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- Master Thesis-

You break it, you fix it?
Customer participation in service production and service recovery

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Best regards,

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Executive summary

Customer participation represents numerous positive effects for companies in terms of productivity gains and profitability. It has in recent years emerged as a powerful tool for companies to customize their service offerings and engage the customers in marketing activities. Still, the increased demand for customization also requires a great deal of flexibility and adaptations, making the risk of service defections higher as well. The question is whether companies should encourage customers to participate in the service recovery process? This thesis examines the effects of customer participation in service production and –recovery in terms of how they respond to and attribute the outcome of a recovery situation. We also explore whether the type of customer-company relationship moderate the customers responses to participation. We investigate how the varying levels of customer participation throughout the process affect customers´ *Satisfaction with the company, Perceived Justice, Loyalty* and *Satisfaction with the service recovery*. These measures serve as the dependent variables in this study. We aim to illustrate customers' attribution by contrasting respondents' scores on *Satisfaction with the company* and *Satisfaction with the recovery.* The proposition is that participating customers may be satisfied with the recovery they contributed to, but not necessarily with the company's effort.

This thesis provides a thorough review of the state of research in customer participation, service recovery, perceived justice, attribution, relationship, and loyalty. Based on the review we develop seven hypotheses, and test these using 2(true relationship vs. no pseudorelationship) x 2(low participation in service production vs. high participation in service production) x 2(low participation in service recovery vs. high participation in service recovery), experimental design. The empirical testing was carried out using scenarios, with business students as respondents. The main findings of this study were that customer participation in service production has a positive effect on customers' post-recovery scores of *Satisfaction with the company, Perceived Justice and Loyalty.* Customer participation in service recovery, on the other hand, showed negative tendencies on the same measures. In addition, we found that higher type of customer-company relationship has a positive effect on customer loyalty. We did not find support for this effect on the satisfaction measures, indicating that relationship influences' loyalty on aspects beyond mere satisfaction.

1. Introduction

In 2009, Harvard Business Review presented *The IKEA Effect* on their list of the *20 Breakthrough Ideas* of the year *(Harvard Business Review 2009).* In their working paper, Norton, Mochon and Ariely (2011) found that when customers are participating in the production of their own products (termed labor), it enhances their affection for the result. Customers assembling their own (IKEA) furniture are prone to be more satisfied with and proud of their creation, than one pre-assembled by a professional. The IKEA effect also demonstrated tendencies of customers "over-valuing" their own creations and being willing to pay more for their own creations than others. So if, in engaging the customers in the production of a product or service makes them appreciate the outcome more, would it not be a good idea for all companies to include the customer?

Yes, it could be. However, when customers in labor failed to achieve a successful result, Norton, Mochon and Ariely (2011) found that the IKEA effect dissipated. Andreassen (2011) states that the literature identifies five ways of engaging customers: being involved in commercials (social media), using self-service technologies, creating customer experiences through participation, customer's involvement in problem solving, and the possibility for customers to customize their own services. Still, the option customers opted-out from was participation in problem solving, which can be related to service recovery. From the customer's perspective, if a service failure occurs, it is the company's responsibility, and it is also obliged to correct it. But if the customer has already participated in producing a product/service leading to a failure, should they be involved in correcting it?

Bendapudi and Leone (2003) state that encouraging customers to be co-producers, participating in their own value creation, is the next frontier in competitive effectiveness. A few years earlier, Berry (1995, 243) argued that the "*relationship marketing's time has come"* and that engaging in this is beneficial both for the company and the customer. We expand on these notions by examining these important areas within marketing combined. This thesis explores the effects of customer participation in a service recovery context. We examine how customers' respond to a service recovery, depending on their level of participation in both the service production leading to the failure and the recovery process itself. In

addition, we examine whether these responses are influenced by the type of customer-company relationship.

The emergence of customer participation has been shown to generate several positive effects from a business' point of view. Vargo and Lusch (2004; Lusch and Vargo 2006) argue that we are moving into a service-dominant logic, where the customers are co-creators of value, both the value they consume themselves and the value generated to the company. So far, research has mainly focused on the economic advantages of customer participation for the company, how to manage participating customers and what motivates them to participate. The aspect of customers' responses to participation has just started to gain interest. We aim to contribute to this stream of research by considering participation in a service recovery setting.

Most companies acknowledge the manufacturing statement of zero defections, in order to prevent service failures from happening (Reichheld and Sasser Jr 1990). At the same time, this notion requires a high degree of standardization and rigid procedures. In today's market, customers require more customization and flexibility. To fulfill these needs companies must abandon the zero defection strategy, and remain competitive through allowing adaptations to be made. One of the most effective strategies for customization is through customer participation, where customers actively contribute and interact with the company in the process of creating value. On the other hand, with increased flexibility and adaptations, the potential for service failure to occur also increases. Recovering from these failures is essential to the company in order to avoid the cost of losing customers and negative word of mouth. Resolving customer complaints is also a source of improvement and potential innovation (Tax and Brown 1998). Making dissatisfied customers complain is a major challenge for companies. We would argue that customer participation could facilitate more complaints, as it allows a closer interaction with the customer and lowers the threshold for complaining. These considerations lead us to the question; should we encourage customer participation in service recovery processes too? And how is this influenced by the level of participation in the process leading to the failure?

To answer these questions, we assess the customers' satisfaction following a recovery, with varying degrees of customer participation in both service production and recovery. We distinguish between two measures of satisfaction: *Satisfaction with the company* and *Satisfaction with the service recovery*. The reason why we include both is that differences in these measures will serve as indicators of how customers attribute the outcome. Attribution refers to how people understand the causes of behavior and events they experience. These causal inferences are subjective, and may either be correct or incorrect. However, in most cases, people tend to attribute/explain behavior and events in a way that enhances their perceptions of themselves. One such mechanism within attribution is called the self-serving bias. This refers to peoples tendency to claim more responsibility for successful outcomes, and less responsibility for unsuccessful outcomes when a task is jointly produced (Wolosin, Sherman, and Till 1973). Bendapudi and Leones' (2003) research indicate the presence of the self-serving bias in customer participation, leading participation to influence customers' attribution in service interactions.

Marketing literature and practice has devoted much attention and effort towards building relationships with the customers, as means to better understand their needs, and to facilitate retention. Social psychology literature found that the effect of the self-serving bias is moderated by the closeness of the dyad. Therefore, we include the dimension of customer-company relationship in our study, to examine whether these findings are transferrable to a business context. Both satisfaction and customer-company relationship are major determinants of customer loyalty (Oliver 1999; Mattila 2001), and service recovery efforts are devoted to ensuring customer retention. Based on this, we find it interesting to examine how customer participation in this context influences customer loyalty. Further, the major determinant of customer satisfaction in service recovery situation is the customers perception of justice (Smith, Bolton, and Wagner 1999). It is a measure of the customers' perception of fairness in a service failure and recovery situation, with regards to aspects such as outcome, process and treatment (Tax, Brown, and Chandrashekaran 1998). Combined, the recovery context and measurements of satisfaction, makes it interesting to examine *Perceived Justice* as well.

Despite the focus on building relationships with the customer in marketing literature, none have yet examined the connections between relationships and participation, and how this might affect attribution, perceived justice and loyalty. Considering participation in a service recovery context would be a significant contribution, as this only has been investigated with regards to future value co-creation (Dong, Evans, and Zou 2008). This paper contributes by examining the effects of customer participation in production, and -service recovery. Mainly in terms of how customers respond to and attribute the outcome of a recovery situation, and whether this is influenced by the type customer-company relationship. These aspects will make a theoretical contribution to the existing literature. On this basis, we have developed the following research question:

Research question

"What is the effect of customer participation in service production and customer participation in service recovery on consumer responses? How are these effects moderated by the type of customer-company relationship?"

The title, "You break it, you fix it?" illustrates what we wish to achieve from answering the research question. As a customer, if you have contributed to the process leading to a service failure, should you also be involved in the recovery? Or from a company perspective, if your service to a customer fails, should you involve the customer in the process of correcting it? We seek to gain a better understanding of this, by considering the effects of participation on customers perceived justice, attribution and loyalty.

In the following we will discuss and thoroughly review the current state of literature on customer participation, service recovery, perceived justice, attribution, relationships, and loyalty. Based on this review, we developed seven hypotheses and illustrate the processes involved in a research model. Then, the methodology applied is addressed, before we present the results from the study. The latter sections of the thesis include a discussion of the results, implications, limitations and suggestions for future research.

2. Literature review

2.1 Customer participation

Vargo and Lusch (2004; Lusch and Vargo 2006) argue that the fields of marketing are moving into a service-dominant logic (SDL) paradigm, where the participation of customers is essential in the value creation process. As mentioned, the customers would consequently always be co-creators of value. This perspective on co-creation of value can be seen in light of what Toffler (1980) refers to as "prosumption", where the role of the consumer involves both producing and consuming the value of what is produced. The perspective of dividing the roles of production and consumption suggests that the customer is a passive receiver of value, acquiring it simply through transactions. Chunyan, Bagozzi and Troye (2008, 110) define prosumption as "*value creation activities undertaken by the consumer that result in the production of products they eventually consume and that become their consumption experiences"* and consider prosumption as a process rather than an act (single transaction), integrating physical activities, mental efforts, and socio-psychological experiences. This is congruent with the primary tenets of the service-dominant logic: *"(1) The conceptualization of service as a process, rather than a unit of output, (2) A focus on dynamic resources, such as knowledge and skills, rather than static resources, such as natural resources; and (3) An understanding of value as a collaborative process between providers and customers, rather than what producers create and subsequently deliver to customers"*(Lusch, Vargo, and Wessels 2008, 5).

Within the view of customer participation as a value co-creation effort, much of the research has not focused on the customer value aspect as such, but rather the effects of participation in terms of productivity gains, managing participating customers, and incentives created. This is often referred to as co-production. Co-creation relates to the value the customer receives, either through usage, experience or consumption. Co-production is a component of co-creation, but relates to specific activities the customer engages in during the co-creation process (Lusch and Vargo 2006). In a service context, the customer is always a co-creator of value because the consumption requires the customer to take part in the service, experience it and so forth. But the customer is only a co-producer when he/she undertakes specific activities in producing the service. In this study we will focus

on the co-production aspect, through considering the effects of customer participation.

