain the duration and stability of exchange relationships. Reciprocity evokes the obligation toward others on basis of their past behaviour (Moon, 2000), it honours the notion that people should return good for good, in portion of what they receive (Bagozzi, 1995). Bagozzi (1995) proved that reciprocity is also present in consumer-firm relationships and is the basis for customer loyalty.

Relationship quality, defined as an overall assessment of the strength of a relationship between buyers and sellers (Garbarino and Johnson, 1999; Smith, 1998), is conceptualized by two or three distinct dimensions within the relationship marketing literature. Two dimensions, satisfaction and trust, indicate higher order constructs of relationship quality (Crosby, Evans and Cowles, 1990; Dwyer, Schurr and Oh, 1987). A third dimension was considered to be relationship commitment (Henning-Thurau and Klee, 1997; Leuthesser, 1997; Dorsch, Swanson and Kelley, 1998). Customer satisfaction with the relationship is regarded as an important outcome of buyer-seller relationships (Smith and Barclay, 1997). Satisfaction reflects the degree a consumer derives positive feelings from a service encounter (Lin and Hsieh, 2006). Customer satisfaction is defined as a consumer's affective state resulting from an overall appraisal of his or her relationship with a service provider (Anderson and Narus, 1990). This overall customer satisfaction is a cumulative construct, summing satisfaction with specific products and services of the organization and satisfaction with various facets of the firm, such as service employees' selling behaviour (Czepiel and Rosenberg,1977). Trust is viewed as essential for the buyer-seller relationship (Morgan and Hunt, 1994; Gundlach, Achrol and Mentzer, 1995; Berry, 1995). Previous studies considered perceived trusting behaviours and trustworthiness as two aspects of trust. Trustworthiness refers to a belief or confidence while trusting behaviours are related to the willingness to engage in risk-taking behaviour (Smith and Barclay, 1997). However, some studies merge both aspects into one definition of trust (Moorman, Deshpande and Zalthman, 1993; Morgan and Hunt, 1994). Morgan and Hunt (1994) define trust as the perception of "confidence in the exchange partner's reliability and integrity." Moorman, Deshpande and Zaltman (1993) define trust as "a willingness to rely on an exchange partner in whom one has confidence." Both definitions emphasize the importance of confidence and reliability in

the notion of trust. Commitment is recognized to be essential and an important result of good relationships (Morgan and Hunt, 1994; Dwyer et al., 1987). Commitment has been referred to as three components: an instrumental component of some form of investment, an attitudinal dimension of psychological attachment, and a temporal dimension of relationship existing over time (Gundlach, Achrol and Mentzer, 1995). Moorman, Zaltman and Deshpande (1992) define commitment as "an enduring desire to maintain a valued relationship", and Morgan and Hunt (1994) define relationship commitment as a customer's enduring desire to continue and willingness to make efforts maintaining a relationship with a service provider. It should be noted that this definition implies the presence and consistency over time of both the desire to continue a relationship and the willingness to make efforts directed at sustaining this relationship (Macintosh and Lockshin, 1997). Loyalty is indicated by an intention to perform a diverse set of behaviours that signal a motivation to maintain a relationship with the focal firm, including allocating higher share of the category wallet to the specific service provider, engaging in positive Word Of Mouth [WOM] and repeat purchasing (Sirdeshmukh, Singh and Sabol, 2002), which makes the two constructs fairly similar. Committed or loyal customers are very important for service provider as over time they build businesses by buying more, paying premium prices, and providing new referrals through positive word of mouth (Ganesh, Arnold and Reynolds 2000; O'Brien and Jones 1995; and Keaveney 1995). By understanding the mechanisms behind the creation or destruction of loyalty, a provider is able to tweak it service in his favour.

Customer Relationship is particularly important in service industries due to the intangible nature of service and their high level of customer interaction (Huang, 2008). Both trust and satisfaction are recognized in literature as mechanisms to increase loyalty. Consistent with this, the store/management and the Front Line Employee are considered to play an important role in building and maintaining the relationship (e.g. Sirdeshmukh, Singh, Sabol, 2002)

2.3. Background: Adoption of Self-Service Technology

General SST adoption literature focusses mainly on the consequences of implementing SSTs on 'Attitude/Intention/Behaviour', 'Satisfaction' and 'Loyalty' for consumers, and the traits influencing these relational factors. In the first category of 'attitude/intention/behaviour' the most important independent variables found are; ease-of-use, control, enjoyment/fun, general attitude to technology, self-efficacy, technology anxiety. In the second category of 'Satisfaction', the most important independent variables found are; ease of use, service quality, save time, convenience, technological readiness and control. Within the third category of 'Loyalty' the most important independent variables found are; commitment, customer retention, repeats usage intention and behavioural intention.

For this research we distinguish two relevant relating notions within the Adoption of Self-Service Technology; these are; voluntary adoption and forced adoption. Firms can stimulate greater

use SSTs, by making the traditional full-service encounter relatively unattractive, for instance, by charging an additional fee for the latter (Reinders et al., 2008), but more and more it is noticed that companies force their SSTs onto the customer. Forcing an SST upon a customer implicates completely replacing the traditional services portal with SSTs, thus providing no other option for the customer as to use the automated services (Reinders et al., 2008). The reason for forcing SST on customers can be found in the provider benefits mentioned earlier. Research on forced adoption is relative new, implicating that relative few articles can be found on the effect of forced adoption on the customer relationship, though several are found, with different interesting conclusions. The research by Ram and Jung (1991) aimed to investigate how the individual within an organization responds to an innovation, when there is no choice but to adopt it. They concluded that; fist, in a context of forced adoption, consumers of all levels of innovativeness may exhibit resistance to the innovation. Second, they found that the extent of the trial and repetitive usage was negatively related to the level of resistance. Especially repetitive usage had a significant effect. This implicates that for scheduled forced adoptions a trial period can diminish the resistance, but in the end when consumers start using the SST, repetitive use is going to reduce their resistance. Related to the second a third conclusion was drawn, it states that significant difference in post-adoption attitude and satisfaction judgment are found for those who had never tried the product and those who had tried it at least once. Thus the first trial of the innovation seems to be critical in generating positive attitudes towards the innovation, as well as user satisfaction. Reinders, Dabholkar, and Frambach (2008) investigate whether forced use of SSTs would have negative consequences for consumers in terms of attitudes as well as behavioural responses such as word of mouth and switching intentions. Their research was interesting as their SST provided a fall-back option, introducing the voluntary adoption concept. Voluntary adoption has an impact on the consumer's attitude towards the SST through different mechanisms like; voluntariness, decisional control or locus of control and choice, but also demographics seems to play its part. Forced use of SST affects behavioural intentions through two paths; it increase technology anxiety, which negatively influences satisfaction and behavioural intentions; and it impacts satisfaction and behavioural intentions via technology trust as mediating variable. Also it affects consumers having a less favourable attitude towards the SST and service provider; while positive attitudes generate more positive WOM and less switching intentions; availability of the fall-back options and previous experience both create a more positive attitude towards both the SST.

3. Model

The research questions pointed out that to answer the problem statement a model is to be constructed, which will be done in this section. This model, shown in Figure 2, once proven to be a good representation of what happens in reality, provides insights that can be used to give answer to the problem statement. The key concept and contribution to the literature lies in the additive of the customer's attributions about the provider's motivations for introducing SSTs, on the on-going customer relationship model. A basic model on customer relationship is constructed from prior research and fitted for this purpose. The basic model used was proposed by Sirdeshmukh, Singh and Sabol (2002) and a short recap of their work, with the relevant notions for the current research, is provided. To fit the SST setting, this basic model is modified which involved substituting interaction with a Front Line Employee [FLE] for interaction with a Self-Service Technology [SST]. The substitute construct is borrowed from the article by Weijters, Rangarajan, Falk and Schillewaert (2007). After the basic model is defined, integration of the two attributions can be realized.

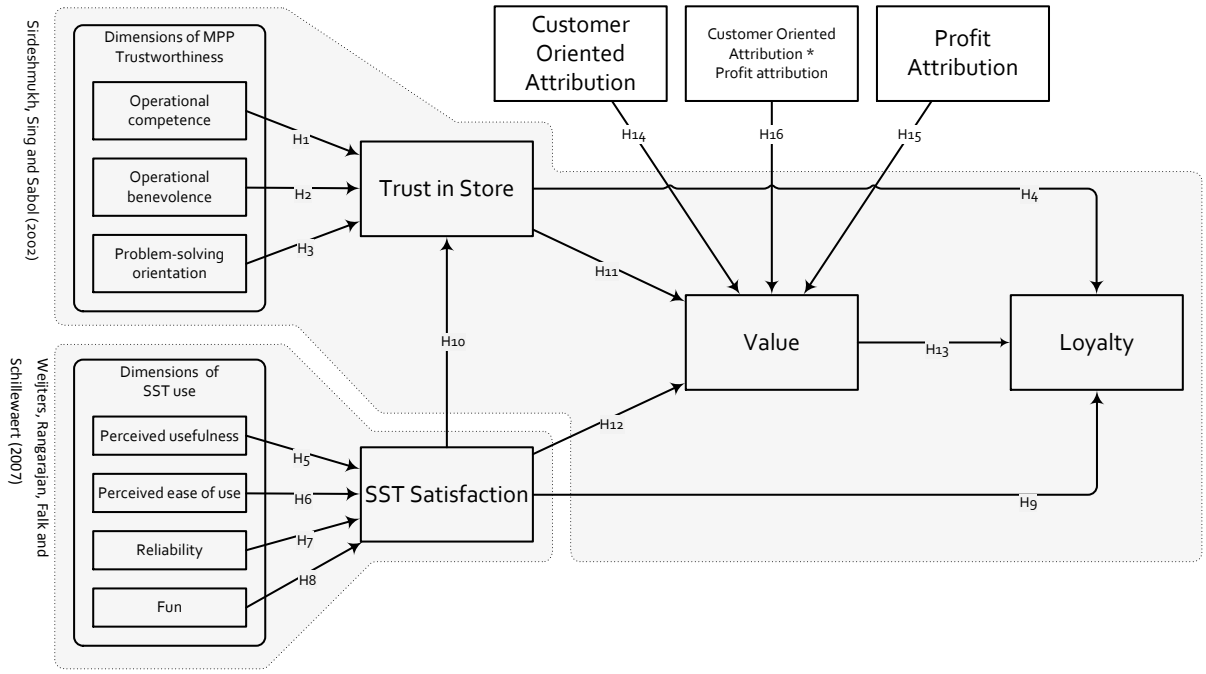


Figure 2: Conceptual Model

3.1. Set-up basic model

Several relationship marketing models were considered as baseline for studying the effect of attributions in the case of SST introduction. We focused on two: De Wulf, Odekerken-Schröder and Iacubucci (2001) and Sirdeshmukh, Singh and Sabol (2002). The former considers relationship investments. As SST investments can be seen as marketing and relationship investments it would seem appropriate. However, the model by Sirdeshmukh, Singh and Sabol (2002) focuses on evaluations of the firm including the role of FLEs. A relative easy substitution of FLE by SST is possible to modify their model to fit our purposes.

Therefore, we chose the latter option. Also, because we are interested in the effects on the on-going relationship as opposed to incidental influences which was more the scope of the model by De Wulf, Odekerken-Schröder and Iacubucci (2001).

Sirdeshmukh, Singh and Sabol (2002) with their framework wished to provide an understanding in behaviours and practices of service providers that build or deplete consumers trust and the mechanism that convert consumer's trust into value and loyalty in relational exchanges. Using this model, displayed in Appendix 1, has several benefits. First, it is widely accepted in literature and will therefore be easier to understand and more recognizable for academics. Secondly, the model allows for non-incidental data input and for both positive and negative inputs. This property is essential for our research purposes while most research on attribution theory and customer relation models focus on a negative incident as input with the mainly focus on service failure and recovery. Thirdly, it separates Management Policies and Practices [MPPs] from Front line Employee [FLE] behaviour. This property of the model allows for a relative easy transformation towards a model including MPPs and SSTs by substituting FLE for SST. This is achieved with the help of the article by Weijters, Rangarajan, Falk and Schillewaert (2007). Lastly, it provides appropriate links for the conceptualized positive and negative attribution constructs to moderate on, as will be explained later on.

Changes on the model involved a substitution of the Front Line Employee [FLE] part by a Self-Service Technology [SST] part. The context of this study is to investigate provider-consumer interactions whereby an SST is facilitated to replace all former FLE functions, consequently making the FLE is redundant. As Sirdeshmukh, Singh and Sabol (2002) provide a model whereby the overall company trust is split up into trust in Management Practices and Policies [MPP] and trust in FLEs, replacing the FLE constructs by SST constructs is relative easy. This replacement can be realized by making use of the model from Weijters, Rangarajan, Falk and Schillewaert (2007), displayed in Appendix 1, who use an "Attitude towards SST" construct together with four related dimension; perceived usefulness, perceived ease of use, reliability, and perceived fun.

This model can be extended with the two attributions about the provider's motivations on the introduction of SSTs. In the next sections we will gradually build up the model starting from the split in two elements of customer relationship; Trust in Management Practices and Policies [MPP], which will be redefined into 'Trust in Store' and the substitution of 'Front Line Employees' [FLE] with 'Attitude towards SST' which will be redefined to 'SST Satisfaction'. Value is introduced as the partial mediating construct working between 'Trust in Store' and 'SST Satisfaction', and 'Loyalty'. Finally this chapter will connect the 'Customer Oriented Attribution' and the 'Profit Attribution' Attributions to the on-going customer relationship model.

3.1.1. Trust in the Store

Within our customer relationship model, Trust in Store entails the general feelings towards the specific store, beyond the actual service. The construct is adopted from Sirdeshmukh, Singh and Sabol (2002) who used Trust in 'Management Practices and Policies', but is redefined for our own purposes. We tend to focus more on the customer's opinion about the store itself while Sirdeshmukh, Singh and Sabol (2002) focussed more on actual management of the store. Trust is seen the cornerstone of long-term relationships (Spekman, 1988). Consumer trust is defined as the expectations held by the consumer that the service provider is dependable and can be relied on to deliver its promises (Sirdeshmukh, Singh and Sabol, 2002). Trust in the service provider is developed separately from the satisfaction of the service encounter, as customers are likely to make independent judgements of these two during the course of service exchange. The facet of 'Trust in MPP' used by Sirdeshmukh, Singh and Sabol (2002) and its dimensions is re-used as 'Trust in Store' in our conceptual model but.

Trustworthiness includes store practices and policies that indicate a motivation to safeguard customer interests in three separate dimensions; Operational Competence, Operational Benevolence and Problem Solving Orientation. Prior research has sought to identify valid and relevant dimensions (Ganesan, 1994; Smith and Barclay, 1997), resulting in two of the three multidimensional conceptualizations suggesting the inclusion of notions of Competence and Benevolence. Sirdeshmukh, Singh and Sabol (2002) extended this conceptualization by including Problem Solving Orientation as a third dimension of trustworthiness. The expectation of consistent performance from a partner or provider, *operational competence*, has been indicated to affect trust in a variety of business relationship contexts in prior research (Mayer, Davis and Schoorman, 1995; Smith and Barclay, 1997). Sirdeshmukh Singh and Sabol, (2002) extend the operational competence notion in service exchanges, so they define operational competence as the competent execution of *visible* behaviours as an indication of "service in action". *Operational benevolence* is defined as the behaviours that reflect underlying motivation to place consumer's interest ahead of self-interest (Sirdeshmukh, Singh and Sabol, 2002). Also the motivation of operational benevolence needs to be operationalized in visible store practices and policies that unambiguously favour the consumer's interest, even if a cost is incurred in the process (Sirdeshmukh, Singh and Sabol, 2002). This dimension is referred to as "goodwill trust" and notes that, unlike competence trust, a benevolent partner "*can be trusted to take initiatives favouring the customer while refraining from unfair advantage taking*" (Sako, 1992). Finally, *Problem Solving Orientation* is defined as the consumer's evaluation of management motivations to anticipate and satisfactorily resolve problems that may arise during and after service exchange (Sirdeshmukh, Singh and Sabol, 2002). With services it is often that problems arise during the course of the delivery (Bitner, Booms and Tetreault, 1990; Zeithaml and Bitner, 1990) and in the Post Exchange phase (Smith, Bolton and Wagner, 1999; Tax, Brown and Chandrashekaran, 1998), because of service heterogeneity

and intangibility (Sirdeshmukh, Singh and Sabol, 2002). We propose that, although the service is homogeneous in case of SST usage (Dabholkar, 1996), similar problems still arise and that the manner in which service providers approach them is a critical incident that provides insight into the character of the service provider (Kelley and Davis, 1994; Smith, Bolton and Wagner, 1999). It is hypothesized that consumers are alert to evidence of Operational Competence, Operational Benevolence and the Problem Solving Orientation throughout the process of service consumption and use this evidence to formulate trust judgements.

Finally, the relationship between 'Trust in Store' and 'Loyalty' is supported by reciprocity arguments. When providers act in a way that builds customer trust, the perceived risk with the specific service provider is likely reduced, enabling the consumer to make confident predictions about the provider's future behaviours (Mayer, Davis and Schoorman, 1995; Morgan and Hunt, 1994). Consumer loyalty is indicated by an intention to perform a diverse set of behaviours that signal a motivation to maintain a relationship with the focal firm, including allocating higher share of the category wallet to the specific service provider, engaging in positive Word Of Mouth [WOM] and repeat purchasing (Zeithaml, Berry and Parasuraman, 1996).

3.1.1. Self-Service Technology Satisfaction

The second construct within our customer relationship model concerns the actual service delivery moment, which provided through a Self-Service Technology and therefore is entailed by 'SST Satisfaction'. This construct substitutes the 'FLE Trust' and its trustworthiness dimension from the model of Sirdeshmukh, Singh and Sabol (2002) for the construct of 'Attitude towards SST' by Weijters, Rangarajan, Falk and Schillewaert (2007), which is depicted in Appendix 1. However it is redefined as 'SST Satisfaction' which refers to the degree a consumer derives positive feelings from a service encounter (Lin and Hsieh, 2006). In essence the definition of 'SST Satisfaction' is the same as 'Attitude towards SST', but the satisfaction definition is preferred it is a more conventional. The dimensions of "SST Satisfaction" are based on a considerable part of the literature on SSTs Adoption (Childers, Carr, Peck and Carson, 2001; Curran, Meuter and Surprenant, 2003; Dabholkar, 1994, 1996; Dabholkar and Bagozzi, 2002; Featherman and Pavlou, 2003; Plouffe, Hulland, and Vandenbosch, 2001). These studies are largely inspired by the Technology Acceptance Model [TAM] (Davis, 1989) and diffusion of innovation theory (Rogers, 2003). Four dimension of the service's quality are identified to determine SST Satisfaction, these are; Perceived Ease of Use, Perceived Usefulness, Reliability and Fun. The basis of two of these four dimensions lie within the TAM as Davis, Bagozzi and Warshaw (1989) identified 'Percieved ease of use' and 'Perceived Usefulness' to be fundamental constructs for forecasting the acceptance of computer technology in an organizational setting. 'Ease of Use' refers to the process leading to a final outcome. Attainment of the said outcome itself, rather than the process leading towards it, is represented by 'Perceived Usefulness' (Weijters, Rangarajan, Falk and Schillewaert, 2007). Dabholkar and Bagozzi (2002), Weijters,

Rangarajan, Falk and Schillewaert (2007) extended the dimension by including *reliability* which consists of consistency and accuracy of the SSTs. Reliability represents a major determinant of overall service quality and refers to the correct technical functioning of an SST and the accuracy of service delivery. Finally, if shopping trips are assessed solely on the utilitarian benefits of products of services attained, the numerous intangible and emotional aspects related to a shopping experience are excluded (Badin, Darden and Griffin, 1994). Therefore Enjoyment was included (Childers, Carr, Peck and Carson, 2001; Dabholkar, 1994; Dabholkar and Bagozzi, 2002; Dabholkar, Bobbitt and Lee, 2003). Enjoyment refers to the extent to which the activity of using technology is perceived to provide reinforcement in its own right, apart from any performance consequences that may be anticipated (Davis, Bagozzi, and Warshaw, 1989). Adopted from the paper by Weijters, Rangarajan, Falk and Schilleweart (2007), we suggest the following; First, when faced with the choice of using SST, users tend to focus on the potential benefits that the technology has to offer (Bateson, 1985; Meuter, Ostrom, Roundtree and Bitner, 2000; Parasuraman, Zeithaml, and Malhorta, 2005). Second, ease with which users can handle the technology positively affects their attitude towards it (Davis, Bagozzi and Warshaw, 1989; Venkatesh et al., 2003; Bateson, 1985; Dabholkar, 1996; Dabholkar and Bagozzi, 2002; Dabholkar, Bobbitt and Lee, 2003). Third, the perceived reliability of the SST is integrated as a determinant of the attitude towards SST (Dabholkar, 1996; Dabholkar and Bagozzi, 2002; Dabholkar, Bobbitt and Lee, 2003; Parasuraman, Zeithaml and Berry, 1988; Parasuraman, Zeithaml and Malhorta, 2005). Forth, enjoyment is added to reflect the hedonic aspect of using SSTs in a retail setting (Bauer, Falk and Hammerschmidt, 2006), as there is strong evidence in literature for a significant effect of fun on attitude formation towards using SSTs (Childers, Carr, Peck and Carson, 2001; Dabholkar and Bagozzi, 2002; Dabholkar, Bobbitt and Lee, 2003).

The relationship between 'SST Satisfaction' and Loyalty is supported by Anderson and Sullivan (1993) and Yoon and Kim (2000) who state that higher consumer satisfactions leads to greater individual loyalty. More specifically, if the consumer believes that the organisation will fulfil the agreed conditions, they believe that this behaviour will continue and their predisposition to develop the relationship will increase (Grönroos, 1994 in Flávian, Guinaliu and Gurrea, 2006). At the same time, the alternatives in the market will be less attractive. Therefore, it is hypothesized that fulfilment of the expectations of the customer, will lead to an increase in intention to use the SST in the future, visit the SST more frequent and spent more at this provider compared to similar providers (Littlefield, Bao and Cook, 2000) which all together means an increase in Loyalty.

SST Satisfaction is also believed to influence the Trust in the Store through the agency theory principles. In accordance to agency theory, as the Self-Service Technology interacts with a customer as agent of the store, acting within the roles prescribed by its management, the consumer will partly judge its Trust in the Store through the functioning of the SST. Therefore 'SST Satisfaction' is likely to create a spill-over effect on 'Trust in Store' the

principal that controls and determines the behaviours of the agent. Attribution theory proposes a related mechanism whereby consumers attribute SST Satisfaction in part to management involvement in designing and programming the SST. This effect is explained by the fact that the customer understands that a machine cannot think but that the provider and its management has agency. So, consumer attributes the locus and controllability of the cause underlying the SST to its management. Satisfaction SST is therefore likely to influence Trust in the Store. In service literature empirical support is forthcoming for this effect, Bitner, Booms and Tetreault (1990) and Crosby and Stephens (1987) showed that satisfaction with the agent contributes to the customer's judgement of the core service.

3.1.2. Value, the binding element of customer relationship

Value, entailing the consumer's perception of the benefits minus the costs of maintaining an on-going relationship with a server provider (Sirdeshmukh, Singh and Sabol, 2002), is considered to mediate between the customer's Trust, Satisfaction and Loyalty. Goal and action identification theories provide a conceptual framework for hypothesizing the mediating role of value in relational exchanges (Carver and Scheier, 1990). Value is expected to be affected by Trust in Store and SST Satisfaction as they both provide relational benefits derived from their underlying dimensions; Operational Competence, Operational Benevolence, Problem Solving Orientation, Perceived Usefulness, Perceived Ease of Use, Reliability and Fun. In its Turn, value regulates consumer actions, including behavioural intentions of loyalty toward the service provider (Carver and Scheier, 1990). Accordingly, consumers are expected to indicate behavioural intentions of loyalty toward the service provider as long as such relational exchanges provide superior value. Otherwise the consumer is motivated to disengage, demonstrating lack of loyalty (Sirdeshmukh, Sing and Sabol, 2002). However, it is recognized that individual choice may be constrained by switching costs, market constraints, or other constraints such that while the behavioural motivation exists, disengaging might not be an option. The notion that value drives loyalty, even though imperfectly, has substantial support among marketing practitioners (Neal, 1999; Chang and Wildt, 1994; Grisaffe and Kumar, 1998). In our research consumer loyalty is indicated by an intention to perform a diverse set of behaviours that signal a motivation to maintain a relationship with the focal firm, including allocating higher share of the category wallet to the specific service provider, engaging in positive Word Of Mouth [WOM] and repeat purchasing (Zeithaml, Berry and Parasuraman, 1996).

3.1.3. Hypothesizes basic model

Although the context is changed, the hypothesizes for our basic model inspired by Sirdeshmukh Singh and Sabol (2002) and Weijters, Rangarajan, Falk and Schillewaert (2007) remain practically the same. Therefore the following hypothesizes are used:

H1: The consumer's perception of the operational competence evident in the store´s practices and policies is positively related to Trust in Store.

H2: The consumer's perception of the operational benevolence evident in the store´s practices and policies is positively related to Trust in Store.

H3: The consumer's perception of the problem-solving orientation evident in the store´s practices and policies is positively related to Trust in Store.

H4: Loyalty towards the focal firm will be positively influenced by Trust in Store.

H5: The consumer's perceived usefulness of the SST is positively related to SST satisfaction.

H6: The consumer's perceived ease of use of the SST is positively related to SST satisfaction.

H7: The consumer's perceived reliability of the SST is positively related to SST satisfaction.

H8: The consumer's perceived fun with the SST is positively related to SST satisfaction.

H9: Loyalty towards the focal firm will be positively influenced by SST Satisfaction.

H10: Trust in Store will be positively influenced by SST satisfaction.

H11: Value will be positively influenced by Trust in Store.

H12: Value will be positively influenced by SST Satisfaction.

H13: Loyalty toward the service provider will be positively influenced by Value.

3.2.Profit-/ Customer Oriented Attribution

Customer's causal reasoning about the motivations of providers for introduction of the SST will result in positive and negative attributions to the firm and its management, who have agency over the newly launched product or service. Consumers realize that SSTs have no agency over themselves and therefore the SST cannot be blamed for its faults or be credited for its functioning. Instead customers with positive or negative experiences are more readily to attribute the functioning or failure to the firm.

Positive attributions entail the customer's believe that the SST is introduced for their benefit and so to increase Value. Value is driven by the Customer Oriented Attribution through the principle of relationship investment which enhances value. Relational investment entails the consumer's perception of the extent to which a retailer devotes resources, efforts and attention aimed at maintaining or enhancing relationships with them, which do not have outside value and cannot be recovered if these relationships are terminated (Smith, 1998). If the benefits perceived due to the introduction of an SST are in the customer's perception motivated by the provider as increasing the customer's value, we expect to see a positive effect on the consumer's perceived value towards that provider. Therefore the Customer Oriented Attribution is believed to have a direct positive effect on Value.

On the other hand, if the benefits perceived due to the introduction of an SST are in the customer's perception motivated by the provider as cost cutting, we do not expect to see a positive effect on the consumer's perceived value towards that provider. Because a social environment contains a more positive than negative cues, negative behaviours tend to

attract more attention. They are considered to entail important knowledge and thus are generally better encoded (Sen and Lerman, 2007). This explains why they are more easily retrieved from memory (Folkes, 1988). This phenomenon is referred to as "negativity bias" and applies to both existing and newly developed products and services. As a result, we expect to see that a positive effect of a Customer Oriented Attribution will be decreased when the customer forms a high negative Profit Attribution. Therefore we hypothesize:

H14: Customer Oriented Attribution has a direct positive effect on Value.
H14: Profit Attribution has a direct negative effect on Value.
H16: Profit Attribution negatively moderates the Customer Oriented Attribution - Value relationship.

The place for the two attributions within the basic model is also enforced by Weiner's (2000) notion that "*Attributions play their role in post-initial outcome decision making; that is, attributions intervene and exert their influence after a product-related outcome and prior to the next choice".* This implies that the two attributions will play a role before their decisions related to loyalty and after evaluation of the events, implying that Attributions pose their effect on Value.

4. Research Design and Methodology

The model is tested by means of a survey. Therefore constructs are carefully constructed and appropriate scales appointed to them. An advantage with using a model largely based on prior research is that many of the scales used from that research can be reused also validity increases when scales are used that have been proven valid. The scales subtracted, are evaluated on whether their coherence is sufficient (Cronbach's $\alpha > 0.7$) and whether they can, with only minor adjustments, be reused in the current research. Both validity, the extent to which a concept is well-founded and corresponds accurately to the real world, and reliability, overall consistence of measure, are better served this way. A Table containing all the variables, their source, original scales and adjusted scales is provided in Appendix 2. The remainder of this chapter will explain the environment in which the survey will be conducted and the manner of discussed.

4.1. Main variables; definitions and scales

As the basic model draws heavily on the model by Sirdeshmukh, Singh and Sabol (2002) many constructs were adopted from their research. The constructs include; Operational Competence, Operational Benevolence, Problem Solving Orientation, Trust in Store, Value and Loyalty. The current definitions provided by Sirdeshmukh, Singh and Sabol (2002) of these constructs are appropriate and therefore left unchanged, except for a change in context. Besides, there is no concern for not using the scales the way they are for our own research, except for a change in context. They all have a sufficient Cronbach's Alpha (>0.7) on their corresponding construct in the research by Sirdeshmukh, Singh and Sabol (2002). Only the scale-points, to create more consistency along the survey, are changed from 5- or 10-point Likert scales to 7- or 10-point Likert scales.

The constructs and scales for SST Satisfaction and its dimensions are based on the constructs from Weijters, Rangarajan, Falk and Schillewaert (2007), these include; Perceived Usefulness, Perceived Ease of Use, Reliability, Fun and SST Satisfaction. The research by Weijters, Rangarajan, Falk and Schillewaert (2007) was conducted within a similar environment as the current research, so there is no need to transform the definitions and scales. Scales-points however are expanded from a 5-point Likert scale to a 7-point Likert scale, again to provide a survey that has more consistency among its answering options. Unfortunately, no prior values of the Cronbach's Alphas on the constructs borrowed from Weijters, Rangarajan, Falk and Schillewaert (2007), are provided.

For operationalizing of the Profit Attribution and the Customer Oriented Attribution the following approach was used; First, as no source is available to define these constructs, they are to be carefully defined for this research specifically. A *Profit Attribution* is defined as the (negative) customer's perception of a provider's egocentric motivations for SST introduction (i.e. for profit increasing purposes). A *Customer Oriented Attribution* on the other hand is

defined as the (positive) customer's perception of a provider's customer centric motivations for SST introduction for enhancement of service value. In order to find appropriate scales for these constructs the handbook of marketing scales by Bearden and Netemeyer was consulted. Arguing that consumerism or marketing is the most probable explanation for attributions, chapter six on *business firms, satisfaction and post-purchase behaviour and social agencies*, was reviewed. The research by Klein (1982) on "*consumerism: attitudes of consumers/business people towards consumerism"* provides a basis for our own scales. Per construct five 7-point Likert-scale scales were defined so to control for possible elimination of one or two scales per item due too low factor loadings during the factor analysis. A complete overview of all the constructs and their related scales can be found in Appendix 2.

4.2. Control variables; definitions and scales

Several control variables are used to help warrant the correct model estimation. For this research we include; Store Satisfaction, share of wallet, Representativeness, Sense of Forced Adoption, Self-Efficacy and demographic variables. Firstly, Store Satisfaction is added out of concern of the 'Trust in Store' construct being too limited compared to its counterpart of SST Satisfaction. Secondly, Share of Wallet is added as an extra loyalty construct that might be more reliable, as it asks for more concrete data compared to the loyalty factors. Thirdly, Representativeness is added to measure whether there might be bias due to the difference between stores, even though they are from the same brand. Fourthly, Sense of forced adoption is added because of the articles by Ram and Yung (1991), Hui and Bateson (1991), Hui and Toffoli (2002) and Reinders, Dabholkar and Frambach (2008) on forced use of SSTs. This is when consumers have no longer the option of using the traditional portal but only the automated service is provided. In their articles they point out that (the feeling of) forced use has an impact on loyalty behaviour. Fifthly, Self-efficacy is included as a control variable on one's affection towards SSTs or technology in general. To be sure on this item one innovativeness question is added which questions the moment of start using the SST. Lastly, demographics are included to be able to assess the data on its diversity. The demographics included were; age, gender, education, household size and household income.

Some additional variables are formulated for other purposes such as categorizing consumer groups. These variables are; 'representativeness', 'what store', 'user group', 'technology loyalty' and 'store advantage'. One uncategorized additional variable, reason non-use, is added to generate some valuable insights for the cooperating supermarket managers but is out of scope for the current research. The 'what store' variable refers to the store evaluated, which is necessary for the 'Representativeness' variable. 'Use of SST' is added to determine whether the consumer ever used SST and is split up in; users, past-users and non-users. 'Technology loyalty' refers to how often current users use the SST and 'store advantages' was introduced as a question in front of the Value items and so to create a mind-set at the respondent whereby some advantages or disadvantages can immediately be thought of. A complete oversight of all the controlling constructs, their related scales and source in literature can be found in Appendix 2.

4.3. Pre-test

A pre-test is conducted to help ensure respondents understand the questions asked. Five respondents were asked to critically fill out the survey and check for language, grammar, survey duration and other things that stood out. Next to this feedback, a check was done on whether the items per construct did not vary too much. The feedback was evaluated and some additional changes were made; some questions were formulated differently and some scales were changed (i.e. too many or not enough options for answering). After the changes from the first test, a second test consisting three people provided the final survey duration, and some last grammar errors were eliminated.

4.4. Data collection

In this section decisions regarding sampling are discussed. The data was collected in retail setting. Given the focus on the effects of SST adoption and loyalty we focussed on people using the SSTs. Therefore within the retail context the data was gathered at Albert Heijn [AH] among users of their self-scan technology. AH was chosen as it is the largest supermarket chain in the Netherlands (Market share of 33% in 2012) and therefore accessible to everyone. Several motivations concluded AH to be suitable for this research; First, AH has introduced the self-scanning several years ago but customers are still new to it. Second, the SST is visible for everybody as it is clearly displayed. This reduces the change of excluding groups within the sample. Although one minor issue concerning their SST is the need of a customer-card for using it.

Although the sample requires user of the SST the sample frame is fixed on all groups; users, non-users and past users. We are sure to be able to collect a large enough sample size on the user group, however for further testing of our model it would be interesting to have a sample of past users. We define Non-users as those who never used the SST and past-users as those who used the SST once or twice and then decided not to use it anymore. Stronger negative effects are expected by the group of past users as they in the end decided not to adopt the SST, most likely due to their disliking of it. Also, additional information on the distribution of the three groups could help backing up to the importance of this research.

The sample size is defined prior to the study as to both ensure a reasonable large dataset but also to limit the effort that has to be put into the gathering of the data. For now it is set on a minimum of N=100 for the group of users. It is recommended to use a sample size of at least 100 (MacCallum, Widaman, Zhang and Hong, 1999), no sample should be less than 100 even though the number of variables is less than 20 (Gorsuch, 1974).

4.5.Quality criteria

Important, for every study, is to take into account the quality of the research when making its design. Andrade (2009) mentioned four tests which have been commonly used to establish the quality of social research. These are the following:

- Construct validity: establishing correct operational measures for the concepts that are being studied.
- Internal validity: establishing a causal relationship, whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships.
- External validity: establishing the domain to which a study's findings can be generalized.
- Reliability: demonstrating that the operations of a study, such as the data collection procedures can be repeated, with the same results.

These issues are discussed next in the analytical part of this thesis.

5. Analysis

Before starting with the actual analysis of the data, it is reviewed on some general aspects to both help obtain a general feeling on the data as it gives some first clues on possible issues within the data. The sample is randomly drawn among the populations from customers of two AH stores in two villages in the province of Noord-Brabant the Netherlands. The survey, accompanied by an introduction with the global purpose of the study, was filled out by the customers on hardcopy. This introduction explained the purpose of the study, assured confidentiality of data, and thanked the participant. After the initial section, respondents completed the survey in the following order: Dimensions of Trust in Store, Trust in Store, Store Satisfaction, Dimensions of SST Satisfaction, SST Satisfaction, Value, Loyalty, Share of Wallet, Profit Attributions, Consumer Oriented Attributions, Self-Efficacy and finally the Demographics.

The survey was conducted in four days, which resulted in 146 returned surveys, of which 136 (93%) respondents met the prequalifying criteria. The sample characteristics of these 136 respondents are reported in Table 2. The majority of respondents had a Bachelor's degree or higher. Also, 38% of respondents were male and 62% were female. Most respondents lived in a household size of either two persons (29%) or four persons (also 29%). Most of the respondents had an age between 41 and 50 (33%). Many of the respondents did not want to tell their income (26%) and the remaining all earned more than €25.000 per year. Furthermore, from the 136 respondents, 17 claimed never to have used the SST, 109 claimed to regularly uses it and 10 claimed to have tried it but don't use it anymore. Of the 38 (21%) persons who did not want to participate in the survey but did answer the question in which group they belonged; 8 claimed to regularly use the SST, 7 belonged to the group of past-users and 23 never had used the SST. From this we conclude for our analysis to only use the data on the group of users, as the data on the two other groups is insufficient for statistical analysis. This was anticipated while constructing the model.

The data is analysed in three consecutive stages. First, the data set was checked on its quality; cases with extremes values or outliers, lack of variability in answers and missing values were evaluated, when possible repaired or excluded from further analysis. The objective was to ensure that the results obtained from the analysis are valid and accurate. Secondly, a factor analysis was performed, which included checking the required assumptions and the reliability of the decided upon factors. Thirdly, the correlations of the new constructs are checked and the regression analysis is performed.