Dabholkar (1990,484) defines customer participation as: "*the degree to which the customer is involved in producing and delivering the service*". Meuter and Bitner (1998) classified three types of customer participation: firm, joint and customer production. This suggests that the classification of production only involving the company would not hold, according to the SDL. In the end, the firm is inextricably dependent on some degree of customer participation. Based on this, we choose not to apply the categorizations suggested by Meuter and Bitner (1998). Rather, we choose to adapt it and consider customer participation along a continuum. We distinguish between customers that either contributes to a low extent (similar to firm production) or to a high extent (similar to joint production). As this study aims to illustrate the effect of relationship between the customer and the company, a situation with only customer production would not be of interest in this context.

Throughout the existing literature on customer participation, the focus has been on three major research perspectives (Dong, Evans, and Zou 2008; Bendapudi and Leone 2003). The first is concentrated on why customers should take part in the production process, from a company perspective. The focus here is on the potential economic advantages of including customers in production as a source of productivity gains (Lovelock and Young 1979; Mills, Chase, and Margulies 1983). Fitzsimmons (1985) pointed to the potential cost reductions through aspects like reducing employee efforts with customers' self-efforts, replacing interpersonal contact with technology and adjusting demand through incentives and restrictions. The second perspective is focused towards managing the customer as a "partial employee" through organizational socialization and how this might influence customers' behaviors and perceptions of service quality aspects (Kelley, Donnelly Jr, and Skinner 1990; Claycomb 2001; Dabholkar 1990). The third perspective relates to the customers' motivation to participate in production. Incentives that drive motivation include aspects as: price reduction, convenience through technology (Fitzsimmons 1985), less perceived waiting time (Dabholkar 1990), increased customer control (Bateson 1985), and customer's opportunity to customize the product/service to their personal needs and

enhancing their satisfaction (Firat, Dholakia, and Venkatesh 1995; Dong, Evans, and Zou 2008).

Customer participation in production has been shown to generate several positive effects from a business' point of view. Still, the service is critically dependent on the customer's effort, experience and outcome of the participation. All of these research streams offer valuable insights on customer participation. They all, however, fail to acknowledge that participation might influence how a customer responds to a failure and recovery processes. A new, more recent stream of research tries to address this issue, by examining how highly participating customers attribute the causes of failure or success differently from customers who participate to a lower degree. Bendapudi and Leone (2003) found significant differences in *Satisfaction with the firm* depending on level of participation and different outcomes, illustrating the presence of attribution. In addition, Yen, Gwinner and Su (2004) found participation to be a significant determinant of attribution of blame following a service failure. Dong, Evans and Zou (2008) were among the first to examine customer participation in service recovery context. Building on Meuter and Bitners (1998) levels of production, they examine the effects of participation on customers' ability and role clarity in future value creation. Their results show that when customers choose to participate in the recovery, they display higher levels of role clarity, perceived value in the future, satisfaction with the recovery and higher propensity to participate in the future (Dong, Evans and Zou 2008, 132). This indicates that customer participation in service recovery has a positive impact on the customers' satisfaction with the outcome, much like the IKEA effect. What they do not take into consideration is the effect of participation in service recovery on the customers' *Satisfaction with the company*, nor the effect of participation in production. Could a measurement of *Satisfaction with the company* combined with *Satisfaction with the service recovery* illustrate the presence of self-serving bias effect? Based on this we find it interesting to further investigate these relationships in a service recovery setting context.

2.2 Service recovery

Service recovery is defined by Grönroos (1988) as: "*the actions an organization takes in response to a service failure*". Research has identified several strategies

for how to successfully recover from a service failure, and it is most often a combination of efforts. Several researchers have confirmed the importance of a "fair-fix" (a fair compensation for the customer's loss), an apology, sincerity (empathy) and empowerment of employees to handle the recovery efforts (Craighead, Karwan, and Miller 2004; Boshoff 1997; Smith, Bolton, and Wagner 1999). The customer seeks information about the failure as a means to know how to adapt to it (Bitner, Booms, and Tetreault 1990). Response speed, acknowledgement of complaint importance, apology and recovery initiation are all found to be of importance by Smith, Bolton and Wagner (1999).

Successful service recovery has emerged as a key factor for maintaining a relationship with the customer (Smith, Bolton, and Wagner 1999; Tax, Brown, and Chandrashekaran 1998). Effective service recovery can enhance satisfaction, loyalty and profitability, as well as reduce negative word-of-mouth. The main goal for the company is to restore the image of the company and build long-term relationships (Hart, Heskett, and Sasser Jr 1990; Tax and Brown 1998; Andreassen 2000). Research on customer-company relationships in the service recovery context has mostly focused on customer expectation to service recovery, customer (post-recovery) satisfaction, complaint handling and types of relationship (Tax, Brown, and Chandrashekaran 1998; Hess Jr, Ganesan, and Klein 2003; Mattila 2001; Bitner 1990; Smith, Bolton, and Wagner 1999).

A major determinant of customers' satisfaction after a service failure incident is the customers' *Perceived Justice*/fairness of the encounter and/or recovery (Tax, Brown, and Chandrashekaran 1998; Tax and Brown 1998; Smith, Bolton, and Wagner 1999; Goodwin and Ross 1992; McCollough, Berry, and Yadav 2000).

2.3 Perceived Justice

The importance of perceptions of justice has been recognized since Homans (1961) introduced the concept of distributive justice in social psychology. Peoples' reactions to conflict situations has, across several contexts, been found to be largely explained by the concept of justice; described as an assessment of the fairness of the outcome, process and interaction of an exchange (Tax, Brown, and Chandrashekaran 1998). Justice theory has established itself as a dominant framework in service recovery research. A vital part of understanding customers'

evaluations of service recovery efforts and outcome, is in terms of what compensation is offered and how it is done (Mattila 2001). *Perceived Justice* influence factors like customer satisfaction, trust, commitment, repurchase intentions and word-of-mouth (Tax, Brown, and Chandrashekaran 1998; Blodgett, Hill, and Tax 1997). When customers' complain, they expect actions to be taken and evaluate these actions in terms of perceived justice or fairness (Tax and Brown 1998; Goodwin and Ross 1992). Perceived justice has evolved to consist of three dimensions: *distributive justice, process justice and interactional justice* (Tax, Brown, and Chandrashekaran 1998).

Distributive justice is a measure of the outcome (compensation) offered in a service recovery. The focus is on the allocation of benefits and cost (output vs. input) (Tax, Brown, and Chandrashekaran 1998). The evaluation is mainly based on the customers perceived fairness of the distribution of equity, in an exchange situation (Goodwin and Ross 1992) and has a positive impact on satisfaction with service recovery (Andreassen 2000). *Procedural justice* is defined by Lind and Tyler (1988) as the perceived fairness of the means by which the ends are accomplished. Tax, Brown and Chandrashekaran (1998) found that the major determinants of procedural justice in a service recovery situation are speed of the recovery process, accessability and firm follow-up. Goodwin and Ross (1992) argue that the customer's perceived process control, opportunity to express emotions and the provision information are important in this regard. *Interactional justice* refers to the interactional treatment the customer receives during a service recovery process (Wirtz and Mattila 2004), such as the perceived courtesy, politeness, apology and general helpfulness. Schoefer and Ennew (2005) also include the observed effort in resolving the situation and providing an explanation to the service failure.

In sum, all three components of *Perceived Justice* have been found to positively influence (explaining up to 85% of the variance) satisfaction with complaint handling (Tax and Brown 1998). Interactions between the components also influence the customer's satisfaction. For instance, the satisfaction with the compensation (distributive justice) could be offset by a long waiting time (procedural justice), or vice versa (Tax, Brown, and Chandrashekaran 1998; Blodgett, Hill, and Tax 1997). The overall quality of the complaint handling

design, perceived importance of the product, intensity of the business relationship and severity of failure are identified as general drivers (Homburg, Fürst, and Koschate 2010).

2.4 Attribution

Fiske and Taylor (1991) define attribution as: *"how the social perceiver uses information to arrive at causal explanations for events".* It is a result of people's need to predict the future and control events in order to combine and use information to reach causal judgments/inferences. Attribution theory has been adopted to several areas of marketing, including advertising, marketing communications and consumer behavior (Yong Jian 2008).

In regards of service failures, customers' attribution processes have been found to be of interest. Research shows that how consumers attribute the causes for a failure will influence how they respond to it (Folkes 1984). As services, to an increasing degree, involves multiple parties and become more complex, the source of the failure is, more often than not, hard to determine with certainty (Folkes 1988). In particular, three aspects of this issue have been focused on in previous research; locus, controllability and stability. Locus refers to the internality versus externality of a problem's cause (Weiner 1985). Controllability is related to whether, or to what degree, the situation is under control of the different parties. While stability refers to how temporary or permanent the cause of the event is (Folkes 1988). These factors are usually seen as three separate dimensions, each contributing the consumer's perceived causality of the problem.

Perceived causality is important in order to understand how consumers attribute blame in the case of a specific service failure. However, these dimensions are difficult to generalize, as they will differ significantly between industries and specific cases that are rarely controllable for service providers. When including the element of customer participation, determining locus, controllability and stability can be increasingly difficult, both for managers and customers, due to the potential differences in perceived roles, task allocation and responsibilities, and effort made.

The self-serving bias originated from personal psychology research and has been widely supported (Streufert and Streufert 1969; Wolosin, Sherman, and Till 1973; Wortman, Costanxo, and Witt 1973). "*A self-serving bias refers to a person's` tendency to claim more responsibility than a partner for success and less responsibility for failure in a situation where an outcome is produced jointly*" (Bendapudi and Leone 2003, 15; Wolosin, Sherman, and Till 1973). It is considered to be a strategy for protecting and enhancing ones self-concept. This implies that people turn to internal (related to oneself) attribution for successful outcomes, termed the self-enhancing bias effect. While for unsuccessful outcomes, they turn to external attribution (related to others, luck, task difficulty), termed the self-protecting bias effect (Campbell and Sedikides 1999). Sedikides et al. (1998) argue that as the task importance and threat to oneself increase, the self-serving bias becomes stronger. The task importance can be related to a complaint situation, where customers that choose to complain perceive the service failure so important that the recovery of it represents high task importance.