Table 2 Demographic Profile of the Respondents

Age (in Years)			Education			Household Size		
	Frequency	%		Frequency	%		Frequency	%
<20	8	5,9	VMBO/MAVO	6	4,4	1 person	15	11,0
21-30	13	9,6	HAVO	8	5,9	2 persons	40	29,4
31-40	24	17,6	VWO	11	8,1	3 persons	21	15,4
41-50	45	33,1	MBO	26	19,1	4 persons	40	29,4
51-60	24	17,6	Bachelor degree	52	38,2	5 persons	17	12,5
61-70	14	10,3	Master degree	29	21,3	6 persons	3	2,2
>70	8	5,9	Anders;...	4	2,9			

Gender			Household Income			User group		
	Frequency	%		Frequency	%		Frequency	%
Male	52	38,2	<10.000	6	4,4	Non-users	17	12,5
Female	84	61,8	10.000-25.000	11	8,1	Users	109	80,1
			25.000-50.000	26	19,1	Past-users	10	7,4
			50.000-75.000	30	22,1			
			>75.000	28	20,6			
			I rather don't tell	35	25,7			

5.1. Missing data and Outliers

In this first stage, the data is checked for missing values and outliers. Outliers can skew the results and missing values can introduce bias in correlation between variables, therefore the techniques of examining data are applied as an investment in multivariance insurance. This process already starts during the imputation of the data from hardcopy to database. During this imputation suspicious cases due to large quantities of missing data, low variability in answers or outliers were marked.

First the missing data is checked. The practical implication of missing data is the reduction of sample size as any observation with missing data on any of the variables should be excluded from analysis if remedies cannot be applied. A variable is computed which shows per case it is the percentage of missing data. Only if missing data is sufficiently low (<10% but in some cases <30%, according to Hair, Black, Babin and Anderson, 2010) any of the approaches for remedying missing data may be applied. Seven cases are identified to contain more than 10% missing data and two of those are directly excluded due to severe amounts of missing data (>36%). Next, the Little's MCAR test is used to test whether the missing data is randomly distributed. The results show a non-random pattern, significance of 0.088 ($p>0.05$, Chi-Square = 1285.222, DF = 1218) implying that multiple cases miss data on similar items. Missing data is imputed by equating the missing value with the mean of other values that are part of the same factor. When a factor misses all values, the case has to be excluded. Through this method three more cases are excluded from further research. In the end, still a few cases have one or two values missing on items such as "forced use" or "share of wallet", these incidents are not severe enough and the missing values are recoded into "-1".

The detection of outliers starts at examining the descriptive statistics. Probably due to the transformation from hardcopy to a digital format, some variables contain one or more comma-values on Likert scale items, these are dealt with. Univariate outliers are detected by analysing the standards scores, which resulted in excluding two more items from the dataset. To find multivariate outliers the Mahalanobis D^2 is calculated. According to Hair et all the value of $D^2/df < 0.001$ indicates an outlier. No cases with a $D^2/df < 0.001$ appeared in the data (D^2/df all cases > 0.6). No additional cases are excluded due to outliers. In the end 10 cases are excluded due to missing values or outliers, reducing the dataset on SST users from 119 to 109 cases.

5.2. Factor Analysis

In stage two a factor analysis is conducted. Therefore the normality assumption is checked first, after which the analysis itself is conducted together with checking the reliability and validity of the factors. To not overstretch the factor analysis, through analysing a specific number of items verses a number of cases, we analyse the constructs in two steps; the left side and the right side of the model are analysed separately.

5.2.1. Assumption

The assumption for factor analysis involves testing for normal distribution of variables and substantial correlations among variables, of which the later one will be tested during the factor analysis itself. Some techniques are less affected when these assumptions are violated, depending on the robustness of the technique. Normality, the most fundamental assumption, refers to the shape of the data distribution for an individual metric variable. If the variation from the normal distribution is sufficient large, all resulting statistical tests are invalid, because normality is required to use the F- and t-statistics. Normality is separated in univariate and multivariate normality, when the data is tested for univariate normality it is assumed that the multivariate normality assumption is also met. The severity of non-normality is based on two dimensions; the shape of the offending distribution and the sample size.

The shape of the distribution can be described by two measures; skewness which refers to the symmetry of the distribution and kurtosis which refers to the height of the distribution. Both skewness and kurtosis should be within the critical (z) value as given by Hair et al. (2010) which is z = ±1,96. Appendix 3 shows that 33 values exceed the z-value on kurtosis while 11 of them also exceed the z-value on skewness, against 29 that do not exceed the z-value on both skewness and kurtosis. This concludes that most of the scales do not follow a normal distribution. The consequence of this non-normality will be dealt with further on when starting the regression analysis.

Three other approaches for testing non-normality are checked superficially, these tests include; the Kolmogorov-Smirnov and Shapiro-Wilk test, Q-Q plots and histograms. The

Kolmogorov-Smirnov and Shapiro-Wilk test was violated, which according to Hair et al. (2010) indicates that the level of significance for the difference from a normal distribution was insufficient. The Q-Q plots and histograms also indicate deviation from normality.

5.2.2. Factor analysis main model

To identify the main model's latent dimensions or constructs, a factor analysis is performed including the items for; Trust in Store, SST Satisfaction, Value, Loyalty, the Profit Attribution and the Consumer Oriented Attribution. Common factor analysis is appropriate as almost the whole model is extracted from prior research.

Bartlett's test of sphericity is performed to indicate whether sufficient correlations exist among the variables to proceed, and the KMO-statistic test for sampling adequacy indicates how much of the variance in the variables can be explained by the underlying factor. Sufficient correlations are acknowledged as the Bartlett's test of sphericity is significant (sig. 0.000 < 0.05) as is depicted in Table 3. In the same Figure we find the KMO value of 0.817, which is meritorious (>0.8) according to Hair et al. (2010). This indicates that 82% of the variance in the variables can be explained by the underlying factors.

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		,817
Bartlett's Test of Sphericity	Approx. Chi-Square	1825,928
	df	231
	Sig.	,000

Several methods for assessing the amount of factors to be extracted from the data, proposed by Hair et al. (2010) are conducted, among them; calculation of the eigenvalues, the scree plot and the rotated component matrix. Conway and Huffcutt (2003) indicate that multiple methods should be used to assess the amount of factors to be extracted, because no single technique has been shown to be highly accurate over a wide range of conditions in pinpointing the number of factors. First of all, the conceptual foundation for this part of the model indicated that six constructs should become visible after the factor analysis; Trust in Store, SST Satisfaction, Value, Loyalty, Profit Attribution and Consumer Oriented Attribution. This should be kept in mind while evaluating the data, but does in the end not determine the amount of factors. Secondly, the first quantitative measure for deciding the amount of factors is performed. Only the factors having latent roots or eigenvalues > 1 are considered significant. As depicted in Appendix 4, our data shows six components with an eigenvalue >1, consequently six factors can be extracted. Thirdly, the Scree plot is a visual measure that can be used to find the optimum number of factors that can be extracted before the amount of unique variance begins to dominate the common variance structure (Hair, et al. 2010). The point from which the curve first begins to straighten is used to indicate the maximum number of factors. Given the Scree plot, shown in Figure 3, either three or six factors could be derived. However, the Scree plot is not very precise as it is debatable were

this point would exactly be. The last method used is the evaluation of the Rotated Component Matrix shown in Appendix 5. Results show relative clean factors for six constructs. Two problems are identified; one with the second item of Loyalty which has serious cross loading (set-off point >0.35) with the Value construct while it has a relative low factor loading (0.43) with Loyalty itself, and one with the first item of "Customer Oriented Attribution" which has serious cross loading (>0.35) with 'Trust in Store' while having a relative low factor loading (0.62) with its own factor. These two variables are to be omitted. The factor analysis is performed again and results are similar on all steps, although one cross loading is still noted. The fifth item of "Profit Attribution" now has serious cross loading (<-0.35) with the "SST Satisfaction", while having a relative low factor loading (-0.37) on its own construct. Elimination of this item results in 6 clean factors as shown in Appendix 5. From these results can be concluded that extracting six factors seems to be the best option.

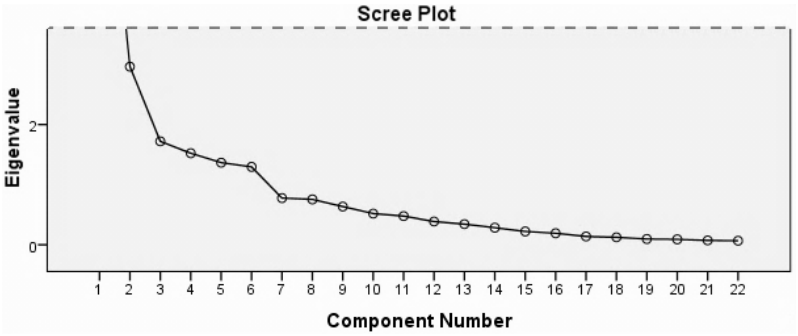


Figure 3: Scree plot main model

5.2.3. Reliability main model

By calculating the coefficients α or reliability coefficient of the constructs, the consistency of the entire scale can be assessed. A reliable construct is considered to have a minimum lower limit for Cronbach's alpha of 0.70. Since all the values of Cronbach's Alpha are 0.70 or higher, see Figure 4, we conclude that all six constructs are consistent and reliable.

Table 4: Reliability of the main model constructs

Scale	Cronbach's α	N of Items	Cronbach's α if item deleted
Store_Trust1	0.935	3	0.944
Store_Trust2			0.878
Store_Trust3			0.887
SST_satis1	0.914	3	0.880
SST_satis2			0.934
SST_satis3			0.826
Value1	0.926	3	0.865
Value2			0.887
Value3			0.930
Loyalty1	0.912	2	-
Loyalty3			-
Profit_Attr1	0.855	4	0.783
Profit_Attr2			0.808
Profit_Attr3			0.842
Profit_Attr4			0.826
CusOr_Attr2	0.814	4	0.790

CusOr_Attr3	0.741
CusOr_Attr4	0.759
CusOr_Attr5	0.769

5.2.1. Factor analysis ´Trust in Store´ sub-model

To identify the ´Trust in Store´ sub-model's latent dimensions, again a factor analysis is performed including the items for; Operational Competence, Operational Benevolence, Problem Solving Orientation and Trust in Store. Common factor analysis is appropriate as this model is extracted from prior research.

Again both Bartlett's test of sphericity and the KMO-statistic test are performed. Sufficient correlations are acknowledged as the Bartlett's test of sphericity is significant (sig. 0.000 < 0.05) as is depicted in Table 5. In the same Figure we find the KMO value of 0.843, which is meritorious (>0.8) according to Hair et al. (2010). This indicates that 84% of the variance in the variables can be explained by the underlying factors.

Table 5: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		,843
Bartlett's Test of Sphericity	Approx. Chi-Square	905,035
	df	66
	Sig.	,000

The different methods for the amount of factors to be extracted from the data, proposed by Hair et al. (2010) are conducted again, among them; calculation of the eigenvalues, the scree plot and the rotated component matrix. First of all, the conceptual foundation for this part of the model indicates that four constructs should become visible after the factor analysis; Operational Competence, Operational Benevolence, Problem Solving Orientation and 'Trust in Store'. Secondly, only the factors having latent roots or eigenvalues > 1 are considered significant. As depicted in Appendix 4, our data shows three components with an eigenvalue >1, consequently three factors can be extracted. Thirdly, the Scree plot is evaluated. Shown in Figure 4, either three or four factors could be derived. Again, the Scree plot is not very precise as it is debatable were this point exactly is. The last method used is the evaluation of the Rotated Component Matrix shown in Appendix 5. Results show almost clean factors for three constructs. But three problems are identified. The first problem refers to the second item of "Operational Competence" which has serious cross loading (>0.35) with the "Operational Benevolence"/"Problem Solving Orientation" construct, while it has a relatively low factor loading (0.523 compared to >0.70 of the other two items) with the "Operational Competence" factor itself. The second and third problem refer to the first item of "Operational Benevolence" as well as the first item of "Problem Solving Orientation" which both have serious cross loadings (>0.35) with the "Operational Competence" construct. The first item of "Operational Benevolence" still has a pretty good factor loading with the "Operational Benevolence"/"Problem Solving Orientation" construct, but the first item of "Problem Solving Orientation" has a low factor loading on this construct. These

three items are omitted after which the factor analysis is performed again. Without these scales similar results are seen on all prior measurements. The new Rotated Component Matrix is displayed in Appendix 5 and the results now show three clean factors for three constructs. Although four constructs was anticipated on, based on the results, extracting three factors seems to be the best option.

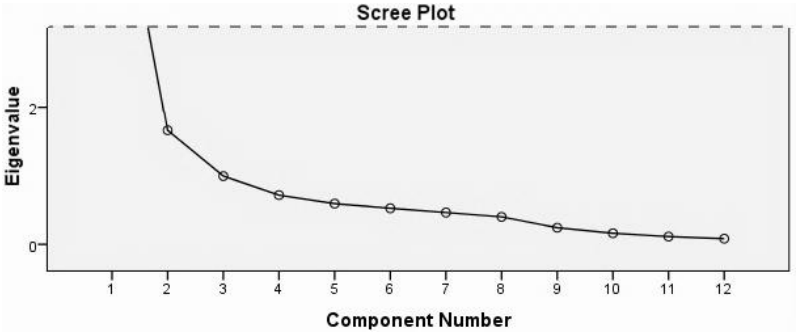


Figure 4: Scree plot 'Trust in Store' sub-model

5.2.1. Reliability ´Trust in Store´ sub-model

The coefficient α or reliability coefficient of the constructs is evaluated with Cronbach's Alphas displayed in Table 6. The evaluation of these Cronbach's Alphas for the trustworthiness model shows two constructs to be >0.70, so for these two constructs it can be concluded that they are consistent and reliable. The remaining construct of Operational Competence however has a Cronbach's Alpha which is insufficient. Therefore, it is better to exclude this factor from further analysis.

Table 6: Reliability of the 'Trust in Store' sub-model

Scale	Cronbach's α	N of Items	Cronbach's α if item deleted
OpComp1	0.588	2	-
OpComp3			-
OpBen2	0.875	4	0.831
OpBen3			0.882
PrSoOr2			0.811
PrSoOr3			0.840
Store_Trust1	0.935	3	0.944
Store_Trust2			0.878
Store_Trust3			0.887

5.2.2. Factor analysis 'SST Satisfaction' sub-model

To identify the 'SST Satisfaction' sub-model's latent dimensions, again a factor analysis is performed including the items for; Usefulness, Ease of Use, Reliability, Fun and SST Satisfaction. Common factor analysis is appropriate as this model is extracted from prior research.

Again both Bartlett's test of sphericity and the KMO-statistic test are performed. Sufficient correlations are acknowledged as the Bartlett's test of sphericity is significant (sig. 0.000 < 0.05) as is depicted in Table 7. In the same Figure we find the KMO value of 0.805, which is

meritorious (>0.8) according to Hair et al. (2010). This indicates that 81% of the variance in the variables can be explained by the underlying factors.

Table 7: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		,805
Bartlett's Test of Sphericity	Approx. Chi-Square	831,647
	df	78
	Sig.	,000

For the evaluation of the number of factors that can be extracted of from the data the same method as before are used, including; the calculation of the eigenvalues, the scree plot and the rotated component matrix. The conceptual foundation for this part of the model indicates that five constructs should become visible after the factor analysis; Usefulness, Ease of Use, Reliability, Fun and SST Satisfaction. When calculating the eigenvalues, see Appendix 4, four components with an eigenvalue >1 can be extracted. The Scree plot indicates four factors as shown in Figure 5. The Rotated Component Matrix, shown in Appendix 5, shows relative clean factors for four constructs. One problem is identified; the second item of Usefulness has serious cross loading (>0.35) with Fun, even though factor loadings with its own item are pretty strong. Omitting this item was tried, but it resulted in a three factor variable with strong indications to completely eliminate the ”SST usefulness” items, see Appendix 5. Therefore it is decided that the cross loading of Usefulness of 0.39 is not high enough be responsible for the elimination of a complete construct.

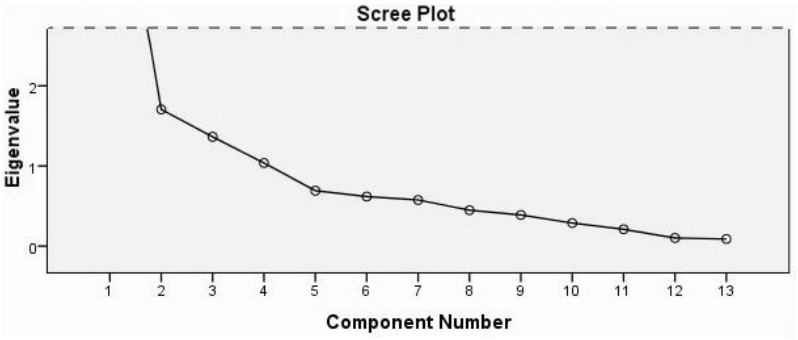


Figure 5: Scree plot SST Satisfaction sub-model

5.2.3. Reliability ‘SST Satisfaction’ sub-model

The coefficient α or reliability coefficient of the constructs is evaluated with Cronbach’s Alphas displayed in Table 8. The evaluation of the Cronbach’s Alphas for the SST Satisfaction model shows that most constructs have a Cronbach’s Alpha >0.70 concluding that these constructs are consistent and reliable. However, the construct Usefulness has a Cronbach’s Alpha which is insufficient (<0.7). Therefore it is decided to exclude the Usefulness items from further analysis.

Table 8: Reliability of the 'SST Satisfaction' sub-model

Scale	Cronbach's α	N of Items	Cronbach's α if item deleted
SSTusefull1	0.678	3	0.422
SSTusefull2			0.615
SSTusefull2			0.679
SSTease1	0.812	5	0.801
SSTease2			0.759
SSTrel1			0.762
SSTrel2			0.768
SSTrel3			0.790
SSTfun1	0.942	2	-
SSTfun2			-
SST_satis1	0.914	3	0.880
SST_satis2			0.934
SST_satis3			0.826

5.3. Correlations between constructs

Next, the correlation between the constructs is analysed. The purpose of this is to make sure there is sufficient correlation between the constructs to make a sensible model, but also to check whether the correlations between constructs are not too high. This last check is especially important as the factor analysis of the constructs of the model was split up in three parts. To extract the correlation matrix, the factors are computed and a regression matrix is plotted which is depicted in Appendix 6. The spearman correlation is used as it is better and more accurate on estimating the correlations between two variables that are measured on an interval ratio and are non-normally distributed, compared to a log-based estimation with a Pearson's correlation matrix. From this Table we learn that no severe correlations occur, all the coefficients are below 0.607, which is the highest. Only a few correlations are low and non-significant, it is noticeable that all these cases are connected with the Profit Attribution. Profit Attribution is also the only one to have negative correlations with other constructs, which was expected. In the end, no problems are expected based on the correlation matrix.

5.4. Smart PLS Regression model

To analyse the model's paths Smart PLS 2.0 was used. This tool is especially useful for small samples and non-normally distributed data. The following settings are employed; for the PLS algorithm the settings were standard, for bootstrapping 109 cases were applied with 500 samples.

5.4.1. Fitting the model in Smart PLS

Although SPSS provided clean items for the factors, Smart PLS still has some issues with them. This is possibly explained by the fact that now all items are combined in one model and discrepancy exists between the calculations of SPSS and Smart PLS. As a result some additional items had to be removed. This removal is based on effect size of the specific items on the factor and leads to more significant results. After this the cross loadings and factor loadings, see Table 8, were checked. Several values of the moderating variable or product variable 'Customer Oriented Attribution*Profit Attribution´, stand out due too low

factor loadings with their own factor, these are; CusOr_Attr*Profit_Attr1 (0.31), CusOr_Attr3*Profit_Attr1 (0.31), CusOr_Attr4*Profit_Attr1 (0.28) and CusOr_Attr5*Profit _Attr1 (0.23). Also several high cross loadings are found, these are underlined in Table 9. Unfortunately these loadings are insurmountable as excluding these items only reduces the models quality, therefore no action is taken.