Research has found that highly-participating customers will attribute the service failure to the company and its employees to a higher degree than would lower participating customers (Yen, Gwinner, and Su 2004). Customers that participate to a high extent would have to invest more (non-monetary costs) than low participating customers, therefore their output to input ratio would be lower (high input, low output (i.e. failure)). Large differences in the perceived output-to-input ratio will lead individuals to protect their self-esteem (self-concept) and thus attribute failure to external sources. In the case of an outcome that exceeds expectations, Bendapudi and Leone (2003) found that participating customers will be less satisfied with the company than will customers who do not participate. They argue that through the self-serving bias, people will attribute more of the positive outcome to themselves and are in turn less satisfied with the company (Bendapuni and Leone 2003). This is supported by Meuter et al. (2000), who found that, in a Self-Service Technology context (SST)(high participation by definition), customers were more likely to attribute a failure to external sources.

Some researchers suggest that a higher level of participation will lead to higher satisfaction with the servicer provider, in the case of a service failure (Bitner et al. 1997; Bitner 1990; Folkes 1984; Hubbert 1995). The reasoning being that since

the customer participates in the production of a service, they will be willing to accept at least some responsibility for the negative outcome (Bitner et al. 1997). Ross and Sicoly (1979) found support for individuals being more willing to accept more responsibility for an outcome (both negative and positive) when they contribute to the process themselves, termed the ego-centric bias effect. However, this research is done in a non-business related setting and conducted on a group level. Even if this logic seems quite solid in theory, there is a limited amount of empirical support for this. The evidence presented is either on a theoretical level or as indirect evidence in somewhat similar contexts. Further, research (except for Ross and Sicoly 1979) is based on situations where the three causality dimensions (locus, controllability and stability) are easily recognized (e.g. it is clear who caused/had control over the problem). The self-serving bias theory, on the other hand, has got strong support in marketing research (Yen, Gwinner, and Su 2004). Still, none have yet investigated how the type of customer-company relationship may affect the attribution of outcome in a service recovery context. Proceeding with the self-serving bias logic therefore seems most appropriate for this study.

2.5 Relationship

Berry (1995,236) defines relationship marketing as "*attracting, maintaining and – in multi-service organizations- enhancing customer relationships"*. Building on Gutek (1995) and Gutek et als. (1999) framework, Mattila (2001) established the distinctions between the *service encounter,* single interactions between customer and company, *pseudorelationships,* with repeated contact between the customer and the company, and *true relationships*. The difference between the latter two is that in a *true relationship* the customer meets and is recognized by the same service representative each time, while in pseudorelationships one meets with different service representatives within the same company. This framework represents a categorized view on relationships in marketing, while other researchers argue that relationships should be considered as a continuum (Garbarino and Johnson 1999; Dwyer, Schurr, and Oh 1987), ranging from strictly exchanges to close relations. The idea of such a continuum is based on theories on partnership development, advocating that relationship strengths increase as a result of increased levels of trust and commitment (Morgan and Hunt 1994; Berry 1995).

An effective way to build customer relationships is through customer participation, where the company creates value together with the customer. Increased customer-company interaction increases trust (Johnson and Selnes 2004), and customer participation allows for customization and instant feedback, which in turn influences satisfaction positively (Dong, Evans, Zou 2008). Johnson and Selnes (2004) developed a typology of exchange relationships; treating customers as strangers, acquaintances, friends and partners, and found that the focus on building relationships is not necessarily the best option in all cases. They call for a careful consideration of the customer portfolio, keeping it dynamic in order to respond to changes in the market. Their typology and the characteristics of the relationships resemble much of what one would find in interpersonal social relationships. In reality, most customers have established some degree of relation with the company. In addition, the degree of customization and potential for sustained competitive differentiation increase with higher levels of relationships (Berry and Parasuraman 1991).

The self-serving bias in a relationship context can be examined by looking into the social psychology literature. Research in this field has considered dyadic relations between friends (close) and strangers (distant) and how they attribute outcome from jointly produced tasks (Sedikides et al. 1998; Campbell et al. 2000). Sedikides et al. (1998) research revealed that participants in distant (strangers) relationships took more responsibility for the outcome if it was a success, than if it was a failure. Participants in close relationships (dyads) did not differ in their attribution of success or failure; in fact, they claimed less positive contribution for success than distant participants (Sedikides et al. 1998). The results indicate that close relationships can reduce the self-serving bias, because participants in close relationships will have a more positive impression of each other, thereby reducing the manifest of the self-serving bias (Sedikides et al. 1998; Campbell et al. 2000). This suggests that relationships can serve as a "buffer" for poor complaint handling based on positive prior experiences leading to less dissatisfied customers, indicating that customer in close relationships entails greater tolerance when service failure occurs (Berry 1995; Tax, Brown, and Chandrashekaran 1998; Hess Jr, Ganesan, and Klein 2003). Still, it is important to note that research has also found contradicting results, arguing that relationships can increase customers'

responses regarding a failure negatively, due to their relatively higher expectations (Goodman et al. 1995; Kelley and Davis 1994).

Mattila (2001, 98) states that customers that experience poorly delivered service recovery are dissatisfied regardless of the relationship type, "*yet their behavioral intentions might differ depending on the closeness of the customer-provider bond"*. The social bonds formed with relationships influence the customer's commitment to the company. Thus, this can make the customer maintain his/her *Loyalty*, despite a dissatisfying encounter (Mattila 2001; Gutek 1995,85).

2.6 Loyalty

Oliver (1999, 34) defined *Loyalty* as " a *deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior"*. Customer loyalty is important for companies in order to achieve long-term financial performance (Jones and Sasser Reicheld and Sasser 1990; Oliver 1999). Gustafsson, Johnson and Roos (2005) argue that there are three prominent drivers of retention: overall customer satisfaction, affective commitment and calculative commitment. The link between customer satisfaction and loyalty is, according to Oliver (1999), inextricable and asymmetric. He states that although loyal customers are usually satisfied, satisfied customers are not necessarily loyal. Still, it is important to note that satisfaction remains the single most important determinant of customer loyalty.

Dimensions of affective commitment are closely linked with characteristics of a relationship, as trust and commitment are two key factors in close relationships (in addition to having a strong influence on perceived justice)(Morgan and Hunt 1994). This is also based on cumulative satisfaction through repeated interactions (Oliver 1999). Johnson and Selnes (2004) argue that the deeper the customer-company relationship is, the more difficult it is for a customer to switch to another company. This can be seen in light of the calculative commitment aspect of customer loyalty, in terms of customers perceived switching costs. Mattila (2001) found that a strong customer-company relationship could be critical to ensure loyalty when a service recovery fails and suggests that building close, social

bonds with the customer might reduce the impact the failure has on customer loyalty. This can be due to the fact that customers who have a relationship with the company are more indulgent towards, even inclined, to overlook a poor service delivery and that relationship can mitigate the negative response to a service failure (Priluck 2003). Dong, Evans and Zou (2008) further suggest that a failed co-created service that is jointly recovered may represent a chance for relationship enhancement that actually improves loyalty.

3. Hypotheses

Existing literature has found several positive effects of customer participation, with regards to co-creation of value, cost reductions and efficiency, both for the customer and the company. Still, attribution theory suggests that due to the self-serving bias, customers' responses to participation may not necessarily be favorable to the company. In the dyadic interaction between the customer and the company, a service co-production leading to a failure will cause the customer to elaborate on the cause of the failure. The self-serving bias states that in cases of a jointly produced outcome (the service production and service recovery in this case), people will attribute a favorable result to their own efforts, indicating the self-enhancing bias effect (Fiske and Taylor 1991). In the case of a unfavorable outcome (the service failure), on the other hand, the self-serving bias proposes a reversed effect, as people would attribute an unsuccessful outcome to the other party (external cause) of the dyad, indicating a self-protecting bias (Fiske and Taylor 1991).

As this study will include a service production leading to a service failure and a service recovery process (setting as constant outcome, "as expected", across all conditions), we propose both effects of the self-serving bias (self-protecting and self-enhancing bias) to be present. Bendapudi and Leone (2003) found that there is no significant difference on *Satisfaction with the company* between participating and non-participating customers. This can be explained by the non-participating customer's attribution, as they will attribute the failure to the company as well, because they have not participated. Consequently, the self-protecting bias effect among participating customers will result in similar levels of *Satisfaction with the company*. This supports the findings of Yen, Gwinner and Su (2004), who found that high-participation customers were more likely to attribute

service failure to the organization and its employees, than to themselves. The latter constructs would serve as a strong indication of customers' *Satisfaction with the company.* One difference between these studies is the importance of the failure involved. While Bendapudi and Leone (2003) uses failure situations involving bookshelves, jeans and poster frames, Yen, Gwinner and Su (2004) consider the failure of an educational program. The latter study, in our opinion, involves a situation with a much higher importance. As Yen, Gwinner and Su argue, higher participation implies a higher non-monetary cost of the service for the customer. Thus will the perceived loss, as a measure between inputs vs. outputs, be more severe in a high participation setting. As this study also involves a service recovery process, the failure must be severe (important) enough to ensure that the customers do complain, and thereby a service recovery process is initiated. To this point, no one has examined customer participation in both service production and service recovery. Thus, we contribute by considering the process as a whole. Building on previous findings, we aim to illustrate that different effects of customer attribution can be demonstrated throughout the process. In order for the effects of the self-serving bias to be present, there must be a significant degree of task importance for customers to display the self-serving bias effects (Sedikides et al. 1998). In sum, we propose, that due to the self-protecting bias, customers who participate in the service production leading to a failure will attribute the failure to the company, just as a non-participating customer. Thus, they will not differ with regards to their *Satisfaction with the company* after the failure occurs. However, as the non-monetary investment of highly participating customers is greater, a recovered service will represent a larger compensation for the perceived loss, and thus have a more positive impact on *Satisfaction with the company, Perceived Justice, and Loyalty* in post-recovery evaluations. Participation in service production is not hypothesized to influence *Satisfaction with the service recovery,* as it relates more directly to the recovery process itself (process specific).

H_1: *There will be a positive effect of participation in service production on (a) Satisfaction with the company,(b) Perceived Justice, and (c) Loyalty.*

On the other hand, customers participating in the service recovery process also consider this as non-monetary investments. In our study, the service recovery represents a successful outcome of the co-produced process, enabling the self-

enhancing effect to be illustrated. Service recovery literature has shown that the major determinant of customer satisfaction is customers' perceived justice (Andreassen 2000; Tax and Brown 1998). As the level of non-monetary costs (input-to-output ratio) increase with the level of participation, it may decrease their perception of fairness with regards to their input-to-output ratio (distributive justice). We propose that customers with high participation in service recovery will be less satisfied with the company, have lower perceived justice and lower loyalty scores than will customers with low participation in service recovery. The key issue here is that the customer may very well be satisfied with the service recovery and outcome, but not satisfied with the company itself. In short, they will attribute the successful outcome to their own effort, and be less satisfied with the company. Low participation customers can naturally not display such attribution. In contrast to the previous hypothesis (H_1), when customers participate in the first process, the final recovery represents a higher level of reparation than if they did not participate in the service production. The recovery will consequently represent a higher level of reparation for customers participating in service production, leading the customer to be more satisfied with the company in general. But if the customer participates in the recovery, the self-enhancing bias effect suggest that he/she will attribute the positive outcome more to their own effort, and less to the company. We note that prospect theory would suggest that the effect of participation in service production (representing a loss) will be stronger than the effect of participation in service recovery (representing a gain), as value functions are steeper for losses than for gains (Choong 2001).

H_2: *There will be a negative effect of participation in service recovery on customers' (a) Satisfaction with the company (b) Perceived Justice and (c) Loyalty.*

On the other hand, the self-enhancing effect of customer participation in service recovery is also proposed to demonstrate itself through the scores on *Satisfaction with the service recovery.* As the service recovery involves a successful outcome, non-monetary investments and personal contribution, the customer is likely to be satisfied with the outcome that he/she produces. This resembles the mechanisms demonstrated in the IKEA-effect (Norton, Mochon and Ariely 2011). What is of particular interest here is that the *Satisfaction with the company* and *Satisfaction*

with the service recovery are not necessarily mutually dependent of each other. As mentioned, customers participating in service recovery may be very satisfied with the recovery (because he/she has contributed to it), but is not necessarily satisfied with the company because of this. Therefore;

H_3: *There will be a positive effect of participation in service recovery on customers Satisfaction with service recovery.*

Under low participation in service recovery, customers with high participation in production experience a higher level of loss because of the failure, and will be more satisfied with the company than those with low participation in production. The opposite effect is proposed under high participation in service recovery, where the customers with low participation in production will be more satisfied with the company, than will customers with high participation in production. The essential difference lies within who corrects the failure. In cases of low participation in service recovery, it is the company alone who resolves the service failure. Meanwhile, in instances of high participation, the customer contributes to the resolution of the failure.

In addition, prospect theory state that the customer's value function is steeper for losses than for gains (Choong 2001), and according to Zeithaml, Berry and Parasuraman (1996) the effect of performance on satisfaction is asymmetric. The punishment for underachieving is greater than the reward for overachieving. Thereby the level of reparation needed for high participation (in production) customers is, in general, higher than for low participation customers. Dividing the process in two, we get four combinations of participation in total. The following hypothesis is based on both the mechanisms of the self-serving bias (Campbell et al. 2000). We propose that under low participation in service recovery, customers with high participation in production will (a) be more satisfied with the company, (b) have higher perceived justice and (c) be more loyal than will customers with low participation in service production, due to the reparation of a higher perceived loss. On the other side, under high participation in service recovery, customers with low participation in production will (a) be more satisfied with the company, (b) have higher perceived justice, and (c) be more loyal than will customers with high participation in production. This is because it is the customer himself who

recovers, and he has to recover more with higher participation in service production. We see that under different levels of participation in service recovery, the effect of participation in service production is proposed to be different/ opposite. This effect is identified as an interaction effect. Hence;

H_4: *There will be a two-way interaction between customer participation in production and participation in service recovery on customers (a) Satisfaction with the company, (b) Perceived Justice, and (c) Loyalty.*

Although relationship is considered a moderator in this study, we choose to include it in order to examine its effects on the dependent variables. Research has revealed that the intensity of the business relationship is a general driver of *Perceived Justice* (Homburg, Fürst, and Koschate 2010) and that relationships can reduce the *dissatisfaction (with the company)* a service failure induce (Hess Jr, Ganesan, and Klein 2003). As relationships are built on trust, close customer-company relationships can reduce uncertainty and vulnerability for the customer (Berry 1995). The positive prior experiences in an established relationship can serve as a buffer for service failure and poor complaint handling (*Satisfaction with the service recovery)* (Berry 1995; Tax, Brown, and Chandrashekaran 1998; Priluck 2003). Both Gutek (1995,85) and Mattila (2001) found positive effects of customer-company relationships on *Loyalty*, even after service failure incidents. As all of our respondents are current students at the business school, it is fair to assume that they have a certain degree of relationship with the school. The higher type of customer-company relationship in this study will resemble the *true relationship*, while the lower type of customer-company relationship will be similar to the *pseudo-relationship* in Mattila's (2001) framework. Based on this, we propose that;

H_5: *There will be a positive effect of type customer-company relationship on customers (a) Satisfaction with the company, (b) Perceived justice, (c) Loyalty and (d) Satisfaction with the service recovery.*

The effects of the self-serving bias have been found to be moderated by the relation among the participants in the dyad. Sedikides et al. (1998) found that close dyads (e.g friends) did not differ in their attribution of outcome of failure

and success. This effect was found in the field of social psychology, and has not been established in a business context. As the reviewed literature on relationship marketing suggests, companies are working hard to establish relationships with customers, building trust and commitment as means to keep customers loyal (Oliver 1995). The characteristics of a *true relationship* bear many similarities to interpersonal friendships (building on trust and commitment)(Mattila 2001; Morgan and Hunt 1994). We have earlier argued that the mechanisms of the self-serving bias is demonstrated in the case of customer participation in service recovery, where customers will attribute the successful recovery to their own effort, and consequently be less satisfied with the company. Building on the findings of social psychology that close relations moderate the self-serving bias (Sedikides et al. 1998), we propose this effect is transferrable to a business context with a close customer-company relationship. Although commented on in previous research, none have yet included the aspect in customer participation research (Bendapudi and Leone 2003; Dong, Evans, Zou 2008). When there is a lower type of customer-company relationship, there will be a negative effect of customer participation in service recovery on (a) Satisfaction with the company (b) Perceived Justice and (c) Loyalty. In contrast, when there is a higher type of customer-company relationship, there will be no significant effect of customer participation in service recovery. As we only measure post-recovery satisfaction, this study will not be able to illustrate the effect making customers with higher type of relationship assume (more) responsibility for the failure. Hence;

H_6: *There will be an interaction between customer participation in service recovery and type of customer-company relationship on customers (a) Satisfaction with the company (b) Perceived Justice and (c) Loyalty.*

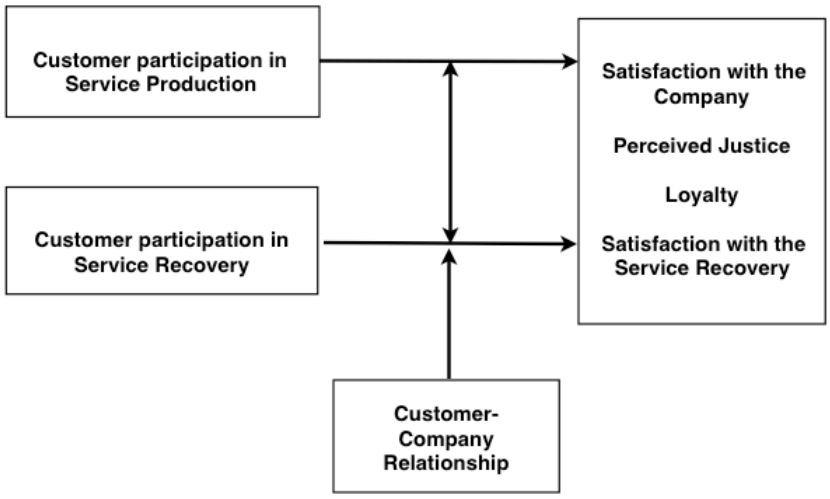
So far we have proposed that the effect of *customer participation in service recovery* will be influenced by both *customer participation in service production* and the presence of a *true customer-company relationship.* Should the proposed effects hold, we see that if H_6 is supported, it will also change the mechanisms of H_4. Consequently, this would suggest a three-way interaction effect on the dependent variables. This will manifest itself through a two-way interaction between participation in service production and participation in service recovery when there is a lower type of customer-company relationship. When there is a

higher type of customer-company relationship, there will be no interaction between participation in service production and participation in service recovery. In other words, the proposed effects state that the presence of a true customer-company relationship will moderate the negative effect of customer participation in service recovery, and thereby the interaction proposed in H_4 will not be valid under these circumstances. Hence;

H_7: *There will be a three-way interaction between relationship, participation in service production and participation in service recovery on customers (a) Satisfaction with the company (b) Perceived Justice and (c) Loyalty.*

3.1 Research model

Based on the hypotheses outlined above, we have developed the following research model.



4. Methodology

4.1 Subjects, design and context

A quantitative approach was selected in this thesis, as the topics related to this study have established measurement scales. An experimental research design was chosen, using different scenarios. This allowed us to randomly assign and subject participants in the study to different manipulations (Mitchell and Jolley 2007, 417; Pedhazur and Schmelkin 1991, 250).

The study applied a 2(true relationship vs. pseudo-relationship) x2(low participation in service production vs. high participation in service production) x 2(low participation in service recovery vs. high participation in service recovery) randomized between-subjects factorial design, with *Satisfaction with the company, Perceived Justice, Loyalty* and *Satisfaction with the service recovery* as dependent variables. Previous research has established a thorough understanding of the links between the dependent variables included in this study (Andreassen 2000; Tax and Brown 1998, Oliver 1999, Smith, Bolton and Wagner 1999; Tax, Brown and Chandrashekaran 1998). Examining these variables may suggest a need to test the relationships between them in a causal, structural model. However, as we are examining the effects on these variables under different conditions (i.e. manipulations), we consider the research context exploratory, and find it more interesting to examine the effects on each dependent variable isolated. This allows us to consider if the groups subjected to the different manipulations significantly vary in their ratings on each of the dependent variable. In our hypothesis we argue that the effects on our satisfaction-measures will be different. In addition, it would be interesting to see if the hypothesis involving several dependent measures are all supported or not. By this, we find it appropriate to use a multivariate analysis of variance (MANOVA) in our analysis.