Table 9: Smart PLS cross loadings

	SST Satisfaction	Profit Attribution	Customer Oriented Attribution	Customer Oriented Attribution * Profit Attribution	Ease of use & Reliability	Loyalty	Operational benevolence & Problem solving orientation	SST fun	Trust in Store	Value
Profit_Attr1	-0,24	0,65	-0,37	0,11	0,03	0,01	-0,18	-0,09	-0,21	-0,09
Profit_Attr3	-0,31	0,79	-0,44	0,03	-0,16	-0,09	-0,23	-0,11	-0,24	-0,20
Profit_Attr5	-0,43	0,86	-0,37	0,04	-0,11	-0,13	-0,28	-0,18	-0,41	-0,28
CusOr_Attr2	0,43	-0,47	0,79	0,11	0,21	0,24	0,33	0,32	0,45	0,31
CusOr_Attr2*Profit_Attr1	0,03	0,10	0,05	0,31	0,12	0,15	0,25	0,14	0,12	0,03
CusOr_Attr2*Profit_Attr3	0,18	-0,08	0,12	0,67	0,08	0,17	-0,01	0,10	0,09	-0,12
CusOr_Attr2*Profit_Attr5	0,05	0,03	0,16	0,60	-0,08	-0,07	0,07	0,00	0,12	-0,06
CusOr_Attr3	0,33	-0,39	0,82	0,08	0,10	0,09	0,21	0,35	0,34	0,32
CusOr_Attr3*Profit_Attr1	0,03	0,14	0,01	0,31	0,17	0,24	-0,01	-0,02	-0,12	-0,02
CusOr_Attr3*Profit_Attr3	0,13	-0,01	0,05	0,73	0,06	0,25	-0,20	0,11	-0,08	-0,12
CusOr_Attr3*Profit_Attr5	0,09	0,05	0,17	0,63	-0,01	-0,13	0,03	-0,12	0,04	-0,15
CusOr_Attr4	0,35	-0,31	0,82	-0,03	0,19	0,09	0,25	0,44	0,33	0,37
CusOr_Attr4*Profit_Attr1	0,05	0,09	0,01	0,28	0,05	0,06	0,10	0,01	0,01	-0,05
CusOr_Attr4*Profit_Attr3	0,01	0,12	-0,11	0,81	0,00	0,14	-0,21	0,08	-0,17	-0,25
CusOr_Attr4*Profit_Attr5	0,11	0,06	0,09	0,67	-0,08	-0,14	0,03	-0,02	0,07	-0,13
CusOr_Attr5	0,45	-0,45	0,82	0,13	0,37	0,11	0,40	0,34	0,39	0,36
CusOr_Attr5*Profit_Attr1	0,14	0,05	0,13	0,23	-0,11	0,13	0,26	0,09	0,12	-0,02
CusOr_Attr5*Profit_Attr3	0,13	0,03	0,05	0,64	-0,02	0,09	-0,02	0,08	-0,06	-0,07
CusOr_Attr5*Profit_Attr5	0,18	-0,07	0,20	0,59	-0,13	-0,14	0,02	0,10	0,10	-0,07
Loyalty1	0,30	-0,08	0,14	0,08	0,18	0,97	0,19	0,03	0,26	0,39
Loyalty3	0,26	-0,16	0,17	0,05	0,23	0,96	0,28	0,04	0,28	0,37
Store_Trust1	0,45	-0,38	0,45	-0,05	0,29	0,33	0,53	0,18	0,92	0,47
Store_Trust2	0,53	-0,35	0,39	-0,05	0,25	0,21	0,46	0,25	0,95	0,47
Store_Trust3	0,52	-0,39	0,47	0,01	0,29	0,24	0,51	0,18	0,95	0,49
OpBen2	0,27	-0,26	0,29	-0,06	0,29	0,22	0,86	0,10	0,42	0,33
OpBen3	0,31	-0,21	0,20	-0,13	0,17	0,22	0,80	0,06	0,45	0,40
PrSoOr2	0,34	-0,24	0,38	-0,08	0,26	0,21	0,92	0,22	0,51	0,35
PrSoOr3	0,35	-0,36	0,39	-0,04	0,24	0,19	0,86	0,26	0,45	0,36
SST_satis1	0,93	-0,40	0,43	0,11	0,41	0,31	0,34	0,40	0,49	0,36
SST_satis2	0,91	-0,41	0,41	0,14	0,28	0,26	0,32	0,40	0,49	0,37

SST_satis3	0,96	-0,45	0,51	0,15	0,34	0,23	0,36	0,45	0,51	0,39
SSTease1	0,20	-0,05	0,15	0,05	0,77	0,04	0,18	0,31	0,15	0,13
SSTease2	0,34	-0,14	0,23	0,09	0,85	0,28	0,26	0,25	0,26	0,19
SSTfun1	0,46	-0,21	0,45	0,06	0,29	0,01	0,21	0,98	0,20	0,16
SSTfun2	0,40	-0,13	0,41	0,04	0,34	0,07	0,15	0,97	0,22	0,25
SSTrel1	0,32	-0,10	0,27	-0,15	0,81	0,15	0,22	0,25	0,28	0,34
Value1	0,29	-0,20	0,37	-0,26	0,23	0,37	0,41	0,15	0,43	0,95
Value2	0,36	-0,31	0,44	-0,22	0,31	0,36	0,40	0,17	0,47	0,94
Value3	0,47	-0,27	0,37	-0,13	0,25	0,37	0,36	0,25	0,51	0,92

As for the reliability and validity, several measures are analysed and provided in Table 10. The extracted Cronbach's Alphas for each construct are all above 0.7 in value, demonstrating sufficient internal consistency. Secondly, all composite reliabilities are sufficient (>0.7). Thirdly, the communality, which measures the percentage of variance in a given variable explained by all the factors jointly and may be interpreted as the reliability of the indicator (Garson, 2008), are almost all greater than 0.6 (MacCallum, Widaman, Zhang and Hong, 1999). Item communalities are considered high if they are all >0.8 but this is unlikely to occur in real data (Costello and Osborne, 2005). As for the validity almost all values for the average variance extracted [AVE] are sufficient (>0.5) and all the composite reliabilities are greater than the AVE's (Hair et al. 2010).

Table 10: Reliability and Validity measures Smart PLS

	AVE	Composite Reliability	R Square	Cronbach's Alpha	Communality	Redundancy
SST Satisfaction	0,87	0,95	0,25	0,93	0,87	0,10
Profit Attribution	0,60	0,81	0,00	0,70	0,60	0,00
Customer Oriented Attribution	0,66	0,89	0,00	0,83	0,66	0,00
Customer Oriented Attribution * Profit Attribution	0,33	0,84	0,00	0,83	0,33	0,00
Ease of use & Reliability	0,66	0,85	0,00	0,75	0,66	0,00
Loyalty	0,93	0,96	0,18	0,93	0,93	0,06
Operational Benevolence & Problem Solving Orientation	0,75	0,92	0,00	0,89	0,75	0,00
SST Fun	0,95	0,97	0,00	0,94	0,95	0,00
Trust in Store	0,89	0,96	0,41	0,94	0,89	0,23
Value	0,88	0,96	0,37	0,93	0,88	0,10

The proposed model explains a reasonable proportion of the variances in the dependent variables, including 'Trust in Store' (R^2 = 0.41), SST Satisfaction (R^2 = 0.25), Value (R^2=0.37) and Loyalty (R^2=0.18). Few other values for model fit are generated in Smart PLS as these model fits have to do with the covariance matrix while Smart PLS is a non-covariance-based algorithm, rendering the model fit somewhat paradoxical in PLS models. Taken together, we suggest that the hypothesized model is reasonable fit to the aggregate data, and the estimated coefficients can be validly examined to reveal interrelationships among the modelled constructs.

5.4.2. Estimated coefficients

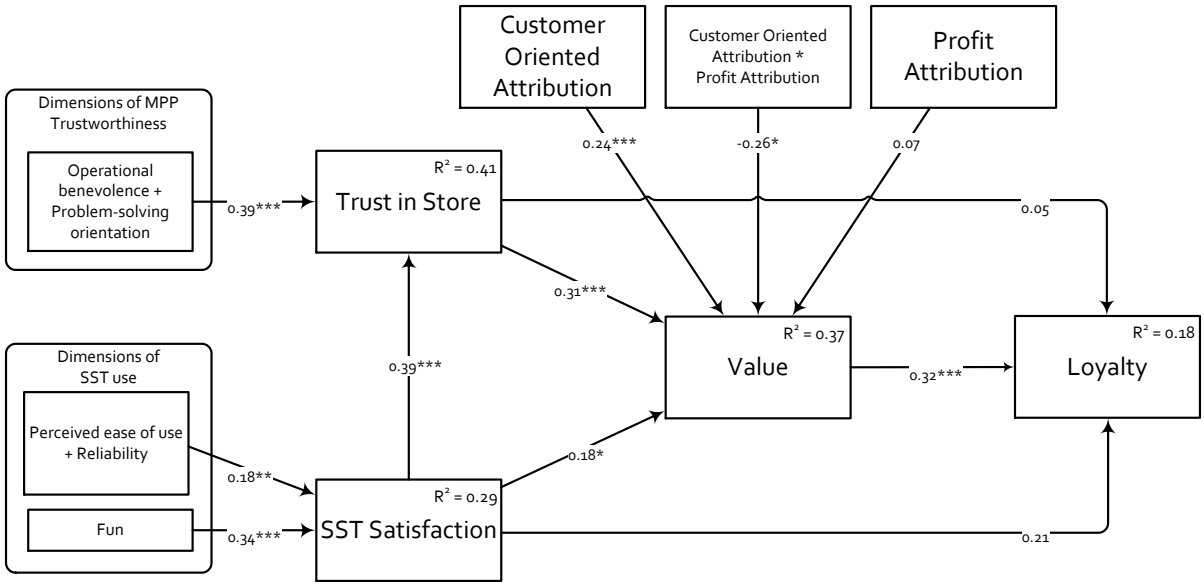
To protect the integrity and accuracy of the experiment and its results, Control variables need to be checked. Without control variables, any number of causes could produce the observed effect, making it very difficult to determine exactly which cause produced the observed effect. Earlier in section 4.2 control variables were identified to help warrant the correct model estimation, they include; Store Satisfaction, innovativeness/self-efficacy, share of wallet, sense of forced adoption, representativeness, and demographics. In this section those control variables will be tested against our model.

Store Satisfaction was added as a control variable out of concern that Trust in Store is incomplete within this model, as its counterpart SST Satisfaction is believed to maintain a broader definition. To find out if Store Satisfaction is a better construct, a factor analysis including Store Satisfaction is performed on the main model, which is elaborated on in Appendix 7. From this factor analysis we conclude that Store Satisfaction is not a suitable or better alternative for Trust in Store as it tries to form one construct with Value while having serious cross loading with SST Satisfaction. Self-efficacy, identified as a control variable as it measures people's affection towards the use of the SST or technology in general, is suspected to might have an influence on the SST Satisfaction or any of the two attributions. Again a factor analysis is performed by adding its items to the items of the main model, see Appendix 8. From the analysis on the control variables Self efficacy seems to have a significant effect on the model through SST Satisfaction and the Customer Oriented Attribution. Share of Wallet was added as a control variable as some authors argue that it might be a more reliable measure compared to the Loyalty measure. A Share of Wallet value was computed to an ordinal 5-point scale, which was used as substitute scale for Loyalty. However the results indicated lower estimated coefficients and R^2s implicating a decrease in the model's predictive quality, therefore it is concluded that Share of Wallet is not an appropriate substitute for Loyalty. Sense of Forced Adoption was added out of concern that it might affect Trust in Store, SST Satisfaction or Loyalty (Reinders, Dabholkar and Frambach, 2008) but also the two attributions might be affected. However from running the model Forced Adoption does not seem to have any effect on the model. Representativeness was added as a control variable on Value due to the inevitable differences between stores. However, the stores scored very similar and this score therefore does not show any significant effect. From the demographics, only Education seemed to have some effect on the model. Education was concerned to have an effect on the two attributions as more educated people might have a different understanding of business operations. However after testing, not even Education had an effect on the model. A quantitative summary on the estimated coefficients including the Control variables is provided in Table 12, and the complete model is depicted in Figure 6.

Table 12: Estimated coefficients in Smart PLS – control

Dependent variable R2/Independent variable	**Coefficient (t-value)[a]**
Dependent Variable: Trust in Stores - R^2	**0,41**
Operational benevolence & Problem solving orientation (H2, H3)	**0,39 (4,5)**
SST Satisfaction (H10)	**0,39 (3,5)**
Forced Adoption (Control)	0,05 (0,5)
Dependent Variable: SST Satisfaction - R^2	**0,29**
Ease of use & Reliability (H6, H7)	**0,18 (2,1)**
SST Fun (H8)	**0,34 (3,7)**
Forced Adoption (Control)	-0,03 (0,3)
Self-Efficacy	**0,21 (2,3)**
Dependent Variable: Value - R^2	**0,37**
Trust in Store (H11)	**0,31 (3,1)**
SST Satisfaction (H12)	0,18 (1,8)
Customer Oriented Attribution (H 14)	**0,24 (2,4)**
Profit Attribution (H15)	0,07 (0,7)
Customer Oriented Attribution*Profit Attribution (H16)	-0,26 (1,9)
Dependent Variable: Loyalty - R^2	**0,18**
Trust in Store (H4)	0,05 (0,3)
SST Satisfaction (H9)	0,14 (1,3)
Value (H13)	**0,32 (2,6)**
Dependent Variable: Customer Oriented Attribution - R^2	**0,05**
Forced Adoption (Control)	0,04 (0,6)
Self-Efficacy (Control)	**-0,12 (2,4)**
Education (Control)	0,00 (0,7)
Dependent Variable: Profit Attribution - R^2	**0,04**
Forced Adoption (Control)	0,06 (0,4)
Self-Efficacy (Control)	0,21 (0,9)
Education (Control)	-0,06 (0,0)

[a]dt-Values are in parentheses. Based on two-tailed tests: fort-values greater than 1.96, $p < .05$. Significant coefficients are in bold.



* t-values greater than 1.65, p < .05; ** t-values greater than 1.96, p < .05; *** t-values greater than 2.33, p < .01.

Figure 6: Controlled model with estimated coefficients.

5.4.3. Two-way interaction effects

A two-way interaction test is performed to help understand the joint effect of the positive and negative attributions on Value. The test is performed using an MS-Excel tool made available by Jeremy Dawson by using the estimated regressions values for the independent variable Customer Oriented Attribution (β_{CO_Attr} = 0.240) and the moderating variable Profit Attribution on Value (β_{Profit_Attr} = 0.066). Also, the interaction of product term 'Customer Oriented Attribution*Profit Attribution' ($\beta_{CO\_Attr*Profit\_Attr}$ = -0.257) is needed. For the intercept value it is appropriate to insert "0" as Smart PLS makes no use of this value. This product term is significant for the regressing equation, so the interaction should be interpretable. The result is found in Figure 7 and the conclusions of this test and the regression analysis will be presented in the next chapter on conclusions and recommendations.

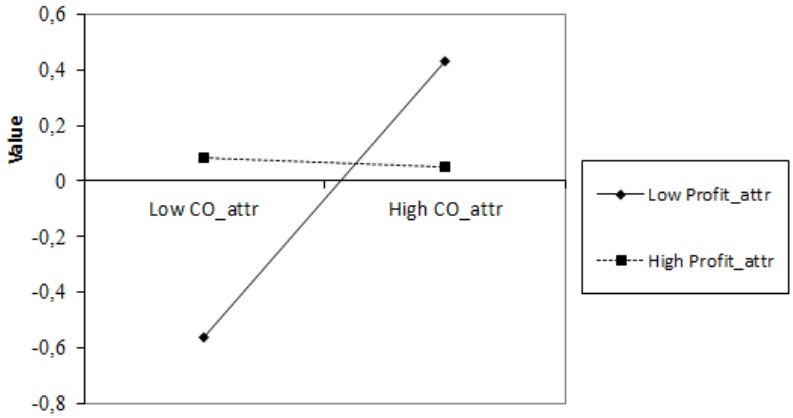


Figure 7: two-way interaction effect of Profit Attribution on Customer Oriented Attribution - Value relationship

6. Conclusions and Recommendations

This thesis investigated whether there is an effect of the consumer's attributions about the motivations for providers to introduce SSTs on Value and how it influences loyalty towards the provider. In section 6.1 we will discuss the results from the analysis and draw the implications from what we notice. In section 6.2 we provide the conclusion by answering the research questions proposed at the start of the project. In section 6.3 limitations of this research and suggestions for future research are provided. Finally a short summation is provided in section 6.4, presenting the main managerial implications.

6.1. Discussion

In conclusion, the basis of the model seems to work as was expected, though also several differences compared to the conceptual model are noted. First of all, for both the dimensions of Trust in Store and SST Satisfaction the factor analysis pointed out different constructs than anticipated. Within the Trust in Store dimensions this resulted in one factor for Operational Benevolence combined with the Problem Solving Orientation items, while Operational Competence is completely excluded due to an insufficient Cronbach's alpha (<0.7). Therefore H1 is rejected and only partially support is found for H2 and H3. The explanation of this difference probably lies in the type of data; the role-difference between a clothing store employee and an groceries store employee for customers that use an SST is such that the later one probably combines the Operational Benevolence and Problem Solving Orientation dimension in a single interaction with the customer, while the two constructs are used in different incidents when it comes to the clothing store context. Still the remaining factor provides a significant effect ($\beta_{OpBen\_ProSoOr} = 0.39$, $p < 0.05$) on Trust in Store, indicating that the combination of Operational Benevolence and Problem Solving Orientation can explain 39% of the variance in the Trust in Store. Next, the dimensions of SST Satisfaction use are pretty similar to the anticipated effects indicated by the research from Weijters, Rangarajan, Falk and Schillewaert (2007). But again, by using a factor analysis, Perceived Ease of Use and Reliability are combined into one construct. This could be due to the nature of the questions witch both encompassed the functioning of the Self-Service device. Still the remaining construct expresses a significant effects on SST Satisfaction ($\beta_{Ease\_Rel} = 0.88$, $p < 0.05$), and with that providing partial support for H6 and H7. The relationship of Perceived Usefulness on SST Satisfaction (H5) is rejected due to a low Cronbach's Alpha on the factor (<0.7). Fun however (H8) was fully supported ($\beta_{fun} = 0.34$, $p < 0.01$). Even though, the dimensions of SST Satisfaction and Trust in Store do not work completely, they do not pose a threat for the main concept of this research. The parts were merely additional and included to provide a more complete picture on the constructs borrowed from the research by Sirdeshmukh, Singh and Sabol (2002) and Weijters, Rangarajan, Falk and Schillewaert (2007).