Applying a 2x2x2 between-subjects factorial design required participants for eight (8) different treatment groups, each subjected to different scenarios. We needed approximately 30 participants per treatment group, requiring 240 participants in total. Building on the research context by Dong, Evans and Zou (2008), we constructed the scenarios based on a course registration context, but replaced the self-service technology setting with a personal interaction. This enabled us manipulate of the customer-company relationship type. In the scenarios, respondents were asked to imagine a situation where they contact a student counselor in order to select courses for next semester. In the first phase, respondents were subjected to two manipulations; relationship type (to student counselor) and the degree of participation in the process of selecting the course (participation in production). After completing this process, the respondents were told that something had gone wrong with their registration. The respondents were then told that they contacted the student counselor again in order to resolve the failure. In the second phase, the degree of participation in the process of

correcting the failure regarding the course registration was manipulated (participation in service recovery). Finally, they were told that failure had been resolved, and that they got the course they initially wanted. For all scenarios, with manipulations, see appendix 1. As the scenarios contained two phases of participation, we had to check the manipulations of sequentially, the first between the two phases, and the second after the last phase. The relationship-manipulation was tested in the first phase.

In this study, we chose to use a student sample, as this allowed us to build on the course registration-context, a familiar topic for students. In addition, it facilitated accessibility of respondents. We are aware that a student sample has its weaknesses, as they may differ from the general population in several ways, thus lowering the external validity of the results (Lee and Lee 2009). For instance, students may be more homogeneous than the general population, indicating that they might have less variance between them which in turn can lead to stronger effects/results than it would with another sample(Verlegh and Steenkamp 1999) . In order to achieve randomization among the participants, the eight different scenario booklets were laid sequentially in one pile, and the students were randomly assigned to one of the eight groups.

4.2 Operationalization of independent variables

All items included in this study are based on previous research, with minor adjustment to fit the study. First, we have the "*Relationship"* variable. As mention, most customers have established some degree of relation with the company, similar to what Mattila (2001) describes as a *pseudorelationship*. As the customer-company interactions evolve, the relationship shifts towards a *true relationship*. These two classifications are the basis for our manipulation of customer-company relationship. The respondents subjected to the pseudorelationship-condition are depicted that they have no regular student counselor, while those subjected to a true relationship are depicted that they have had several prior encounters with one specific student counselor. The customers perceived relationship with the company was tested using a 7-point Likert scale, anchored at agree-disagree, where respondents were asked to indicate their response to the following statement: "*Based on this story, I feel that I have a close relation with the student counselor".* This item is adapted from Mattila (2001).

The next two independent variables are customer *participation in service production* and -*participation in service recovery.* The items measuring these were adapted from Bendapudi and Leone (2003). Both participation variables were measured using a 7-point Likert scale, anchored at agree-disagree. Respondents were asked to respond to the following statements: " *Based on this story, I feel that I contributed heavily in the process of registering my elective courses for next semester",* and " *Based on this story, I feel that I contributed heavily in the process of correcting the registration of my elective courses for next semester"* after the respective phases in the scenarios.

According to social psychology (Sedikides et al. 1998), a prerequisite to prove the manifestation of the self-serving bias is a certain importance related to the commonly produced task. In this study we achieved this by including arguments that illustrate both the importance of the specific elective course and the potential consequences of not being able to attend the course. These arguments were set constant, in all different scenarios. The perceived severity of the situation was measured on a 7-point Likert scale with the statement: "*Based on this story, I feel that the failure present represent potentially serious consequences to me", anchored at agree-disagree.* This item was adapted from Homburg, Fürst, and Koschate (2010).

4.3 Operationalization of dependent variables

The dependent variables, *Satisfaction with the company* and *Satisfaction with the service recovery* will serve as indicators of attribution, and will each be measured by three-items adapted from Bendapudi and Leone (2003) and Johnson et al. (2001). The indication of attribution is based on our notion that *Satisfaction with the company* and *Satisfaction with the service recovery* will score differently depending on the different manipulations. The items in *Satisfaction with the company* ask about the respondent's satisfaction with the student counselor, as a representative for the company. This allowed us to illustrate the relationship aspect, and avoid too much potential disturbance from students' satisfaction with other aspects of the business school. *Perceived Justice* will be measured by 6 items adapted from Tax, Brown and Chandrashekaran (1998) and Smith, Bolton and Wagner (1999), with some adjustments to fit the study. *Loyalty* is measured

by three items, adapted from Mattila (2001) and Zeithaml, Berry and Parasuraman (1996). The table below provides the items used and the sources of these operationalizations.

Measurement Items – Constructs and sources	
Satisfaction with the company	
Bendapudi and Leone (2003)	Based on this story, how satisfied or dissatisfied are you with the student counselor?
Johnson et al. (2001)	Imagine an ideal student counselor. Based on this story, how distant or close is this student counselor in comparison?
Johnson et al. (2001)	Based on this story, to what extent did the student counselor meet your expectations?
Perceived Justice	
Smith, Bolton, Wagner (1999) (SBW)	Based on this story, I feel that the outcome of the situation was fair
Smith, Bolton, Wagner (1999)	Based on this story, I feel that the way the situation was handled is right
Oliver (1997, 227)	Based on this story, I feel that the balance between my effort and the outcome of the situation is fair.
Taw, Brown and Chandrashekaran (1998) (TBC)	Based on this story, I feel that the handling of the situation was fair
TBC (1998), SBW (1999)	Based on this story, I feel that the student counselor was thoughtful and seemed honestly interested in helping me
TBC (1998), SBW (1999)	Based on this story, I feel that the student counselor was attentive when handling my situation
Loyalty	
Zeithaml, Berry and Parasuraman (1996)	Based on this story, I will mention the student counselor positively when talking to my fellow students (peers).
Mattila (2001)	Based on this story, I will recommend this student counselor to my fellow students if they ask for my advice
Mattila (2001)	Based on this story, the student counselor will be my first choice the next time I seek help or guidance
Satisfaction with the service recovery	
Bendapudi & Leone (2003)	Based on this story, how satisfied or dissatisfied are you with the handling of your complaint?
Johnson et al. (2001)	Imagine an ideal complaint handling. Based on this story, how distant or close is this complaint handing in comparison?
Johnson et al. (2001)	Based on this story, to what extent do you feel that the complaint handling meets your expectations

The scenarios, with manipulations and the items scaling, are given in appendix 1. The original questionnaire with the different manipulations is provided in Norwegian in appendix 2. (Participants were subjected to the Norwegian version).

4.4 Pre-tests

After developing the scenarios with the respective manipulations and the items for the questionnaire, we conducted a pre-test. The intention was to test whether the scenarios were realistic and imaginable, and to ensure that the manipulations were perceived significantly different on all three dimensions. We also wanted to check that the perceived severity of the situation (task importance) was high enough. The first pre-test included 32 respondents, four per scenario, and 16 for each dimension of the manipulations. The first pre-test revealed insignificant results of both manipulations of participation in service production and participation in service recovery (see appendix 3). Based on this, we adjusted all scenarios by enhancing the arguments related to the differences we aim to demonstrate. The first pre-test also revealed some issues related to realism and imaginability. This was as expected, because the scenarios describe an artificial context, different from the actual procedures at the business school. The issues were dealt with by asking the participants to imagine that this (the scenario) happened to them. In addition, we explained orally that the contexts provided in the scenarios are different with intention, asking participants to respond to it as an alternative situation from what they are used to.

The second pre-test consisted of 40 respondents: five in each scenario and 20 for each dimension manipulation. Here we were able to establish significant results with regards to all three manipulations (see appendix 4). The mean score of perceived severity exceeded 5,5 in both pretests (7-point scale), indicating that we had achieved the desired level of task importance. On both pre-test we included a feedback form, in order to detect possible errors, misunderstanding, ambiguity as well as measuring the time spent on reading and answering. No major faults were detected, and respondents indicated that they spent 5-7 minutes on the questionnaire.

4.5 Reliability and validity

The assessment of the degree of consistency between several measurements of one variable is referred to as reliability (Hair et al. 2010, 125). Reliability provides an insight to the extent of which a variable is consistent with what is intended to and how it is measured. The procedure of the analysis, items used and the construction and distribution of our study has been thoroughly described.

Constructs are measured by several items, as recommended by Hair et al. (2010,698), and are based on previous research. Manipulation checks, increasing internal validity, has been included for the independent variables (section 5.2), while satisfactory Cronbach's alpha levels have been established for the dependent variables (section 5.5.1).

Hair et al. (2010,126) defines *Validity* as the extent to which a scale or set of measures accurately represent the concept of interest. Content validity is an assessment of the degree of correspondence between items that make up a construct (Hair et al. 2010, 125). The constructs in this study are established and well accepted in previous research. The items applied are based on and adapted from this research (see section 4.2 and 4.3). Construct validity refers to whether or not the items actually represent what they are supposed to, i.e the accuracy of measurement. Having unidimensional measures helps ensure the construct validity in our study. In addition, construct validity consists of convergent validity (indicators of one construct converge or share high portions of variance) and discriminant validity (the extent to which constructs are in fact distinct from each other) (Hair et al. 2010,709-10). These two will be addressed in section 5.5.2. The randomization of the scenarios helps us to maintain internal validity. As this study entails scenarios, where the setting by definition is artificial, generalizability and external validity is limited. However, by ensuring that our manipulations work and that the reliability and validity measures are satisfactory, internal validity is strengthened.

5. Results

5.1 Descriptive statistics

Of the 252 questionnaires handed out, we collected 240 completed, giving us a response rate of 95,23%. As the data was collected both in lecture settings and on campus, we were able to keep track of the number of respondents having completed the questionnaire. This ensured equal amounts to our eight different scenarios. Of the 240 completed, we had no missing values. 145 of the respondents were female (60,4%), while 95 (39,6%) were male. The age ranged from 19 to 54 years with a mean score of 22,58 years. 95% of the sample was 27 years or younger. Respondents study year ranged from 1 to 5 with a mean score of 2. 89 % of the respondents were undergraduate students (see appendix 5).

We also considered mean scores, standard deviations, skewness and kurtosis of all items. Skewness is an indication of the symmetry and balance of the distribution, and can often be compared to a normal distribution (Hair et al. 2010,36). Values outside a range -1/+1 are indications of a substantially skewed distribution. Kurtosis provides information about the peakedness of the distribution, where values below 0 indicate a flatter distribution, while values above 0 indicates a peaked distribution (Hair et al. 2010,71). In this study, only the "Severity" measure exceeds a skewness of -1/+1, but this is as mentioned intended. In terms of kurtosis, 17 of our items indicate a flatter distribution, while 6 indicate a more peaked distribution. For detailed descriptive statistics, see appendix 6. Due to the sequentially piled scenarios, we achieved equal cell sizes. The table below illustrates the distribution of respondents subjected to the different scenarios. (Scenario labels, and number of respondents).

Participation in Service Recovery	True relationship		Pseudorealtionship	
	Participation in Service Production			
	High	Low	High	Low
High	A - 30	C - 30	E - 30	G - 30
Low	B - 30	D - 30	F - 30	H - 40

5. 2 Manipulation checks

All respondents were asked to assess the scenarios with regards to realism and imaginability. As mentioned, the scenarios constructed in this study are in fact different than the actual procedure at the business school. Therefore, we would expect the respondents to have somewhat lower scores than what would have been the case if we have described the situation more similar to what they know from this school. However, the discrepancy was necessary in order achieve the manipulations we wanted to examine. The mean scores of the respondents' indication of realism and imaginability are provided in appendix 7. Ideally we would like to have somewhat higher scores on these measures. Still, we find them sufficient as the respondents indicated that they were more capable to imagine the situation. We also keep in mind the artificial context, and the limitations to external validity this represents.

Analyses of variance were carried out in order to determine the effectiveness of the manipulations in the study; participation in service production and

participation in service recovery and customer-company relationship. We also tested for differing results with regards to the perceived severity of the service failure, in order to determine high, and equal task importance. In the table below, we have summarized the results from the one-way ANOVA tests. We see that all three manipulations worked as intended. Significant differences were found between the groups subjected to the different manipulations. As intended, severity was not perceived different across the groups. With a mean score of 5,82, (on the 7-point scale), we achieved the desired effect in all scenarios. Implicitly, recovering this service failure will thereby represent task importance.

Manipulation	F	Sig
Perceived – Relationship	48.432	.000
Perceived - Participation in Service Production	162.242	.000
Perceived – Participation in Service Recovery	67.369	.000
Perceived - Severity of Failure	.982	.445

The independent results of each one-way ANOVA test, and the mean scores of the different manipulation treatments are provided in appendix 7.

5.3 Exploratory factor analysis

In order to explore the consistency of the measurements applied in our study, we chose to perform an exploratory factor analysis of the items included to represent our dependent variables. With a total sample size of 240 respondent and 15 items related to the dependent variables, the sample meets the requirements related to the sample size in factor analysis (Hair et al. 2010,102).

When running the exploratory factor analysis (EFA) in SPSS and generating factors based on eigenvalue, it provided 3 factors, one less than what was indented. Therefore, based on the theoretical foundation that the 15 items should reflect four dependent variables, we set the number of variables to be extracted to 4. We used the maximum likelihood method for extraction and a Varimax-rotation. The rotated factor matrix from this EFA (labeled EFA 1), is provided in appendix 8.

In this EFA, most items loaded correctly on the factors they were intended to. However, two of the Perceived Justice-items (q16 and q17) raise some issues. q16 is cross loading on both factor1 (Loyalty) and on factor 2 (Perceived Justice). q17, on the other hand, is only loading on factor 1, while it was supposed to load on factor 2. Because these loadings are relatively low compared to the others and load on the "wrong" factor, we excluded these items in the further analysis. We find that the items loading mainly on loyalty also have cross loadings on "*Satisfaction with the company*" and vice versa. This is, however, no surprise as the relationship between satisfaction and loyalty is established both in theory and empirically (Andreassen 2000; Oliver 1999, Smith, Bolton and Wagner 1999; Tax, Brown and Chandrashekaran 1998). In addition, the last item, q23, also has a cross loading, mainly on "*Satisfaction with the service recovery* "(Factor 4), as well as on *Perceived Justice* (Factor 2). This is also theoretically understandable as the item reflects characteristics of satisfaction, perceived justice and the intersection between these constructs.

Having excluded item q16 and q17, we ran the EFA again. The rotated factor matrix (2), is provided in appendix 8. Now, most of the main loadings are above 0.7, which by Hair et al. (2010) is considered indicative of a well-defined structure. We do note that q14 is slightly lower as well as most items in the Perceived Justice-factor. However, all of these are greater than 0.5, making them practically significant (Hair et al. 2010). The cross-loadings, on the other hand are all below 0,4 on the "second loading", and with a sample size of 240, we cannot establish these as significant factor loadings. Still, since they are between 0.3 and 0.4, they meet the minimal level for interpretation of structure.

As mentioned we can, based on previous findings in theory, understand the cross-loadings present. Hair et al. (2010, 139) argue that in cases where there is reason to believe that factors may be correlated, an alternative rotation to orthogonal (such as Varimax) should also be considered. Alternative rotations are also recommended when the same cross-loadings reoccur, despite removing items with insignificant factor loadings (as found here). Therefore, the remaining items were subjected to another EFA, only this time using an oblique rotation (Direct Oblimin). The pattern matrix from this analysis showed that the items loaded on the *"correct"* factors and the cross loadings were no longer reported (See

appendix 8). The factors correlation matrix confirms the notion of a strong relationship between "*Loyalty*" and "*Satisfaction with the company*". The general structure from the earlier analyses with orthogonal rotations is similar to the one found here. Most factor loadings now exceed the .70 –level, except for q12,q13 and q14 on the "Perceived Justice" factor. However, with levels above .50, we consider these acceptable. The construct reliability measures, presented later, will confirm the appropriateness of these loadings.

5.4 Confirmatory Factor Analysis (CFA)

Having found that our items loaded as intended in the EFA, we also ran a Confirmatory Factor Analysis (CFA) in Lisrel. This was done in order to assess whether our theoretically built items reflected by latent constructs hold. To determine whether the measurement model fits the data, we will assess the fit using the indices, provided by Hair et al. (2010, 672).

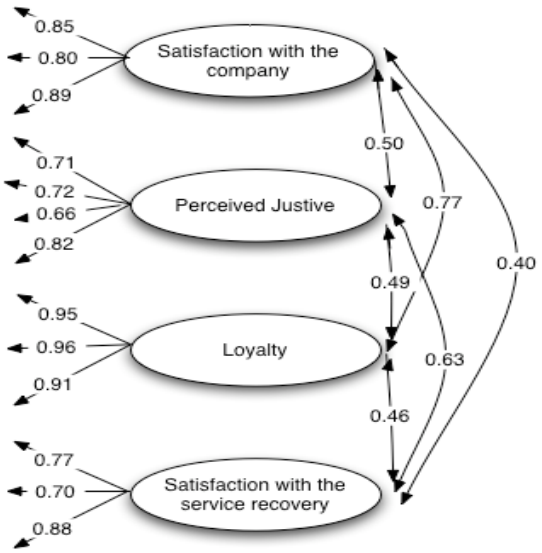
12 < m < 30 (No. of stat vars = m)	**N < 250**
X2 (df, P-value)	Significant p-values even with good fit
CFI	.95 or better
SRMR	Less than 0.8 or less (with CFI of.95 or higher)
RMSEA	Values < .08 with CFI of .95 or higher

In the initial CFA we included all original items as they were intended. This measurement model estimates 36 free parameters (15 of which are error variance terms). The t-rule, (t = < 0,5(p)(p+1)), gives us 36 <120, and thus the model is over-identified. The measurement model generated the following fit-indices: Chi-square=248.99, df=84, P-value = 0.00000, RMSEA = 0.091, CFI = 0.971, SRMR = 0.0749. The large difference between Chi-square and df, an insignificant P-value, and RMSEA > 0.8, all indicate that the model does not fit the data. The CFI and SRMR on the other hand indicate model fit. However, we would prefer more consistent findings. Overall, all factor loadings exceed 0,5 (recommended minimum), and only four loadings (q12,q14,q16 and q17) are below the ideal level of 0,7 or higher.

Considering the modification indices suggested by the Lisrel-software, cross-loadings are suggested where items reflecting *Satisfaction with the company* also are suggested being reflected by *Loyalty*. However, in order to prevent losses to

external validity, the measurement model maintains unidimensional measures. The modification indices indicating the largest impacts are the reflections on items q16 and q17 (set to reflect from *Perceived Justice)* from the latent variable *Loyalty*. These items are also of those with the lowest loadings in the CFA. Still, as we cannot theoretically justify any link between "Loyalty" and these items, and as the EFA suggested fairly low loadings, both main- and cross-loadings, we decided to delete these items from the CFA.

First, we excluded q17 from the CFA. Still, the model remains over-identified, but the fit indices are greatly improved; Chi-square = 127.42, df = 71, P-value of 0.00005 and RMSEA = 0.058, CFI = 0.985 and SRMR = 0.0629. Based on these fit indices, the model now fits the data (one would expect significant P-values even with good fit (Hair et al. 2010,672)). All loadings, except those of q14 and q16, now exceed 0,7. However, strong modification indices are still suggested; a cross loading on q16 from the latent variable *Loyalty*. This is consistent with our findings from the EFA. Without the theoretical justification of a link between the latent and observed variable, and the goal of maintaining unidimensional measures, we removed this item from the CFA. The results showing standardized loadings are presented below.



The remaining CFA provided the following fit indices: Chi-square= 68.73, df = 59 , P-value = 0.18103 , RMSEA = 0.026 , CFI = 0.997 ans SRMR = 0.0329. The difference between the Chi-square and df is considerably reduced, thus the P-value exceeds 0,05. The RMSEA is now below 0.05, indicating a very good

model fit. All factor loadings, except the one of q14 (0.66), now exceeds 0.7. The LISREL syntax, measurement model, and Goodness of fit statistics are provided in appendix 9. Based on these findings, we decided to exclude q16 and q17 from the further analysis. Despite this, the latent construct *Perceived Justice* still fulfills the three-indicator rule. It should, however, be noted that the items excluded from the construct were those theoretically built to reflect the interactional justice aspect of the perceived justice construct. In retrospect, we can understand the poor fits of these items as the scenarios' respondents were subjected to say very little about the personal interactions the items asked about. As such, we see it as better to remove these items. At the same time, we must emphasize the fact that the construct "Perceived Justice" now only entails the characteristics of distributive and procedural justice. However, we find it sufficient to the scope of this research.