The other relations in the basic model, pretty much worked as anticipated. Only the two dimensions, SST Satisfaction and Trust in Store, that where expected to directly affect Loyalty, after controlling for the mediating effect of value, found no support, rejecting H4 and H9. However, these two constructs do have an effect on Value in support of; H12, SST Satisfaction ($\beta_{SST\_Satis \rightarrow Value} = 0.18$, $p < 0.10$) and H11 Trust in Store ($\beta_{Store\_Trust \rightarrow Value} = 0.31$, $p < 0.01$). In its turn, in support of H 13, Value significantly affects loyalty ($\beta_{Value} = 0.32$, $p < 0.01$). Altogether, this supports the hypothesized mediating role of value, as the Trust in Store and SST Satisfaction facets have a significant influence on Value and Value in its turn significantly affects Loyalty. The role of SST Satisfaction seems limited, were it not for its substantial significant positive effect on Trust in Store ($\beta_{SST\_satis \rightarrow Store\_Trust} = 0.39$, $p <0.01$), in support of H10. All in all this suggest that customer's evaluations of value in relational exchanges appear to carry great weight in loyalty judgement. We note that for our sample of SST users, the introduction of SST into the Customer Relationship model does not appear to have any negative effect on either Trust in Store, Value or Loyalty. However we must keep in mind that the adoption of the SST is voluntary and when dissatisfied, switching to the traditional portal is easy. Forcing the SST might still have this Loyalty jeopardising effect as was noted by Reinders, Dabholkar and Frambach (2008). In the end, we conclude that the basic model works and therefore provides a good 'on-going customer relationship in an SST context' model, for the two attributions defined.

Key to this research was extending of this basic model by adding the two Attribution dimension, the results of this extension is found in this section. H14 is supported as we found a direct significant effect of the Customer Oriented Attribution ($\beta_{CO\_Attr} = 0.24$, $p <0.01$) on Value. This implicates that our expectations were right, the relationship investment made with an SST introduction, perceived as Customer Oriented, adds to value. No support however was found for H15, the direct effect of the Profit Attribution on value. This could be due to the fact that both positive and negative attributions are formed by the customer and actually both belong to the same principle of relationship investment. No relationship investment is perceived with a negative attribution, so it does not affect the customer's perception of Value. Still, an effect of the Profit Attribution is expected through the negative bias phenomenon. This effect supports H16 of Profit Attribution having a moderating effect on the relationship between Customer Oriented Attribution and Value ($\beta_{Profit\_Attr} = -0.26$, $p <0.10$). We conclude; The introduction of an SST is indeed associated with consumer attributions about the motivations of the providers for introducing the SST, as there is an effect of these attributions on Value. Secondly, customers form both a Customer Oriented attribution and a Profit Attribution. In the best case, when questioning satisfied users of the SST, Customer Oriented Attributions are a positive driver of Value. But even for these customers, the Profit Attribution diminishes the effect of their positive attribution. Even though satisfied with the SST, obvious provider motivations of cutting costs will diminish or even undo the value created through the Customer Oriented motivations. The complete model with its effects is shown in Figure 9.

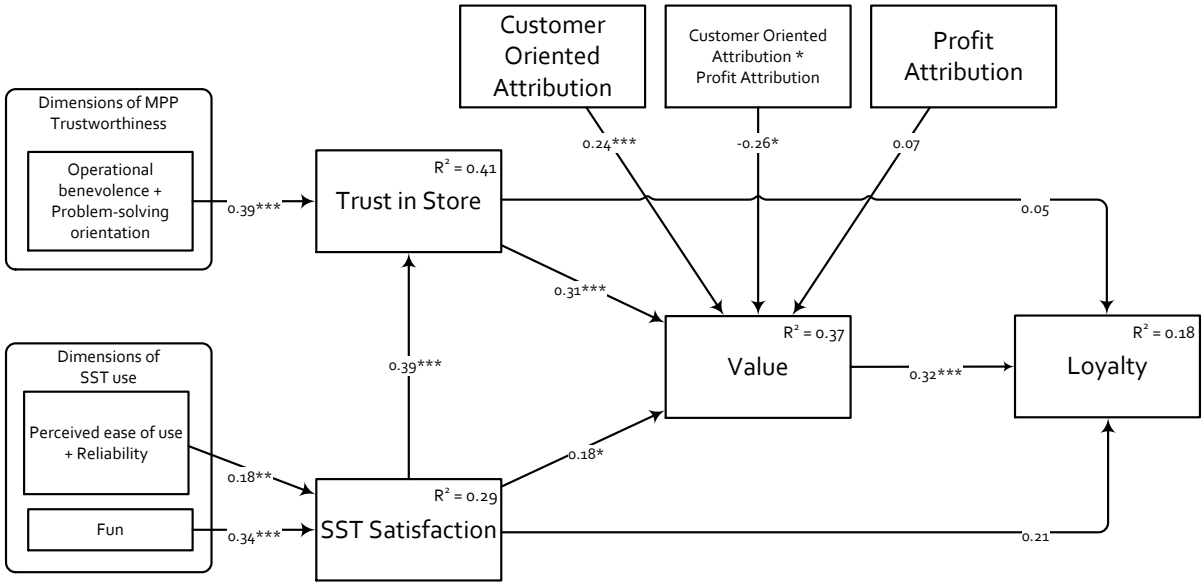


Figure 9: Controlled for model with estimated coefficients.

To gather a better understanding of the moderating effect of Profit Attribution on the Customer Oriented Attribution – Value relationship, a 2 way interaction effect test is performed (see Figure 10). Several conclusions can be drawn from this figure; First of all we notice that for Value, customers who perceiving the introduction of the SST to be motivated by costs cutting motivations, are not affected by their Customer Oriented Attribution (the line is almost horizontal). Their perception of an egocentric motivation virtually undoes any effect that Customer Oriented Attributions might have had. This effect is not unexpected due to the negative bias argument. The negative cue of Profit Attributions attracts more attentions compared to the positive cue of the Customer Oriented Attribution, and will therefore be more easily retrieved from memory.

Secondly we see that for those who perceive the introduction of the SST as not motivated by profit motivations; are highly sensitive to their second perception of the Customer Oriented Attributions about the provider. High Customer Oriented Attributions enforce the positive effect on Value beyond those with the High Profit Attribution. This makes sense as these people think the provider solemnly introduced the SST for their well-being and so are perceive more Value. On the other hand, when this group perceives that the provider did neither have profit motivations nor Customer Oriented motivation, their effect on value is suddenly negative. These people don't see the point of introducing the SST and probably see it as a complete waste and punish the provider for this foolishness. So we conclude; The best scenario is reached when customers think the introduction of the SST was purely motivated by the providers striving for service enhancement, but the worst scenario is not reached when customers think the introduction of the SST was purely motivated by the provider's ego driven motivation. Actually, the worst scenario is reached when the consumer does not see the sense at all of introducing an SST, neither having Profit

Attributions nor Customer Oriented Attributions. This implicates that when a provider cannot convince the customer of the customer oriented motivations, he rather make clear that at least they receive benefits from the introduction of SST. In the end this results in higher value payoffs. This notion might actually be explained through the notion that consumers might think that when the provider introduces an SST for their own cost reduction motivations, the customer inevitably will receive some benefit through lower product pricing for instance.

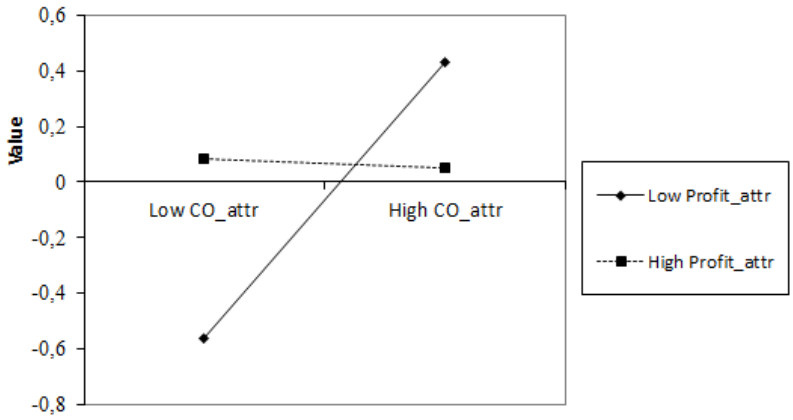


Figure 10: two-way interaction effect of Profit Attribution on CO Attribution - Value

6.2.Conclusions

At the start this thesis a problem statement was proposed. In this section this problem statement and its related research questions will be appointed to. The overall conclusion of this section is; SST and relationship marketing research can be integrated into one new field of research with a link towards attributions.

6.2.1. Conceptualization of the model

The first sub-question of this research, formulated at the start of the project, was concerned with the conceptualization of a proper model able to answer the research question. It was formulated as: *Is there a basis in earlier research to connect a proper "consumer relationship" model with attribution theory in a SST context?* In chapter 2 this question was tackled as the literature was reviewed for suitable model. From this investigation we conclude that no model is readily available, not even a suitable model linking adoption of SSTs and the on-going customer relationship was found. So a model was created by ourselves. However we did found two promising models in the work of Sirdeshmukh, Singh and Sabol (2002) and Weijters, Rangarajan, Falk and Schillewaert (2007), which can serve as a basis for our conceptual model. In chapter 3 this conceptual model is constructed. The model by Sirdeshmukh, Singh and Sabol (2002) provided a good foundation for our own model due to the split of constructs influencing Loyalty into a Trust in Management Policies and Practices and Trust in Front Line Employees. The model by Weijters, Rangarajan, Falk and Schillewaert (2007) provide a component, Attitude towards SST that is to replace the FLE part in Sirdeshmukh et all's (2002) model. The result is an on-going customer relationship model appropriate for dealings in an SST context. The two Attributions, defined

in chapter 2, are connected to the model through the notion of relational investment whereby the Customer Oriented Attribution is recognized to add value while the Profit Attribution is expected to moderate this relationship, though the negative bias argument. Also the notion by Weiner (2000) which states that *"Attributions play their role in post-initial outcome decision making; that is, attributions intervene and exert their influence after a product-related outcome and prior to the next choice"* provides support for the positioning of the two attributions on Value. This notion indicates three moments; first, the product related outcomes, in which 'SST Satisfaction' and 'Trust in Store' are formed by their dimensions. Secondly, the post-initial outcome decision, which is embodied by Value. And thirdly, next choice, which in our model is represented by the extent to which a consumer wants to stay loyal towards the provider.

In the end, to answer the sub-question: Yes there is but a mere basis for a model connecting the consumer relationship model with attribution theory in a SST context. However this basis was sufficient to develop a model for our research purposes, this model is displayed in Figure 8.

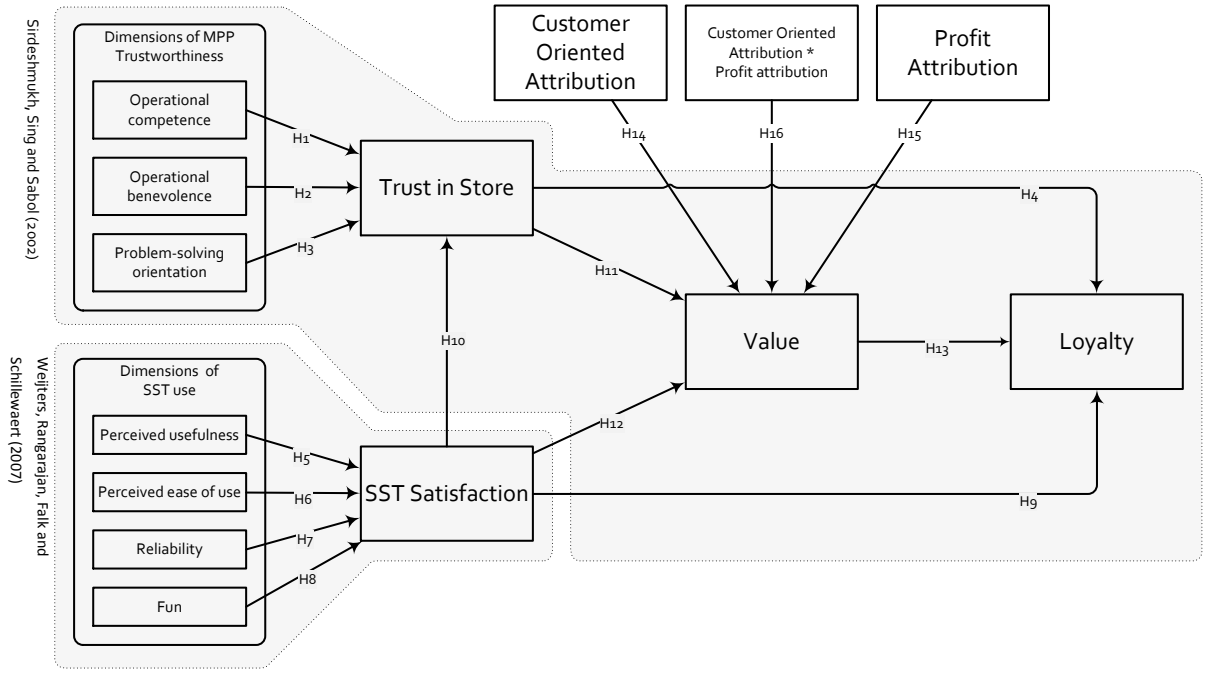


Figure 8 Conceptual Model

6.2.2. Validation of the model

This section is concerned with the validation of the conceptualized model. In chapter 4 is presented how we acquired the data for the analysis which itself is performed in chapter 5. In this section we will analyse the similarities and differences noted in comparison to the research by Sirdeshmukh, Singh and Sabol (2002) and Weijters, Rangarajan, Falk and Schillewaert (2007).

In conclusion the basis of the model seems to work as was expected, though also several differences compared to the anticipated model are noted on the dimensions for Trust in Store and SST Satisfaction. For both the dimensions of Trust in Store and SST Satisfaction the factor analysis pointed out different constructs than anticipated. First, within the Trust in Store dimensions this resulted in one factor for Operational Benevolence combined with the Problem Solving Orientation items, while Operational Competence is completely excluded. The explanation of this difference probably lies in the type of data; the role-difference between a clothing store employee and an groceries store employee for customers that use an SST is such that the later one probably combines the Operational Benevolence and Problem Solving Orientation dimension in a single interaction with the customer, while the two constructs are used in different incidents when it comes to the clothing store employee. Still the remaining factor provides a significant effect on Trust in Store, indicating that the combination of Operational Benevolence and Problem Solving Orientation can explain some of the variance in the Trust in Store. Secondly, the dimensions of SST Satisfaction are pretty similar to the anticipated effects indicated by the research from Weijters et all. (2007). Again, by using a factor analysis, Perceived Ease of Use and Reliability are combined into one constructs. This could be due to the nature of the questions witch both encompassed the functioning of the self-service device. Still the remaining construct expresses significant effects on SST Satisfaction, together with Fun. Even though, these two parts on the dimensions of SST Satisfaction and Trust in Store do not completely work, they do not pose a threat for the main concept of this research. The other items of the basic model pretty much behave similar to what we expected to see by the research of Sirdeshmukh, Singh, and Sabol (2002). The two dimensions, SST Satisfaction and Trust in Store were expected to directly affect Loyalty after we controlled for the mediating influence of value, however our results were unsupportive. The two constructs do have an effect on Value and in its turn Value significantly affects loyalty. Taken together, this supports the hypothesized mediating role of Value. The role of SST Satisfaction seems limited, were it not for its substantial significant effect on Trust in Store. All in all this suggest that customer's evaluations of value in relational exchanges appear to carry great weight in loyalty judgement, consistent with the conclusions of Sirdeshmukh, Singh and Sabol. We note that for our sample of SST users, the introduction of SST into the Customer relationship model does not appear to have any negative effect on neither Trust in Store, Value nor Loyalty. However we must keep in mind that the adoption of the SST is voluntary and when dissatisfied, switching to the traditional portal is easy. Forcing the SST might still have this 'Loyalty jeopardising' effect as was noted by Reinders, Dabholkar and Frambach (2008).

6.2.3. Practical implication

The final research question stated; *Do customer attributions jeopardise value increasing intentions of providers? So in other words, do the motivations for introducing an SST outweigh the possible loss in customer loyalty?* The answer is: Only when consumers do not perceive any benefit for both themselves and the provider, than their perception of value, a

main driver for loyalty, is reduced. In all other cases, even when the SST is ego driven, Value is not diminished.

6.3.Limitations and Further Research

This study is subject to several limitations, from which suggestions for further research will be generated. Initially, the study may have limited generalizability because the convenient sample was taken only from two different locations relative close to each other. Note that the sample was random, but the locations for extracting it were chosen because of the location of the affiliated university, presuming that respondents were more likely to comply with a request from a recognized institution. This might have biased the responses in an unspecified manner. In addition the size of the sample is relatively low, not unusually low for this type area of research, but the bare minimum for stated by MacCallum, Widaman, Zhang and Hong, (1999). Also regarding the sample, this study was only performed in one industry, the (groceries) retailing industry, at one specific retailer. Therefore the generalizability to SSTs in other industries is limited. Due to limited time and resources however it was not possible to involve other SSTs and Industries in this research. As for other retailers, there are others that provide the self-scan equipment but, to include those retailers, the sample size had to be increased as to be able to notice statistical significant differences between those two retailers. Nevertheless, replication studies in different service contexts and with varying sampling procedures would provide greater confidence in our results. Also we recognize that drawing cause/effect inferences from cross-sectional data is essentially, but even then longitudinal studies are needed to establish the hypothesized sequence of effects. Another sample issue concerns the fact that within the groceries retailing industry providers still provide the traditional payment option next to the SST. This implicates that current users are more satisfied with the SST compared to the traditional full-service encounter option or else they would already have switched back to it. This limits the generalizability of the research as it cannot predict the reaction of those who would rather use the traditional full-service encounter. On the other hand, this effect is limited as our research was already focussed on the more content users of the SST. We argued that when negative effects are shown with this group, less content users of the SST would for sure experience negative effects. Still, along with the last recommendation, similar results as ours on research conducted on forced users of SSTs could make a strong case for our findings. A limitation concerning the Attribution construct implies that although we created operational measures for both the Customer Oriented Attribution construct and Profit Attribution construct more work is needed to establish their psychometric properties. Yet given the acceptable evidence of reliability and validity of the reported measures, it appears that the procedures used in the present study were successful. Another limitation is recognized in the fact that the hypothesized model, just like the model of Sirdeshmukh, Singh and Sabol (2002) does not include individual dispositional variables that are likely to moderate the specified relationships. For instance, sensitivity to trust judgements is worthy of pursuit in further research. A high level of trust is necessary for consummating exchanges for one person, but another might not regard relational trust as highly important. Also the

available resources limited the research somewhat as due to limited resources for reaching potential participants it was decided to conduct the survey on location. This made it hard to use a digital survey, as only limited laptops would be available, which would then again also be more time intensive. Therefore it was decided to conduct the survey on paper. This might have led to mistakes during the entering of the data. However it is tried to minimize this bias by rechecking 10% of the survey inputs with the original. Not an unimportant limitation is noted as we made a trade-of, so to be sure on the save side for the items used in the model, by implementing a bit more items and controls than needed. This however contrived some irritation to some participants who experienced the survey as taking too much time. At least two cases had to be excluded from the analysis as they were unfinished and for the other eight excluded cases a strong indication exist that this is because they filled out the survey in a hurry. Especially the items at the end of the survey, which were on the attributions and demographics, might have been affected by this. For further research it is recommended to exclude those items. Also, common method bias might be caused due to the fact that the model is measured by means of a survey at one point in time. Only longitudinal study or multiple similar studies can indicate the true interpretability of this study. Finally the data contains a non-normality issue, although Smart PLS is more robust against this, some bias might remain.

6.4. Managerial implications

In short, for managers that deal with the introduction of SST in a retail setting, several valuable implications can be derived from the findings of this research, these include;

- When introducing an SST, note that customers will form attributions about your motivations for introducing them. Two in particular; a positive Customer Oriented Attribution which implies the consumer's perception that the introduced SST was motivated to enhance customer value, and a negative Profit Attributions which implies the consumer's perception that the introduced SST was motivated to benefit the provider.
- Most ideally, the provider tries to convince the consumer that the motivations for introducing the SST are mainly in the customer's benefit. In this case the positive attribution has the strongest positive effect on value, which in the end increases this customer's loyalty.
- However when your customer is also convinced of the ego centric motivations of the provider to introduce the SST, no matter what their positive attributions is, no benefit can be attained through increased value. The effect is rendered to zero, no positive but also no negative consequences.
- Finally, customers that perceive neither the benefit for themselves nor for the provider will see no sense in introducing an SST. The value of these customers will actually be influenced negatively. This implicates that these consumers can better be made aware of the provider's benefits as this will at least prevent a negative reaction.

References

Anderson, J.C. and Narus, J.A. (1990) "A Model of Distributor Firm and Manufacturer Firm Working Partnerships" *Journal of Marketing,* vol. 54, no. 1, pp. 42-58

Andrade, A.D. (2009) "Interpretive Research Aiming at Theory Building: Adopting and Adapting the Case Study Design" *The Qualitative Report*, vol. 14, no. 1, pp. 42-60.

Atkinson, J. W. (1964) "An Introduction to Motivation", *Van Nostrand, Princeton, NJ.*

Babin, B.J., Darden, W.R. and Griffin, M. (1994) "Work and/or Fun: Measuring Hedonic and Utilitarian Shopping Values" *Journal of Consumer Research*, vol. 20, pp. 644-656.

Bagozzi, R.P. (1995) "Reflections on Relationship Marketing in Consumer Markets" *Journal of the Academy of Marketing Science,* vol. 23, no. 4, pp. 272-277.

Bateson, J.E.G. (1985) "Self-Service Customer: An Exploratory Study" *Journal of Retailing*, vol. 61, no. 3, pp. 49-76.

Bauer, H.H., Falk, T. and Hammerschmidt, M. (2006) "eTransQual: A Transaction Process-Based Approach for Capturing Service Quality in Online Shopping" *Journal of Business Research*, vol. 59, no. 7, pp. 866-75.

Berry, L. L. (1999) "Discovering the soul of service: The nine drivers of sustainable business success" *New York City: The Free Press.*

Berry, L.L. (1995) "Relationship marketing of services-growing interest, emerging perspectives" *Journal of the Academy of Marketing Science*, vol. 23 No. 4, pp. 236-245.

Bitner, M., Brown, S. and Meuter, M. (2000) "Technology Infusion in Service Encounters" *Journal of the Academy of Marketing Science*, vol. 28, no. 1, pp. 138-49.

Bitner, M.J. (1990) "Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses" *Journal of Marketing*, vol. 54, no. 2, pp. 69-82.

Bitner, M.J., Booms, B.H. and Tetreault, M.S. (1990) "The Service Encounter: Diagnosing Favorable and Unfavorable Incidents" *Journal of Marketing, vol.* 54, pp. 71-84.

Burghard, C. and Galimi, J. (2000) "Customer Relationship Management-New MCO Catalyst" *Gartner Advisory*.

Carver, C.S. and Scheier, M.F. (1990) "Origins and Functions of Positive and Negative Affect: A Control-Process View" *Psychological Review*, vol. 97, no. 1, pp. 19-35.

Chang, T.Z. and Wildt, A.R. (1994) "Price, Product Information, and Purchase Intention: An Empirical Study" *Journal of the Academy of Marketing Science*, vol. 22, pp. 16-27.

Childers, T.L., Carr, C.L, Peck, J. and Carson, S. (2001) "Hedonic and Utilitarian Motivations for Online Retail Shopping Behavior" *Journal of Retailing*, vol. 77, pp. 511-35.

Conway, J.M. and Huffcutt, A.I. (2003) "A Review and Evaluation of Exploratory Factor Analysis Practices in Organizational Research" *Organizational Research Methods*, vol. 6, no. 2, pp. 147-168.

Costello, A.B. and Osborne, J.W. (2005) "Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis" *Practical Assessment Research & Evaluation*, vol. 10, no. 7, pp. 1-9.

Crosby, L.A. and Stephens, N. (1987) "Effects of Relationship Marketing on Satisfaction, Retention, and Prices in the Life Insurance Industry" *Journal of Marketing Research*, vol. 24, pp. 404-11.

Crosby, L.A., Evans, K.A. and Cowles, D. (1990) "Relationship quality in services selling: an interpersonal influence perspective" *Journal of Marketing*, vol. 54, no. 3, pp. 68-81.

Curran, J.M., Meuter, M.L. and Surprenant, C.F. (2003) "Intention to Use Self-Service Technologies: A Confluence of Multiple Attitudes" *Journal of Service Research*, vol. 5, no. 3, pp. 209-224.

Czepiel, J.A. and Rosenberg, L.J. (1977) "Consumer satisfaction: concept and measurement" *Journal of the Academy of Marketing Science*, vol. 5, no. 4, pp. 403-512.

Dabholkar, P. A. and Bagozzi, R. P. (2002) "An Attitudinal Model of Technology-Based Self-Service: Moderating Effects of Consumer Traits and Situational Factors" *Journal of the Academy of Marketing Science*, vol. 30, no. 3, pp. 184-201.

Dabholkar, P. A., Bobbitt, L. M., and Lee, E.-J. (2003) "Understanding Consumer Motivation and Behavior Related to Self-Scanning in Retailing", *International Journal of Service Industry Management,* vol. 14, no. 1, pp. 59-95.

Dabholkar, P.A. (1994) "Incorporating choice into an attitudinal framework: analyzing models of mental comparison processes" *Journal of Consumer Research*, vol. 10, pp. 100-18.

Dabholkar, P.A. (1996) "Consumer evaluations of new technology-based self-service options: An investigation of alternative models of service quality" *International Journal of Research in Marketing*, vol. 13, pp. 29-51.

Davis F.D., Bagozzi, R.P. and Warshaw, P.R. (1989) "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models," *Management Science*, vol 35, no. 8, pp. 982-1003.

Davis, F.D. (1989) "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology" *MIS Quarterly, vol. 13*, pp. 319-40.

De Wulf, K., Odekerken-Schröder, G. and Lacobucci, D. (2001) "Investments in Consumer Relationships: A Cross-Country and Cross Industry Exploration" Journal of Marketing, vol. 65, pp. 33-50.

Dorsch, M.J., Swanson, S.R. and Kelley, S.W. (1998) "The role of relationship quality in the stratification of vendors as perceived by customers" *Journal of the Academy of Marketing Science*, vol. 26, no. 2, pp. 128-142.

Dwyer, F.R., Schurr, P.H. and Oh, S. (1987) "Developing buyer-seller relationships" *Journal of Marketing*, vol. 51, no. 2, pp. 11-27.

Featherman, M.S. and Pavlou, P.A. (2003) "Predicting e-service adoption: a perceived risk facets perspective" *International Journal of Human-Computer Studies*, vol. 59, no. 4, pp. 451-474.

Fiske, S. and Taylor, S. (2007) "Social Cognition: From Brains to Culture" *New York, NY, McGraw-Hill.*

Flavián, C., Guinalíu, M. and Gurrea, R. (2006) "The Role Played by the perceived usability , satisfaction and consumer trust on website loyalty" Information and Management, vol. 43, pp. 1-14.

Folkes, V. (1988) "The availability heuristic and perceived risk" *Journal of Consumer Research*, vol. 15, pp. 13-23.

Folkes, V.S. and Patrick, V.M. (2003) "The Positivity Effect in Perceptions of Services: Seen One, Seen Them All?" *Journal of Consumer Research*, vol. 30, no. 1, pp. 125-137.

Ganesan, S. (1994) "Determinants of Long-Term Orientation in Buyer-Seller Relationships" *Journal of Marketing*, vol 58, pp. 1-19.

Ganesh, J., Arnold, M.J. and Reynolds, K.E. (2000) “Understanding the customer base of service providers: An examination of the differences between switchers and stayers” *Journal of Marketing*, vol. 64, pp. 65-87.

Garbarino, E. and Johnson, M.S. (1999) “The different roles of satisfaction, trust, and commitment in customer relationships” *Journal of Marketing*, vol. 63, pp. 70-87.

Garson, D.G. (2008) "Factor analysis: Statnotes" *North Carolina: North Carolina State University Public Administration Program.*

Gatignon, H. and Robertson, T.S. (1991) “Innovative Decision Processes” *Handbook of Consumer Behavior*, pp. 316-48.

Gorsuch, R. L. (1974) "Factor analysis" *Philadelphia, PA: (W. B.) Saunders.*

Grisaffe, D.P. and Kumar, A. (1998) "Antecedents and Consequences of Customer Value: Testing an Expanded Frame-work" *Marketing Science Institute Cambridge Working Paper*, pp. 98-107.

Grönroos, C. (1994) “From marketing mix to relationship marketing. Toward a paradigm shift in marketing” *Management Decision*, vol. 32, no. 2, pp. 4-32.

Gundlach, G.T. and Achrol, R.S. (1995) “The structure of commitment in exchange” *Journal of Marketing*, vol. 59, no. 1, pp. 78-92.

Gundlach, G.T., Achrol, R.S. and Mentzer, J.T. (1995) “The structure of commitment in exchange” *Journal of Marketing*, vol. 59, no. 1, pp. 78-92.

Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010) "Multivariate Data Analysis" *New Jersey: Pearson Prentice Hall.*

Heider, F. (1958) "The psychology of interpersonal causality" *New York: Wiley.*

Hennig-Thurau, T. and Klee, A. (1997) “The impact of customer satisfaction and relationship quality and customer retention: a critical reassessment and model development” *Psychology & Marketing*, vol. 14, no. 8, pp. 737-764.

Huang, M.H. (2008) "The influence of selling behaviors on customer relationships in financial services" *International Journal of Service Industry Management*, vol. 19, no. 4, pp. 458-473.

Hui, M.K. and Bateson, J.E.G. (1991) “Perceived Control and the Effects of Crowding and Consumer Choice on the Service Experience” Journal of Consumer Research, vol. 18, no. 2, no. 174-184.

Hui, M.K. and Toffoli, R. (2002) "Perceived control and consumer attribution for the service encounter" *Journal of Applied Social Psychology*, vol. 32, no. 9, pp. 1825–1844.

Kacen, J.J., Hess, J.D. and Walker, D. (2008) "Spontaneous selection: the influence of produc and retailing factors on consumer impulse purchases" *Journal of Retailing and Consumer Services*, vol. 19, pp. 578-588.
Kauffman, R.J. and Lally, L. (1994) “A value Platform Analysis Perspective on Customer Access Information Technology” *Decision Sciences*, vol. 25, pp. 767-94.

Keaveney, S. (1995), "Customer Switching Behavior in Ser-vice Industries: An Exploratory Study" *Journal of Marketing*, 59 (April), pp. 71-82.

Kelley, S. and Davis, M.A. (1994) "Antecedents to Customer Expectations for Service Recovery" *Journal of the Academy of Marketing Science*, vol. 22, no.1 , pp. 52-61.

Klein, G.D. (1982) "Development of a Cross-Cultural Instrument to Measure the Attitudes of Consumers and Business People toward Consumerism" *Journal of Marketing & Public Policy*, vol. 1, pp. 123-137.

Langeard, E., Bateson, J. E. G., Lovelock, C. H., and Eiglier P. (1981) "Services Marketing: New Insights from Consumers and Managers" *Boston M: Marketing Science Institute Report,* pp. 81-104.

Lee, J. and Allaway, A. (2002) "Effects of Personal control on adoption of self-service technology innovations" *Journal of Services Marketing*, vol. 16, no. 6, pp. 553-572.

Leuthesser, L. (1997) "Supplier relational behavior: an empirical assessment" *Industrial Marketing Management*, vol. 26, no. 3, pp. 245-254.

Lin, J.-S. C. and Hsieh, P.-L. (2006) "The Role of Technology Readiness in Customers' Perception and Adoption of Self-Service Technologies" *International Journal of Service Industry Management*, vol. 17, no. 5, pp. 497-517.

Littlefield, J.E., Bao, Y. and Cook, D.L. (2000) "Internet real estate information: are home purchasers paying attention to it?" *Journal of Consumer Marketing*, vol. 17, no, 7, pp. 575-590.

MacCallum, R.C., Widaman, K.F., Zhang, S. and Hong, S. (1999) "Sample size in factor analysis" *Psychological Methods*, vol. 4, no. 1, pp. 84-99.

Macintosh, G. and Lockshin, L.S. (1997) "Retail Relationships and Store Loyalty: A Multi-level Perspective" *International Journal of Research in Marketing*, vol. 14, no. 5, pp. 487-497.

MacNeil, I. R. (1980) "The New Social Contract" *London: Yale University Press.*

Maddox, R. Neil (1981) "Two-Factor Theory and Consumer Satisfaction: Replication and Extension" *Journal of Consumer Research*, vol. 8, no. 1, pp. 97-102.

Mayer, R., Davis, J., and Schooreman, F. (1995) "An integrative model of organizational trust" *Academy of Management Review*, vol. 20, no. 3, pp. 709–734.

McDonough, D. (2001) "How CRM Can Save The Economy" *CRM Daily.*

Meuter, M.L. and Bitner, M.J. (1998) "Self-service technologies: extending service frameworks and identifying issues for research" *Marketing Theory and Applications*, vol. 9, pp. 12-19.

Meuter, M.L., Bitner, M.J., Ostrom, A.L. and Brown, S.W. (2005) "Choosing among Alternative Service Delivery Modes: An Investigation of Customer Trial of Self-Service Technologies" *Journal of Marketing* , vol. 69, no. 2, pp. 61-83.

Meuter, M.L., Ostrom, A.L., Roundtree, R.I. and Bitner, M.J. (2000), "Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters" *Journal of Marketing*, vol. 64, no. 3, pp. 50-64.

Mick, D.G. and Fournier, S. (1998) "Paradoxes of Technology: Consumer Cognizance, Emotions, and Coping Strategies" *Journal of Consumer Research*, vol. 25, pp. 123-143.

Moon, Y. (2000) "Intimate Exchanges: Using Computers to Elicit Self-Disclosure from Consumers" *Journal of Consumer Research*, vol. 26, no. 4, pp. 323-339.

Moorman, C., Deshpande, R. and Zaltman, G. (1993) "Factors affecting trust in market relationships" *Journal of Marketing*, vol. 57, no. 1, pp. 81-101.

Moorman, C., Zaltman, G. and Deshpande, R. (1992) "Relationships Between Providers and Users of Market Research: The Dynamics of Trust Within and Between Organizations" *Journal of Marketing*

Research, vol. 29, pp. 314-28.

Morgan, R.M. and Hunt, S.D. (1994) "The Commitment-Trust Theory of Relationship Marketing" Jounal of Marketing, vol. 58, pp. 20-38.

Neal, W.D. (1999) "Satisfaction Is Nice, But Value Drives Loyalty" *Marketing Research*, vol. 2, pp. 21-23.

Nijssen, E.J., Hillebrand B., Vermeulen, P.A.M. and Kemp, R.G.M. (2006) "Exploring products and service innovations similarities and differences" *International Journal of Research in Marketing*, vol. 23, no.3, pp. 241-251.

O'Brien, L. and Jones, C. (1995), "Do Rewards Really Cre-ate Loyalty?" *Harvard Business Review*, vol. 73, pp. 75-83.

Parasuraman, A., Berry, L. and Zeithaml, V. (1991) "Understanding customer expectations of service" *Sloan Management Review*, vol. 32, pp. 39-48.

Parasuraman, A., Valarie A. Zeithaml, and Leonard L. Berry (1988), "SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality," Journal of Retailing, 64 (Spring), 12-40.

Parasuraman, Valarie A. Zeithaml, and Arvind Malhotra (2005), "E-SQUAL: A Multiple-Item Scale for Assessing Electronic Service Quality," Journal of Service Research, 7 (3), 213-33.

Plouffe, C.R., Hulland, J.S. and Vandenbosch, M. (2001) "Research Report: Richness Versus Parsimony in Modeling Technology Adoption Decisions: Understanding Merchant Adoption of a Smart Card-Based Payment System" *Information Systems Research*, vol. 12, no. 2, pp. 208-223.

Ram, S. and H.S. Jung (1991) "Forced Adoption of Innovation in Organizations: Consequences and Implications" *Journal of Production Innovation Management*, vol. 8, no. 2, pp. 117-126.

Reichheld, F. F. (1996) "The Loyalty Effect" *Cambridge, MA: Harvard Business School Press.*

Reinders, M.J., Dabholkar, P.A. and Frambach, R.T. (2008) "Consequences of Forcing Consumers to Use Technology-Based Self-Service" *Journal of Service Research*, vol. 11, no. 2, pp. 107-123.

Rogers, E.M. (2003) Diffusion of innovations (5th ed.). *New York: Free Press.*

Sako, M. (1992) "Prices, Quality, and Trust: Inter-firm Relations in Britain and Japan" *New York: Cambridge University Press.*

Sen, S. and Lerman, D. (2007) "Why are you telling me this? An examination into negative consumer reviews on the Web" *Journal of Interactive Marketing*, vol. 21, pp. 76-94.

Singh, J. and Sirdeshmukh, D. (2000) "Agency and Trust Mechanisms in Consumer Satisfaction and Loyalty Judgements" *Journal of the Academy of Marketing Science*, vol. 28, no. 1, pp. 150-167.

Sirdeshmukh, D., Singh, J. and Sabol, B. (2002) "Consumer Trust, Value, and Loyalty in Relational Exchanges"

Skowronski, J.J. and Carlston, D.E. (1987) "Social Judgment and Social Memory: The Role of Cue Diagnosticity in Negativity, Positivity, and Extremity Biases" *Journal of Personality and Social Psychology*, vol. 52, no. 4, pp. 689-99.

Smith, A.K., Bolton, R.N., and Wagner, J. (1999) "A Model of Customer Satisfaction with Service Encounters Involving Failure and Recovery" *Journal of Marketing Research*, vol. 36, pp. 356-372.

Smith, J.B. (1998) “Buyer-seller relationships: bonds, relationship management, and sex-type” *Canadian Journal of Administrative Sciences*, vol. 15, no. 1, pp. 76-92.

Smith, J.B. and Barclay, D.W. (1997) “The effects of organizational differences and trust on the effectiveness of selling partner relationships” *Journal of Marketing*, vol. 61, no. 1, pp. 3-21.

Spekman, R. (1988) "Strategic supplier selection: toward an understanding of long-term buyer-seller relationships" *Business Horizons*, vol. 31, pp. 75-81.

Spohrer, J. and Maglio, P.P. (2008) "Fundamenals of service science" *Journal of the Academy of Marketing Science*, vol. 36, no. 1, pp. 18-20.

Swan, J.E. and Combs, L.J. (1976) "Product Performance and Consumer Satisfaction: A New Concept" *Journal of Marketing*, vol. 40, pp. 25-33.

Tax, S.S., Brown, S.W. and Chandrashekaran, M. (1998) "Customer Evaluations of Servide Complaint Experiences: Implications for Relationship Marketing" Journal of Marketing, vol. 62, pp. 60-76.