5.5 Tests of reliability and validity

5.5.1 Cronbach's alpha

The most common measure of reliability, and most appropriate for this study, is internal consistency. Hereunder, Cronbach's alpha is the most widely used measurement. The general "rule" is that the Cronbach alpha scores should not be below 0.70, although it may decrease to 0.60 in cases pertaining to exploratory research. The table below has listed the Cronbach's alpha values of the constructs examined in this study. All constructs in our study have sufficient Cronbach alpha scores, all higher that 0.80, well above the lower limit of 0.70. The constructs in our study also follow the practice of having three or four items representing a construct (Hair et al. 2010,698). These results indicate that our measurements have good internal consistency. Other measurements of reliability, such as AVE and CR, will be discussed in the following section as they also serve as indicators of validity.

Construct	Number of items	Cronbach's alpha	Average Variance Extracted (AVE)	Composite reliability (CR)
Satisfaction with the company	3	0.885	0.72348	0.88681
Perceived Justice	4	0.805	0.52751	0.81609
Loyalty	3	0.958	0.88798	0.95963
Satisfaction with the service recovery	3	0.826	0.62109	0.82975

5.5.2 Average Variance Extracted and Composite reliability

One of the primary objectives of the CFA is to assess the construct validity. The items that are indicators of a construct should converge or share high proportions of variance in common and is known as *convergent validity*. Considering the factor loadings from the CFA, only one loading is below the ideal loading of 0.7 (q14 = 0,66). Still, it is significant, and so close to 0.7 that we do not consider it a problem. Following the procedure described by Fornell and Larcker (1981), we also calculated the Average Variance Extracted (AVE). AVE shows the amount of variance that is captured by the construct in relation to the amount of variance due to measurement error (Diamantopoulos and Siguaw 2000,91). An AVE-score of 0.5 or above is preferred as this indicates that errors account for less variance in the indicator, than does the latent variable. The AVE-score of all of our latent variables exceed 0.5. Hair et al. (2010, 709) argue that reliability also is an indicator of convergent validity, and in this regard we have also calculated the Composite Reliability (CR) (Diamantopoulos and Siguaw 2000,90). CR-scores above 0.7 suggest good reliability. Therefore, we can conclude that the items in our study provide reliable measures on our four constructs.

Discriminant validity can be assessed through comparing the squared correlation of two constructs with their respective AVE-scores. It is desirable that the squared correlation is lower than the AVE-scores, as this indicates that the latent variable explains more of the variance in its item measures than what it shares with another construct (Hair et al. 2010,710). As seen from the squared correlation matrix in appendix 10, none of these exceed the constructs AVE-scores, indicating good evidence for discriminant validity. Calculations of AVE, CR and squared correlations are provided in appendix 10.

5.6 MANOVA-analysis assumptions

To test the hypothesis of our 2x2x2 experiment, we used a MANOVA-analysis. MANOVA is a multivariate procedure, used to assess differences between groups across several dependent variables at the same time (Hair et al. 2010, 439). To assure statistical significance of the MANOVA-test procedures, there are several assumptions that need to be met.

5.6.1 Sample size

According to Hair et al. (2010, 453), as a bare minimum, the sample size in each cell should be larger than the number of dependent variables. Practically, however, the minimum sample size recommended is 20 in each cell, but to obtain desired levels of power, sample sizes less than 30 may be problematic. As all cells in this study contain 30 respondents, providing a total of 240 respondents, the assumption of sample size is considered met.

5.6.2 Independent observations

The assumption of independent observations, meaning that responses in one group are made independently of the responses in another, is the most basic assumption (Hair et al. 2010, 458). Still, it is considered to be the most serious if violated. The booklets containing the scenarios and questionnaires were handed out at the business school, one for each student, both in a lecture setting (auditorium) and with students seated in groups on campus. The booklet asked the respondents to read the scenarios and thereafter mark their own answers. In addition, we verbally urged the respondents to read and answer their booklets independently. (Respondents were also discretely observed during their participation, so that we could detect any "cooperation").

5.6.3 Normality

The MANOVA-analysis assumes that the dependent measures are multivariate normal, i.e that the joint effect of two variables is normally distributed. Hair et al. (2010, 460) state that there is no direct test available for assessing multivariate normality directly. Therefore, univariate tests of each variable were conducted. Both the Kolmogorov-Smirnov and the Shapiro-Wilks statistics (see appendix 11) are significant on all dependent variables except *Satisfaction with the company*. This indicates a violation of the univariate normality assumption on the remaining dependent variables. This is quite common but has little impact with larger sample sizes. As our sample size exceeds 200, these effects may be considered negligible as long as the violations are due to skewness and not outliers. In order check multivariate normality, we calculate Mahalanobis distances in SPSS. This is a measure of distance of a particular case from the centroid of the remaining cases (the centroid is a point created by the means of the remaining cases) (Pallant 2010,286). This analysis allows us to identify if there are cases with strange

patterns of scores *across* the dependent variables. With four dependent variables, the critical value of the Mahalanobis distance is 18.47 (Pallant 2010,288). The first test provided a maximum score on the Mahalanobis distance of 36.676, well above the critical value. Sorting the cases based on the Mahalanobis distance score, we found that four observations exceeded the critical value (observation 176,113,139,188). Inspecting these cases, we found that their scores on the dependent variables were, in fact, extreme (low scores) across all variables. Thus, we decided to remove these cases in order to avoid multivariate outliers.

Running the test again, we found the maximum Mahalanobis distance to be 19.299, slightly above the critical value. However, sorting all cases, only one observation (no. 86, the highest) exceeded the critical value. This observation also indicated "extreme" measures across the dependent variables and was also removed. Running the test after excluding yet another variable provided a maximum Mahalanobis distance of 18.266, just below the critical value. Detailed statistics of these tests are given in appendix 11. Despite removing these five cases, almost all the univariate normality tests are still significant (only one Shapiro-Wilk statistic is barely insignificant (0.053)(appendix 11). Still, having removed the multivariate outliers and achieved multivariate normality, violations of this assumption are not expected to have considerable impact.

Having removed 5 variables is not considered to reduce the positive effects of the previously discussed sample size. The 5 variables excluded were all different in terms of which of the eight groups they originated from. As a result, five groups now have 29 respondents (A,D,E,G,H), while the remaining three have 30 (B, C,F). The total sample size is now 235.

5.6.4 Equality of Variance-Covariance Matrices

Next, we have the assumption of homogeneity of covariance matrices across the groups. The concern here is the existence of substantial difference in the variance of one group compared to another. Box's M test is used to test for equality of covariance matrices. It provides significance statistics indicating the likelihood of differences between groups. In other words, we are looking for non-significant differences between groups. As the Box's M test is sensitive to the number of dependent variables and the number of groups, more conservative levels of

significance are acceptable (Hair et al. 2010, 459). Based on this, we apply a significance level of .01 rather than the usual .05. It should be noted that the Box's M test is very sensitive to departures from normality. The results showed that the Box's M's sig. = .044, and is non-significant on the .01 level (see appendix 11). Had the univariate normality assumption been met, it would have implied support for the assumption of equality of variance-covariance matrices. However, as the previous assumption was not met, this result is considered unreliable. The Levene's test reveals a significance level below .05 on the *Satisfaction with the company*- variable (Sig .015). The remaining three are non-significant (see appendix 11). As the first variable violates this assumption, it is necessary to apply a more conservative level of significance for this variable in the subsequent F-test.

5.6.5 Outliers

The MANOVA-analysis is especially sensitive to outliers and their affect on the Type 1 error (Hair et al. 2010, 460). The notion of outliers has also been examined in section *6.2.3 Normality*, where we removed all variables exceeding the critical value of the Mahalanobis distance. By doing this, we excluded those variables representing multivariate outliers at an earlier stage. Examining the Boxplot of each dependent variable, we found two observations with low scores on *Satisfaction with the company (*respondent number 32 and 173), and three cases with low scores on *Perceived Justice* (respondents number 100,148 and 159)(see appendix 11). Considering each of these observations independently, we found that none of them had "extreme values" on several dependent measures. As we believe that these scores may portray a representative element of the sample, we chose to retain these observations. When calculating the 5% - trimmed mean, it provided two very similar means (see appendix 11). This indicates that the mentioned outliers only have minor effects on the mean scores, supporting our decision of retaining the observations.

5.6.5 Linearity and muliticolliniarity

The last assumption of the MANOVA-analysis is the presence of linearity and multicollinearity among the dependent variables (Hair et al. 2010,460). It states that there should exist linear relationships between the dependent variables. We used scatter plots to examine this assumption and found no indication of nonlinear

relationships between any of the dependent variables. The MANOVA-analysis also assumes that the dependent variables are conceptually related and should be correlated with each other at a moderate level (Pallant 2010,290). If the correlations are too high, above 0.8 or 0.9, it can be of concern. The correlation matrix, provided in appendix 11, showed significant correlations between all of the dependent variables, but none of them are considered to be too high.

However, the correlation between *Loyalty* and *Satisfaction with the company* is somewhat close to the critical correlation value of 0.8. In order to make sure that multicollinearity does not represent any threat to our analysis, we chose to examine the tolerance value and the variance inflation factor (VIF)(Pallant 2010,158). The latter is the inverse value of the former. As none of the VIF-values exceed the critical value of 10 (ranging from 1.675 to 2.642) and no tolerance values are below 0.1 (ranging from 0.378 to 0.597)(appendix 11), we can safely assume that multicollinearity represents no threat to our analysis.

5.7 MANOVA-analysis significance testing

When examining the results from a MANOVA-analysis we first need no assess, *"whether there are statistically significant differences among the groups, on a linear combination of the dependent variables"* (Pallant 2010,294). The output from the analysis provides four different statistics: Pillai's Trace, Wilks' Lambda, Hotelling's Trace and Roy's Largest Root. As we violated some of the assumptions of the MANOVA-analysis (previous section), decreased our sample size by five, and thereby had unequal cells, we need to consider a more robust statistic called Pillail's Trace. The results from these analyses are provided in appendix 12. The results show two statistically significant results. These are the main effect of *Relationship*, F (4.224) = 4.105, p = 0.003, partial eta squared =0.068, and the main effect of *Participation in Production (PSProd),* F (4.224) = 10.151, p= 0.000, partial eta squared = 0.153 The observed power of these main-effects exceeds the desired level of 0.8, and are 0.913 and 1.0 respectively (Hair et al. 2010, 467).