Tsiros, M., Mittal, V. and Ross, W.T. (2004) "The Role of Attributions in Customer Satisfaction: A Reexamination" *Journal of Consumer Research*, vol. 31, pp. 476-483.

Vázquez-Casielles, R., Río-Lanza, A.B. and Díaz-Martín, A.M. (2007) "Quality of past performance: Impact on consumers' responses to service failure" *Market Lett*, vol. 18, pp. 249-264.

Venkatesh, V. and Davis, F.D. (2000) "A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies" Management Science, vol. 46, no. 2, pp. 186-204.

Weijters, B., Rangarajan, D., Falk, T. and Schillewaert, N. (2007) "Determinants and Outcomes of Customers’ Use of Self-Service Technology in a Retail Setting" *Journal of Service Research*, vol. 10, no. 1, pp. 3-21.

Weiner, B. (1979) "A theory of motivation for some classroom experiences" *Journal of Educational psychology*, vol. 71, pp. 3-25.

Weiner, B. (1986). An Attributional Theory of Motivation and Emotion, Springer Verlag, New York.

Weiner, B. (2000) "Reflection and Reviews - Attributional Thoughts about Consumer Behavior" *Journal of Consumer Research*, vol. 27, 382-387.

Xie, D. and Heung, V.C.S. (2012) "The effects of brand relationship quality on responses to service failure of hotel consumers" *International Journal of Hospitality Management*, vol. 31, pp. 735-744.

Yoon, S.J. and Kim, J.H. (2000) "An empirical validation of a loyalty model based on expectation disconfirmation" Journarl of Consumer Marketing*, vol. 17, no. 2, pp. 120-136.*

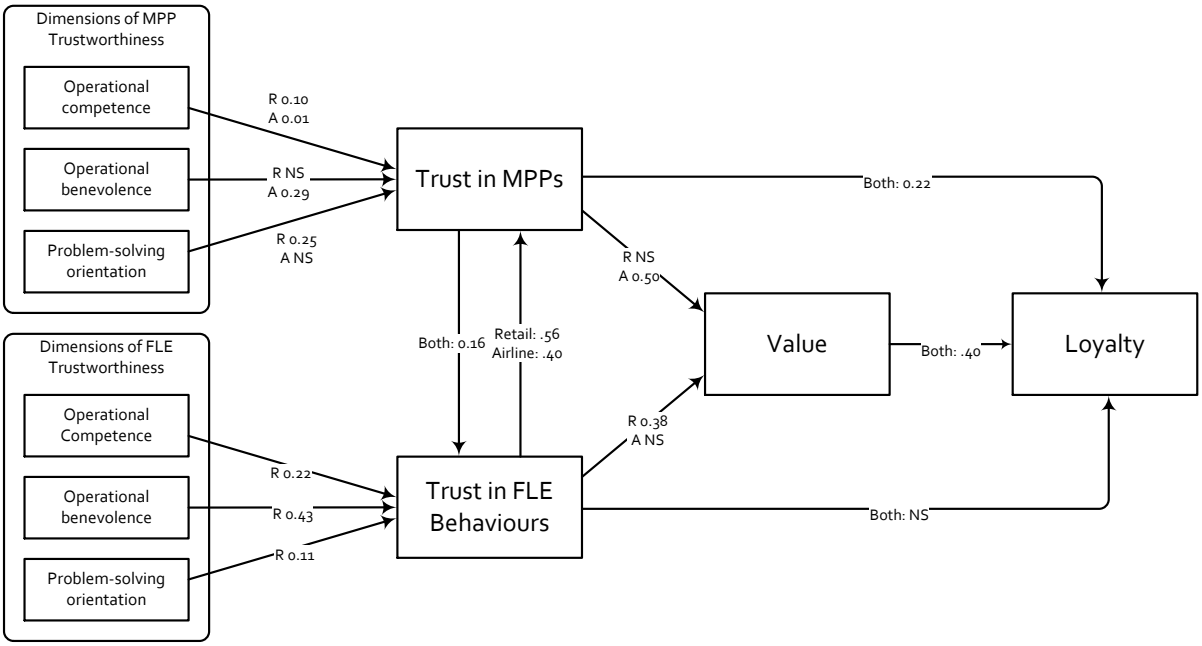
Zeithaml, V.A. and Gilly, M.C. (1987) “Characteristics Affecting the Acceptance of Retailing Technologies: A Comparison of Elderly and nonelderly Consumers” *Journal of Retailing*, vol. 63, pp. 49-68.

Zeithaml, V.A., Berry, L., and Parasuraman, A. (1996) "The behavioral consequences of service quality" *Journal of Marketing*, vol. 60, no. 2, pp. 31–46.

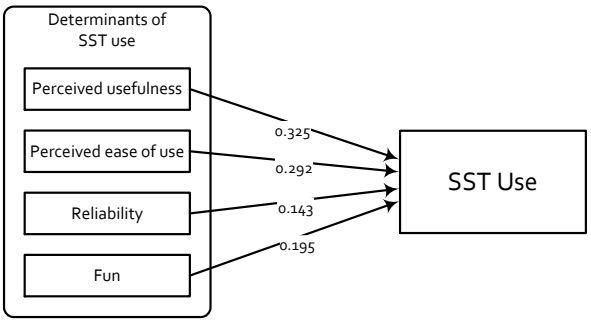
Zeithaml, V.A., Bitner, M.J., Gremler, D. (2009) "Services Marketing" *McGraw-Hill Companies Incorporated*, USA.

Appendix 1: Models prior research

Sirdeshmukh, Singh and Sabol (2002):



Weijters, Rangarajan, Falk and Schillewaert (2007):



Appendix 2: survey Table

Q#	Core	definition	source of the definition	Original research QUESTIONS
8	Operational competence	The competent execution of visible behaviours as indication of "service in action"	Sirdeshmukh, Singh and Sabol, 2002	The store is organized so as to make it easy to pick your clothing selection.
				The store is generally clean and free of clutter.
				The store keeps checkouts staffed and moving so you don't have to wait
8	Operational benevolence	The behaviors that reflect underlying motivation to place consumer's interest ahead of self-interest.		The store has policies that indicate respect for the customer.
				The store has policies that favor the customer's best interest.
				The store acts as if the customer is always right.
8	Problem solving orientation	The consumer's evaluation of management motivations to anticipate and satisfactorily resolve problems that may arise during and after service exchange.		The store has practices that make returning items quick and easy.
				The store goes out of the way to solve customers problems.
				...as much concern for customers returning items as for those shopping for new ones.
9	Trust in MPPs	the expectations held by the consumer that the service provider is dependable and can be relied on to deliver its promises. (definition adapted)		I feel this store is ...
				I feel this store is ...
				I feel this store is ...
				I feel this store is ...
14	Value	The consumer's perception of the benefits minus the costs of maintaining an on-going relationship with a server provider. (definition adapted)		For the prices you pay for clothing items at this store, would you say shopping at this store is a ...
				For the time you spent in order to shop at this store, would you say shopping at this store is ...
				For the effort involved in shopping at this store, would you say shopping at this store is ...
15	Loyalty	Is indicated by an intention to perform a diverse set of behaviors that signal a motivation to maintain a relationship with the focal firm, including allocating higher share of the category wallet to the specific service provider, engaging in positive Word Of Mouth [WOM] and repeat purchasing.		How likely are you to do most of your future shopping at this store?
				How likely are you to recommend this store to friends, neighbors and relatives?
				How likely are you to use this store the very next time you need to shop for a clothing item?
				How likely are you to spend more than 50% of your clothing budget at this store?
11	Perceived usefullness	attainment of the said outcome itself, rather than the process leading toward it.	Weijters, Rangarajan, Falk and Schillewaert, 2007	Self-scanning will allow me to shop faster.
				Self-scanning will make me more efficient while shopping.
				Self scanning reduces the waiting time at the cash register.
11	Perceived ease of use	refers to the process leading to the final outcome.		Self-scanning will be effortless.
				Selfscanning will be user friendly.
11	Fun	Enjoyment refers to the extent to which the activity of using technology is perceived to provide reinforcement in its own right, apart from any performance		Self scanning will be entertaining.
				Self-scanning will be enjoyable.
11	Reliability	refers to the correct technical functioning ot the SST and the acuracy of service delivery.		Self-scanning will be reliable.
				I expect selfscanning to work well.
				Self-scanning will have a faultless result.
12	Attitude towards SST	NA		How would you describe your feelings towards using self-scanning technology in this store?
				How would you describe your feelings towards using self-scanning technology in this store?
				How would you describe your feelings towards using self-scanning technology in this store?
18	Cost attribution	The (negative) customer's perception of a provider's egocentric motivations for SST introduction for cost reduction purposes. (own)	Klein (1982)	All the business wants to do is make the most money it can.
			Klein (1982)	The main reason a company is socially responsible is to make more sales.
			Barksdale et al. 1972	Most manufacturers are more interested in making profits than in serving consumers.
			NA	
			NA	
18	Customer orientation attribution	The (positive) customer's perception of a provider's customer centric motivations for SST introduction for enhancement of service value. (own)	Klein (1982)	When consumers have problems with products they have purchased , it is usually easy to get them
			Klein (1982)	Most business firms make a sincere effort to help displeased customers
			NA	
			NA	
			NA	

Q#	Control variable	definition	source of the definition	Q's prior research
10	MPP satisfaction	Satisfaction reflects the degree a consumer derives positive feelings from a service encounter. (source definition: Lin and Hsieh, 2006 in Lui 2012)	Sirdeshmukh, Singh and Sabol, 2002	How satisfying was your last shopping experience at this store?
				How satisfying was your last shopping experience at this store?
				How satisfying was your last shopping experience at this store?
16	share of wallet (Loyalty)		NA	NA
17				NA
8	Representativeness	to measure if there is bias due to an under performing store of the brand.	NA	NA
3	Reason non-use	Why did the customer never use SST	NA	NA
4, 7	Sense of forced adoption	Does the consumer experience a sense of being forced to adopt	Hui et al. (1991) and Hui et al. (2002)	In this situation, I feel forced to use the self-service option (R)
				In this situation, I can choose between several options to order the [service].
19	Self-efficacy	An individual's assessment of his or her ability to perform a behaviour.	Dabholkar, Bagozzi, 2002	I am higly confident that I can use a touch screen.
				The probability that I can use a touch screen is ...%
6	Innovativeness	NA	NA	NA

Q#	Demographics	definition	source of the definition	Q's prior research
20	age	NA	NA	NA
21	gender	NA	NA	NA
22	education	NA	NA	NA
23	Household size	NA	NA	NA
24	Household income	NA	NA	NA

Q#	Extra Mesures	definition	source of the definition	Q's prior research
1	What store	for what store did the participant fill out the form.	NA	NA
2	Use of SST	Did the customer ever use SST	NA	NA
5	Technology use Loyalty	How many times does the customer use the SST	NA	NA
13	Advantages of store	To help give a better judgement about "Value".	NA	NA

scale	items of scale	Cronbach's α	adjusted scale	adjusted item of scale	Current research's QUESTIONS
5-point	"strongly disagree"/"st	Retail: 0,77	7-point	"strongly disagree"/"str	The store is organized to make it easy to pick your groceries.
5-point	"strongly disagree"/"st	Airlines: 0,73	7-point	"strongly disagree"/"str	The store is generally clean and free of clutter.
5-point	"strongly disagree"/"st		7-point	"strongly disagree"/"str	The store has enough checkouts so you don't have to wait
5-point	"strongly disagree"/"st	Retail: 0,9	7-point	"strongly disagree"/"str	The store has policies that indicate respect for the customer.
5-point	"strongly disagree"/"st	Airlines: 0,86	7-point	"strongly disagree"/"str	The store has policies that favor the customer's best interests
5-point	"strongly disagree"/"st		7-point	"strongly disagree"/"str	The store acts as if the customer is always right.
5-point	"strongly disagree"/"st	Retail: 0,87	7-point	"strongly disagree"/"str	The store's service desk is efficient and functional.
5-point	"strongly disagree"/"st	Airlines: 0,74	7-point	"strongly disagree"/"str	The store goes out of the way to solve customers problems.
5-point	"strongly disagree"/"st		7-point	"strongly disagree"/"str	the store has as much concern for service as for selling goods.
10-point	"Very undependable"/	Retail: ≥0,96	10-point	"Very undependable"/"	What is your total inpression of this supermarket? I feel this store is...
10-point	"Very incompetent"/"V	Airlines: ≥0,96	10-point	"Very incompetent"/"Ve	What is your total inpression of this supermarket? I feel this store is...
10-point	"Of very low integrity/		10-point	"Of very low integrity"/"	What is your total inpression of this supermarket? I feel this store is...
10-point	"Very unresponsive to				
10-point	"Very poor deal"/"Very	Retail: 0,92	10-point	"Very poor deal"/"Very	Considering the benefits against costs and (time) effort, your judgement says this store is...
10-point	"Highly unreasonable",	Airlines: 0,92	10-point	"Highly unreasonable"/"	Considering the benefits against costs and (time) effort, your judgement says this store is...
10-point	"Not at all worthwhile"		10-point	"Not at all worthwhile"/	Considering the benefits against costs and (time) effort, your judgement says this store is...
10-point	"Very unlikely"/"Very l	Retail: ≥0,90	7-point	"Very unlikely"/"Very lil	How likely are you to do most of your future groceries at this store?
10-point	"Very unlikely"/"Very l	Airlines: ≥0,90	7-point	"Very unlikely"/"Very lil	How likely are you to recommend this store to friends, neighbors and relatives?
10-point	"Very unlikely"/"Very l				
10-point	"Very unlikely"/"Very l		7-point	"Very unlikely"/"Very lil	How likely are you to spend more than 50% of your groceries budget at this store?
5-point	"Completely disagree"	NA	7-point	"Completely disagree"/"	Self-scanning will allow me to shop faster.
5-point	"Completely disagree"		7-point	"Completely disagree"/"	Self-scanning will make me more efficient while shopping.
5-point	"Completely disagree"		7-point	"Completely disagree"/"	Self scanning reduces the waiting time at the cash register.
5-point	"Completely disagree"	NA	7-point	"Completely disagree"/"	Self-scanning will be effortless.
5-point	"Completely disagree"		7-point	"Completely disagree"/"	Selfscanning will be user friendly.
5-point	"Completely disagree"	NA	7-point	"Completely disagree"/"	Self scanning will be entertaining.
5-point	"Completely disagree"		7-point	"Completely disagree"/"	Self-scanning will be enjoyable.
5-point	"Completely disagree"	NA	7-point	"Completely disagree"/"	Self-scanning will be reliable.
5-point	"Completely disagree"		7-point	"Completely disagree"/"	I expect selfscanning to work well.
5-point	"Completely disagree"		7-point	"Completely disagree"/"	Self-scanning will have a faultless result.
5-point	"Unfavorable"/"favora	NA	7-point	"unfavorable"/"favorabl	How would you describe your feelings toward using selfscanning technology in this store?
5-point	"I dislike it"/"I like it"		7-point	"I dislike it"/"I like it"	How would you describe your feelings toward using selfscanning technology in this store?
5-point	"Bad"/"Good"		7-point	"Bad"/"Good"	How would you describe your feelings toward using selfscanning technology in this store?
6-point	"strongly disagree"/"st	NA	7-point	"strongly disagree"/"str	to make the most money it can.
6-point	"strongly disagree"/"st		7-point	"strongly disagree"/"str	to make the most sales it can.
6-point	"strongly disagree"/"st		7-point	"strongly disagree"/"str	to make profits rather than satisfy the customer.
			7-point	"strongly disagree"/"str	to reduce their own costs.
			7-point	"strongly disagree"/"str	to have customers do the work.
6-point	"strongly disagree"/"st	NA	7-point	"strongly disagree"/"str	to offer customers more service.
6-point	"strongly disagree"/"st		7-point	"strongly disagree"/"str	to offer customers different check-out options.
	"strongly disagree"/"st		7-point	"strongly disagree"/"str	to make checking out faster.
	"strongly disagree"/"st		7-point	"strongly disagree"/"str	to make shopping hassle free.
	"strongly disagree"/"st		7-point	"strongly disagree"/"str	to make shopping fun.

scale	items of scale	Cronbach's α	adjusted scale	adjusted item of scale	Q's AH self-scanning
10-point	"Highly unsatisfactory"		10-point	"Highly unsatisfactory"/"	What was your experience during your last visit to this store?
10-point	"Very unpleasant"/"Ve		10-point	"Very unpleasant"/"Ver	What was your experience during your last visit to this store?
10-point	"Terrible"/"Delightful"		10-point	"Very non-deligheful"/"	What was your experience during your last visit to this store?
Number	NA	NA	#	NA	How much money did you spent last week on groceries.
Number	NA	NA	#	NA	How much money did you spent last week on groceries in this specific brand store.
NA	NA	NA	NA	"strongly disagree"/"str	This store is [concerning the MPP trustworthyness questions] representative for the supermarkt's brand.
Multiple	NA	NA	MC	NA	For what reason(s) did you never use the available self-scan technology?
					O I never had a reason to try.
					O I feel unconfortable with the technology.
					O I do not trust it's workings.
					O I prefer checking out with an employee.
					O It is to hard and to much work.
					O Something else, namely; ...
7-point	"strongly disagree"/"st	0,7	7-point	"strongly disagree"/"str	To what extent do you feel obliged to make use of the self scanning devices?
7-point	"strongly disagree"/"st		7-point	"strongly disagree"/"str	
7-point	"strongly disagree"/"st	0,71	7-point	strongly disagree/"stron	I am always very confident when trying a new technical product.
#	NA		7-point	"strongly disagree"/"str	I always have convidence in myself that I will quickly learn and use a new product or service.
					When I don't know how to use a new product or service immediatly, I will try untill I do.
NA	NA	NA	5-point	"Directly after appearing	when did you first use the self scan device?

scale	items of scale	Cronbach's α	adjusted scale	adjusted item of scale	Q's AH self-scanning
NA	NA	NA	NA	<20/"20-30"/"31-40"/"41	What is your age.
NA	NA	NA	NA	"Male"/"Female"	What is your gender.
NA	NA	NA	NA	NA	What is the highest degree or level of school you have completed?
NA	NA	NA	NA	"1 person"/"2 persons"/	What is your household size?
NA	NA	NA	NA	"<10.000"/"10.000-25.00	What is your household income?

scale	items of scale	Cronbach's α	adjusted scale	adjusted item of scale	Q's AH self-scanning
NA	NA	NA	NA	"Store 1"/"Store 2"/"Sto	For which store do you fill out this survey?
NA	NA	NA	NA	"No, never"/"Yes, and st	Did you ever use self-scan technology?
NA	NA	NA	NA	#	How often, when shopping here, do you use the self-scan devices? (give a percentage)
NA	NA	NA	NA	Private brand"/"assortm	What benefits of this store do you value the most? (more answers possible)

Appendix 3: Skewness and Kurtosis

Descriptive Statistics

	Skewness		Kurtosis			Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error		Statistic	Std. Error	Statistic	Std. Error
[Q1] Establishment	1,342	,208	,691	,413	[11] SSTfun1	-1,334	,223	1,384	,442
[Q2] Use of SST	-,246	,208	2,100	,413	[11] SSTfun2	-1,536	,223	2,465	,442
[Q3] Reason of non-use	,124	,550	-1,486	1,063	[12] SST_satis1	-2,077	,223	6,334	,442
[Q4] feeling forced	2,238	,580	4,455	1,121	[12] SST_satis2	-2,067	,223	4,182	,442
[Q5] % Use SST	-1,905	,236	3,106	,467	[12] SST_satis3	-1,930	,223	5,159	,442
[Q6] start Use	2,179	,236	4,956	,467	[14] value1	-,036	,222	-,065	,440
[Q7] % Use SST	1,858	,236	2,566	,467	[14] value2	,033	,222	-,380	,440
[Q8] OpComp1	-1,485	,222	3,700	,440	[14] value3	-,913	,222	3,375	,440
[Q8] OpComp2	-1,490	,222	5,511	,440	[15] Loyalty1	-2,335	,222	6,699	,440
[Q8] OpComp3	-1,314	,222	2,657	,440	[15] Loyalty2	-,760	,222	,173	,440
[Q8] OpBen1	-1,664	,222	4,414	,440	[15] Loyalty3	-1,938	,222	3,430	,440
[Q8] OpBen2	-1,291	,222	2,489	,440	[16] ShareWall1	,755	,225	,627	,446
[Q8] OpBen3	-,445	,222	-1,009	,440	[17] ShareWall2	,734	,226	,218	,449
[Q8] PrSoOr1	-,767	,222	,375	,440	[18]Profit_Attr1	-,295	,222	-,738	,440
[Q8] PrSoOr2	-,837	,222	-,081	,440	[18]Profit_Attr2	-,221	,222	-,760	,440
[Q8] PrSoOr3	-1,378	,222	3,111	,440	[18]Profit_Attr3	,185	,222	-,804	,440
[Q8] Repres	-1,201	,223	2,382	,442	[18]Profit_Attr4	-,756	,222	-,308	,440
[Q9] Store_Trust1	-2,042	,222	10,508	,440	[18]Profit_Attr5	,305	,222	-,776	,440
[Q9] Store_Trust2	-2,186	,222	9,415	,440	[18]CusOr_Attr1	-,988	,222	,889	,440
[Q9] Store_Trust3	-2,891	,222	12,360	,440	[18]CusOr_Attr2	-,946	,222	,697	,440
[10] Store_sat1	-1,515	,222	5,907	,440	[18]CusOr_Attr3	-1,010	,222	,675	,440
[10] Store_sat2	-1,889	,222	6,582	,440	[18]CusOr_Attr4	-,460	,222	-,642	,440
[10] Store_sat3	-2,233	,222	7,857	,440	[18]CusOr_Attr5	-1,034	,222	1,021	,440
[11] SSTusefull1	-1,860	,222	2,973	,440	[19]SelfEff1	-,900	,208	,741	,413
[11] SSTusefull2	-1,050	,222	,245	,440	[19]SelfEff2	-1,173	,208	1,278	,413
[11] SSTusefull3	-3,059	,222	13,159	,440	[19]SelfEff3	-,857	,208	-,145	,413
[11] SSTease1	-1,527	,222	2,412	,440	[20]Leeftijd	-,012	,208	-,282	,413
[11] SSTease2	-1,791	,222	3,772	,440	[21]Gender	-1,160	,208	2,128	,413
[11] SSTrel1	-1,623	,222	4,214	,440	[22]Education	-1,134	,208	,538	,413
[11] SSTrel2	-2,028	,222	6,139	,440	[23]Household size	,098	,208	-,974	,413
[11] SSTrel3	-1,196	,222	2,095	,440	[24]Household income	-,419	,208	-,728	,413

Appendix 4: Eigenvalues

Eigenvalues for the factor analysis of the main model:

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7,954	36,153	36,153	3,061	13,912	13,912
2	2,963	13,470	49,623	3,045	13,840	27,753
3	1,721	7,822	57,445	2,959	13,449	41,201
4	1,523	6,922	64,368	2,898	13,173	54,374
5	1,366	6,210	70,578	2,748	12,492	66,866
6	1,296	5,890	76,467	2,112	9,602	76,467
7	0,776	3,529	79,996			
8	0,755	3,431	83,428			
9	0,636	2,889	86,317			
10	0,519	2,358	88,675			
11	0,478	2,171	90,846			
12	0,387	1,758	92,604			
13	0,344	1,563	94,168			
14	0,284	1,292	95,460			
15	0,221	1,005	96,465			
16	0,192	0,872	97,336			
17	0,138	0,628	97,964			
18	0,124	0,563	98,527			
19	0,095	0,433	98,960			
20	0,090	0,410	99,370			
21	0,072	0,329	99,699			
22	0,066	0,301	100,000			

Extraction Method: Principal Component Analysis

Eigenvalues for the factor analysis of the 'Trust in Store' sub-model:

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6,031	50,262	50,262	3,877	32,312	32,312
2	1,666	13,885	64,147	2,778	23,146	55,458
3	0,997	8,309	72,456	2,040	16,997	72,456
4	0,718	5,985	78,441			
5	0,594	4,951	83,392			
6	0,526	4,387	87,779			
7	0,464	3,867	91,646			
8	0,402	3,346	94,992			
9	0,243	2,024	97,016			
10	0,162	1,350	98,366			
11	0,113	0,942	99,308			
12	0,083	0,692	100,000			

Extraction Method: Principal Component Analysis.

Eigenvalues for the factor analysis of the 'SST Satisfaction' sub-model:

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,483	42,180	42,180	2,971	22,851	22,851
2	1,706	13,121	55,301	2,720	20,926	43,777
3	1,364	10,493	65,794	2,008	15,448	59,225
4	1,037	7,975	73,769	1,891	14,544	73,769
5	0,691	5,314	79,083			
6	0,618	4,754	83,837			
7	0,576	4,430	88,267			
8	0,449	3,450	91,717			
9	0,389	2,993	94,710			
10	0,288	2,214	96,924			
11	0,210	1,617	98,541			
12	0,101	0,778	99,319			
13	0,089	0,681	100,000			

Extraction Method: Principal Component Analysis.

Appendix 5: Rotated Component Matrix

Rotated Component Matrix for the main model with the "Loyalty2" and "CusOr_Attr1" variables:

Rotated Component Matrix[a]

	Component					
	1	2	3	4	5	6
[Q9] Store_Trust1	-	-	-	-	0,811	-
[Q9] Store_Trust2	-	-	-	0,307	0,849	-
[Q9] Store_Trust3	-	-	-		0,830	-
[12] SST_satis1	-	-	-	0,849	-	-
[12] SST_satis2	-	-	-	0,855	-	-
[12] SST_satis3	-	-	-	0,875	-	-
[14] value1	-	0,888	-	-	-	-
[14] value2	-	0,855	-	-	-	-
[14] value3	-	0,819	-	-	-	-
[15] Loyalty1	-	-	-	-	-	0,896
[15] Loyalty2	**-**	**0,511**	**0,325**	**-**	**-**	**0,434**
[15] Loyalty3	-	-	-	-	-	0,909
[18]Profit_Attr1	0,846	-	-	-	-	-
[18]Profit_Attr2	0,883	-	-	-	-	-
[18]Profit_Attr3	0,731	-	-	-	-	-
[18]Profit_Attr4	0,766	-	-	-	-	-
[18]Profit_Attr5	0,424	-	-	-0,333	-0,328	-
[18]CusOr_Attr1	**-**	**-**	**0,619**	**-**	**0,432**	**-**
[18]CusOr_Attr2	-	-	0,705	-	-	-
[18]CusOr_Attr3	-	-	0,734	-	-	-
[18]CusOr_Attr4	-	0,323	0,714	-	-	-
[18]CusOr_Attr5	-	-	0,690	0,307	-	-

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Only values < -0.3 or > 0.3 are displayed.

Rotated Component Matrix for the main model without the “Loyalty2” and “CusOr_Attr1” variables:

Rotated Component Matrix[a]

	Component					
	1	2	3	4	5	6
[Q9] Store_Trust1	-	-	-	0,844	-	-
[Q9] Store_Trust2	-	-	-	0,868	-	-
[Q9] Store_Trust3	-	-	-	0,845	-	-
[12] SST_satis1	-	0,835	-	-	-	-
[12] SST_satis2	-	0,868	-	-	-	-
[12] SST_satis3	-	0,870	-	-	-	-
[14] value1	-	-	-	-	0,897	-
[14] value2	-	-	-	-	0,855	-
[14] value3	-	0,302	-	-	0,830	-
[15] Loyalty1	-	-	-	-	-	0,912
[15] Loyalty3	-	-	-	-	-	0,917
[18]Profit_Attr1	0,849	-	-	-	-	-
[18]Profit_Attr2	0,875	-	-	-	-	-
[18]Profit_Attr3	0,738	-	-	-	-	-
[18]Profit_Attr4	0,763	-	-	-	-	-
[18]Profit_Attr5	**0,439**	**-0,367**	**-**	**-**	**-**	**-**
[18]CusOr_Attr2	-	-	0,705	-	-	-
[18]CusOr_Attr3	-	-	0,805	-	-	-
[18]CusOr_Attr4	-	-	0,764	-	-	-
[18]CusOr_Attr5	-	-	0,701	-	-	-

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Only values < -0.3 or > 0.3 are displayed.

Rotated Component Matrix for the main model without the “Loyalty2”, “CusOr_Attr1” and “Profit_Attr5” variables:

Rotated Component Matrix[a]

	Component					
	1	2	3	4	5	6
[Q9] Store_Trust1					,844	
[Q9] Store_Trust2					,873	
[Q9] Store_Trust3					,848	
[12] SST_satis1			,840			
[12] SST_satis2			,866			
[12] SST_satis3			,874			
[14] value1				,897		
[14] value2				,856		
[14] value3				,831		
[15] Loyalty1						,912
[15] Loyalty3						,917
[18]Profit_Attr1	,858					
[18]Profit_Attr2	,883					
[18]Profit_Attr3	,734					
[18]Profit_Attr4	,760					
[18]CusOr_Attr2		,709				
[18]CusOr_Attr3		,808				
[18]CusOr_Attr4		,758				
[18]CusOr_Attr5		,709				

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Only values < -0.3 or > 0.3 are displayed.

Rotated Component Matrix for the 'Trust in Store' sub-model with "OpComp2", "OpBen1" and "PrSoOr1":

Rotated Component Matrix[a]

	Component		
	1	2	3
[Q8] OpComp1	-	-	0,706
[Q8] OpComp2	**0,503**	**-**	**0,523**
[Q8] OpComp3	-	-	0,855
[Q8] OpBen1	**0,705**	**-**	**0,418**
[Q8] OpBen2	0,834	-	0,334
[Q8] OpBen3	0,747	-	-
[Q8] PrSoOr1	**0,545**	**-**	**0,384**
[Q8] PrSoOr2	0,842	-	-
[Q8] PrSoOr3	0,784	-	-
[Q9] Store_Trust1	-	0,853	-
[Q9] Store_Trust2	-	0,930	-
[Q9] Store_Trust3	-	0,915	-

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Only values < -0.3 or > 0.3 are displayed.

Rotated Component Matrix for the 'Trust in Store' sub-model without "OpComp2", "OpBen1" and "PrSoOr1":

Rotated Component Matrix[a]

	Component		
	1	2	3
[Q8] OpComp1	-	-	,797
[Q8] OpComp3	-	-	,832
[Q8] OpBen2	,810	-	0.307
[Q8] OpBen3	,769	-	-
[Q8] PrSoOr2	,857	-	-
[Q8] PrSoOr3	,813	-	-
[Q9] Store_Trust1	-	,855	-
[Q9] Store_Trust2	-	,934	-
[Q9] Store_Trust3	-	,917	-

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Only values < -0.3 or > 0.3 are displayed.

Rotated Component Matrix for the 'SST Satisfaction' sub-model with "SSTusefull2":

Rotated Component Matrix[a]

	Component			
	1	2	3	4
[11] SSTusefull1				,807
[11] SSTusefull2			**,393**	**,682**
[11] SSTusefull3		,333		,674
[11] SSTease1	,672			
[11] SSTease2	,758			
[11] SSTrel1	,769			
[11] SSTrel2	,770			
[11] SSTrel3	,703			
[11] SSTfun1			,899	
[11] SSTfun2			,919	
[12] SST_satis1		,857		
[12] SST_satis2		,846		
[12] SST_satis3		,889		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Only values < -0.3 or > 0.3 are displayed.

Rotated Component Matrix for the 'SST Satisfaction' sub-model without "SSTusefull2":

Rotated Component Matrix[a]

	Component		
	1	2	3
[11] SSTusefull1	**,498**	**,305**	
[11] SSTusefull3	**,531**		
[11] SSTease1		,721	
[11] SSTease2		,764	
[11] SSTrel1		,778	
[11] SSTrel2		,732	
[11] SSTrel3	,310	,676	
[11] SSTfun1			,907
[11] SSTfun2			,927
[12] SST_satis1	,873		
[12] SST_satis2	,858		
[12] SST_satis3	,914		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Only values < -0.3 or > 0.3 are displayed.

Appendix 6: Correlation Matrix

SPSS Correlation matrix:

Spearman's rho - Correlations

		Store_ Trust	SST_ Attitude	Value	Loyalty	Cost Attrib-ution	Customer Attribution	Operational Competence	OpBen_ PrSoOr	SST_ Usefulness	SST_ Ease_Rel	SST_ Fun
Trust_in_Store	Correlation Coefficient	1,000										
	Sig. (2-tailed)											
	N	109										
SST_Satisfaction	C.C.	,566**	1,000									
	Sig. (2-t)	,000										
	N	109	109									
Value	C.C.	,534**	,403**	1,000								
	Sig. (2-t)	,000	,000									
	N	109	109	109								
Loyalty	C.C.	,340**	,350**	,467**	1,000							
	Sig. (2-t)	,000	,000	,000								
	N	109	109	109	109							
Profit_ Attribution	C.C.	-,250**	-,260**	-,094	-,077	1,000						
	Sig. (2-t)	,009	,006	,332	,424							
	N	109	109	109	109	109						
Customer_ Attribution	C.C.	,456**	,471**	,397**	,259**	-,425**	1,000					
	Sig. (2-t)	,000	,000	,000	,007	,000						
	N	109	109	109	109	109	109					
Operational_ Competence	C.C.	,340**	,317**	,379**	,279**	-,055	,185	1,000				
	Sig. (2-t)	,000	,001	,000	,003	,569	,054					
	N	109	109	109	109	109	109	109				
OpBen_ PrSoOr	C.C.	,607**	,378**	,469**	,325**	-,214*	,324**	,479**	1,000			
	Sig. (2-t)	,000	,000	,000	,001	,026	,001	,000				
	N	109	109	109	109	109	109	109	109			
SST_ Usefulness	C.C.	,262**	,423**	,357**	,271**	-,086	,368**	,469**	,216*	1,000		
	Sig. (2-t)	,006	,000	,000	,004	,375	,000	,000	,024			
	N	109	109	109	109	109	109	109	109	109		
SST_ Ease_Rel	C.C.	,406**	,463**	,349**	,159	-,053	,326**	,386**	,308**	,501**	1,000	
	Sig. (2-t)	,000	,000	,000	,099	,587	,001	,000	,001	,000		
	N	109	109	109	109	109	109	109	109	109	109	
SST_Fun	C.C.	,288**	,481**	,299**	,148	-,090	,493**	,315**	,205*	,436**	,454**	1,000
	Sig. (2-t)	,002	,000	,002	,124	,352	,000	,001	,032	,000	,000	
	N	109	109	109	109	109	109	109	109	109	109	109

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix 7: FA Store Satisfaction

To find out if 'Store Satisfaction' is a better construct to use compared to 'Trust in Store' a factor analysis is performed on the main model as was done in section 5.2.2, with 'Trust in Store' substituted by 'Store Satisfaction'. This test was performed with all the items for the main constructs included. The results will be shortly explained here.

The Bartlett's test of spericity and the KMO-statistics test are both sufficient (sig. 0.000< 0.05, KMO = 0.811, Approx. Chi-Square = 1858,631, df = 231). Six items are expected from the conceptual foundation for the model. The calculated eigenvalues predicts the extraction of five components (5 times eigenvalue >1). The Scree plot indicates five or six factors to be extracted. The Rotated Component Matrix is shown below. It shows that for the five factors extracted, the items of Store Satisfaction have high factor loadings with the items for Value which indicates that these form one construct. At the same time the items for Store Satisfaction have serious cross loading (> 0.5) with the SST Satisfaction factor.

As the factor analysis when using Trust in Store works much better than when using Store Satisfaction, it is concluded that Trust in Store is the more appropriate construct to use.

Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
[10] Store_sat1	,629	,534			
[10] Store_sat2	,650	,585			
[10] Store_sat3	,662	,562			
[12] SST_satis1		,834			
[12] SST_satis2		,834			
[12] SST_satis3		,860			
[14] value1	,855				
[14] value2	,797				
[14] value3	,813				
[15] Loyalty1					,881
[15] Loyalty2	,538		,302		,405
[15] Loyalty3					,884
[18]Profit_Attr1				,844	
[18]Profit_Attr2				,884	
[18]Profit_Attr3			-,313	,727	
[18]Profit_Attr4				,760	
[18]Profit_Attr5		-,411		,427	
[18]CusOr_Attr1			,648		
[18]CusOr_Attr2			,729		
[18]CusOr_Attr3			,750		
[18]CusOr_Attr4			,717		
[18]CusOr_Attr5		,314	,685		

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 11 iterations.

Appendix 8: FA self-efficacy

As self-efficacy is used as a control variable on the main model, a factor analysis on its three items within the main model is to be performed, as was done in section 5.2.2. The results of this factor analysis will be shortly explained here.

The Bartlett's test of spericity and the KMO-statistics test are both sufficient (sig. 0.000< 0.05, KMO = 0.779, Approx. Chi-Square = 1861,371, df = 231). Seven items are expected from the conceptual foundation for the model. The calculated eigenvalues predicts the extraction of seven components (7 times eigenvalue >1). The Scree plot indicates seven or eight factors to be extracted. The Rotated Component Matrix, reveals seven almost clean factors. Just like the factor analysis of the main model without the self-efficacy items "Loyalty2", "Profit_Attr5" and CusOr_Attr1" have high cross loading (> 0.35) with other constructs, and are therefore excluded from the analysis. The resulting Rotated Component Matrix, shown below, now indicates 7 clean factors.

The reliabilities for the factors which were already in the main model stay the same. The new self-efficacy construct has a Cronbach's α of 0.935 with respectively for items 1, 2 and 3 Cronbach's α of 0.944, 0.878 and 0.887.

Rotated Component Matrix[a]

	Component						
	1	2	3	4	5	6	7
[Q9] Store_Trust1					,849		
[Q9] Store_Trust2				,323	,858		
[Q9] Store_Trust3					,848		
[12] SST_satis1				,823			
[12] SST_satis2				,841			
[12] SST_satis3				,850			
[14] value1			,897				
[14] value2			,852				
[14] value3			,834				
[15] Loyalty1							,914
[15] Loyalty3							,915
[18]Profit_Attr1	,854						
[18]Profit_Attr2	,868						
[18]Profit_Attr3	,754						
[18]Profit_Attr4	,759						
[18]CusOr_Attr2		,694					
[18]CusOr_Attr3		,805					
[18]CusOr_Attr4		,764					
[18]CusOr_Attr5		,697					
[19]SelfEff1						,888	
[19]SelfEff2						,918	
[19]SelfEff3						,690	

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 7 iterations.