The results failed to provide a significant main effect of *Participation in Service Recovery (PSRecov),* significant two-way interactions and three-way interactions. This implies that we can only include the two significant results in the further analysis. However, we will also examine whether we can find any tendencies of

the proposed effects, despite being insignificant. In the next step, we seek to examine how the treatments in our study affect each of our dependent variables (Hair et al. 2010,468). Because we are considering several (4) dependent variables, it is recommended to apply a more strict alpha level in order to reduce the chance of Type 1 errors. The most commonly used method for this is known as the *Bonferroni inequality,* which adjusts the alpha level depending on the number of tests performed (Pallant 2010,295; Hair et al. 2010,473). In this case we have four dependent variables, resulting in a new and stricter significance level of .0125 (.05/4).

By increasing the alpha level, the power is reduced as well. This is due to an inverse relationship between power and the alpha level selected (Hair et al 2010,464). In the table below we have denoted the tests of between-subject effects with alpha levels of both 0.05 and 0.0125, and the respective observed powers. These results will also illustrate the problem related to a stricter alpha-level and the power associated. The full test of between subjects effect is provided in appendix 13.

Source	**Dependent Variable**	**Sig. Alpha = 0.05**	**Observed Power Alpha = 0.05**	**Sig. Alpha = 0.0125**	**Observed Power Alpha = 0.0125**
Relationship	SatisfactionWC	.212	.238	.212	.105
	PerceivedJustice	.934	.051	.934	.013
	Loyalty	.001	.911	.001	.787
	SatSR	.222	.230	.222	.100
PSProd	SatisfactionWC	.000	.987	.000	.954
	PerceivedJustice	.000	.960	.000	.885
	Loyalty	.000	1.000	.000	.999
	SatSR	.203	.246	.203	.110
PSRecov	SatisfactionWC	.330	.163	.330	.063
	PerceivedJustice	.917	.051	.917	.013
	Loyalty	.256	.205	.256	.086
	SatSR	.275	.193	.275	.079
Relationship * PSProd	SatisfactionWC	.754	.061	.754	.017
	PerceivedJustice	.076	.428	.076	.234
	Loyalty	.517	.099	.517	.033
	SatSR	.390	.138	.390	.051
Relationship * PSRecov	SatisfactionWC	.375	.143	.375	.053
	PerceivedJustice	.432	.123	.432	.044
	Loyalty	.459	.114	.459	.040
	SatSR	.802	.057	.802	.015

PSProd * PSRecov	SatisfactionWC	.903	.052	.903	.013
	PerceivedJustice	.689	.068	.689	.020
	Loyalty	.232	.223	.232	.096
	SatSR	.753	.061	.753	.017
Relationship * PSProd * PSRecov	SatisfactionWC	.959	.050	.959	.013
	PerceivedJustice	.429	.124	.429	.044
	Loyalty	.999	.050	.999	.013
	SatSR	.301	.178	.301	.071

As we can see from the table above, applying a stricter alpha-level did not have too great an impact on the observed power of the already significant results. Due to the fact that this study violated the assumptions of non-significant relationships in the Levene's test, it is recommended that we apply a stricter alpha-level than the conventional 0.05 (Pallant 2010, 294). As such, we will continue the analysis using an alpha-level of 0.0125.

The treatments found to have a significant effect on the different dependent measures on an alpha-level of .05, also hold using an alpha-level of .0125 (marked in green). However, we see that when applying a stricter alpha-level of .0125, the observed power of one of these effects is reduced to .787 (marked in yellow), just below the desired level of 0.8. Even though the goal of increasing the alpha-level is to avoid Type 1-errors, one should also keep in mind that a main objective of MANOVA-analysis is identifying treatment effects (Hair et al. 201,465). Because of this, we choose to include this effect as it is close to the desired level.

5.8 Hypothesis-testing

5.8.1 Hypothesis 1

The first hypothesis propose that customer participation in service production will have a positive effect on post-service recovery evaluations of (a) *Satisfaction with the company* (SatisfactionWC), (b) *Perceived Justice* and (c) *Loyalty.* According to the results in the table above, we found significant effects of customer participation in service production on all of the dependent measures mentioned above (all $p < .001$). Considering the marginal means (see appendix 14) of *Satisfaction with the company*, we see that customers with high participation in service production ($M_{High\ PSProd} = 5.784$) are significantly more satisfied, $F(1.227) = 17.752$, $p < .001$, partial eta squared = .073 , than customers with low participation in service production $M_{Low\ PSProd} = 4.856$. As for Perceived Justice,

customers with high participation in service production ($M_{High\ PSProd}$ = 7.134) have significantly higher scores, F (1,227) = 13.875, p < .001, partial eta squared = .058, than customers with low participation in service production ($M_{Low\ PSProd}$= 6.491). Finally, customers with high participation in service production ($M_{High\ PSProd}$ = 6.141) also provided significantly higher scores on Loyalty, F (1,227) = 32.450, p < .001, partial eta squared = .125, than customers with low participation in service production ($M_{Low\ PSProd}$= 4.611). In sum, these results indicate that **H_1 (a), (b) and (c) are supported.**

5.8.2 Hypothesis 2

The second hypothesis proposes a negative main effect of customer participation in service recovery on post recovery evaluations on *(a) Satisfaction with the company (b) Perceived Justice and (c) Loyalty.* As the multivariate Pillai's Trace test provided insignificant results for customer participation in service recovery (PSRecov), F (4,224) = .613, p = .653, partial eta squared = .011, none of the effects presented in this hypothesis were supported.

Despite not having established any significant effect of customer participation in service recovery (PSRecov) on the three dependent variables, we still want to examine whether there are any tendencies of the proposed effects in our results. On their ratings of *Satisfaction with the company*, customers with high levels of participation in service recovery ($M_{High\ PSRecov}$ = 5.213) had lower, although not significantly, F (1,227) = .953, p = .330, partial eta squared = .004, scores than customers with low participation in service recovery ($M_{Low\ PSRecov}$ = 5.427). On ratings of *Perceived Justice,* customer with high levels of participation ($M_{High\ PSRecov}$ = 6.803), did not differ, F(1,227) = .011, p = .917, partial eta squared = .000, from customers with low participation in service recovery ($M_{Low\ PSRecov}$ = 6.821). Furthermore, on their ratings of *Loyalty*, customers with high levels of participation ($M_{High\ PSRecov}$ = 5.223), had lower ratings, but not significantly, F(1,227) = .1.297, p = .256, partial eta squared = .006, than customers with low participation in service recovery ($M_{Low\ PSRecov}$ = 5.529). From these results we can see that the tendency is present in the *Satisfaction with the company* and *Loyalty* measures. However, none of the proposed effects was found significant. Therefore, **H_2 (a), (b) and (c) are not supported**.

5.8.3 Hypothesis 3

In contrast to the previous hypothesis, this one proposes a *positive effect of customer participation in service recovery* on the dependent variable *Satisfaction with the service recovery*. From the previous hypothesis-test we know that the multivariate Pillai's Trace test failed to establish any significant effect of customer participation in service recovery, F (4,224) = .613, p =.653, partial eta squared = .011. Considering the specific between-subjects effect of customer participation in service recovery on ratings on *Satisfaction with the service recovery* (SatSR), we see that there is no significant difference, F (1,227) = 1.197, p = .275, partial eta squared = .005, between customers with high participation in service recovery ($M_{High\ PSRecov}$ = 6.615) and customers with low participation in service recovery ($M_{Low\ PSRecov}$ = 6.820). Interestingly, there is a slight tendency indicating that high participation in service recovery has, in fact, a *negative* effect on *Satisfaction with the service recovery.* Still, the difference between the two groups is not significant, so no conclusion can be made from this. Consequently, **H_3 is not supported.**

5.8.5 Hypothesis 4

The fourth hypothesis in our study proposes an interaction effect between *customer participation in service production* and *customer participation in service recovery* on *Satisfaction with the company, Perceived Justice* and *Loyalty.* This implies that that the effects of *customer participation in service recovery* are dependent on the level of *customer participation in service production*. Furthermore, the latter will influence the former in opposite directions depending on the level of *customer participation in service recovery*. However, the multivariate Pillai's Trace test revealed that there was no significant interaction effect between customer participation in service production and customer participation in service recovery on the dependent variables combined, F (4,227) = .715, p = .583, partial eta squared = .013. The test of between subject effects confirms the notion of insignificant effects on all dependent variables (See appendix 13). Therefore, **H_4 is not supported.**

5.8.4 Hypothesis 5

The presence of a higher type of customer-company relationship was proposed to have a positive main effect on all of our four dependent variables. The Pillai's

Trace test indicated a significant effect of *Relationship,* allowing us to investigate this effect further. The test of between-subject effects revealed that only one of the proposed effects is significant. On the ratings of *Satisfaction with the company,* customers with the *True relationship* treatment ($M_{True\ Relationship}$= 5.458), had higher, but not significantly, F (1,227) = 1.567, p = .212, partial eta squared = .007, scores than customers with the *Pseudo relationship* treatment ($M_{Pseudo\ Relationship}$ = 5.182). Examining the effect of *Relationship* on *Perceived Justice*, customers with *True relationship* ($M_{True\ Relationship}$= 6.820), did not significantly differ, F (1,227) = .007, p = .934, partial eta squared = .000, from customers with *Pseudo relationship* ($M_{Pseudo\ Relationship}$ = 6.805). However, on the *Loyalty* ratings, customers with *True relationship* ($M_{True\ Relationship}$= 5.822), had significantly higher scores, F (1,227) = 11.009, p = .001, partial eta squared = .046, than customers with *Pseudo relationship* ($M_{Pseudo\ Relationship}$ = 4.931). Lastly, customers with *True relationship* ($M_{True\ Relationship}$= 6.833), had higher, but not significantly, F (1,227) = 1.497, p = .222, partial eta squared = .007, scores than customers with *Pseudo relationship* ($M_{Pseudo\ Relationship}$ = 6.602) on *Satisfaction with the service recovery.*

The results show that a higher type of customer-company relationship has positive tendencies on all four dependent variables. However, only the effect on *Loyalty* was found significant. As mentioned, the observed power on this effect is also slightly under the desired level of .80 (.787) when applying an alpha-level of .0125. Still, it is close to the desired level of .80. If we had applied an alpha-level of .05, the power would have exceeded the desired level (see table above). Thus, **H_5 (c) is supported**, while **H_5 (a), (b) and (d) are not supported.**

5.8.6 Hypothesis 6

The sixth hypothesis proposed an interaction effect between customer participation in service recovery and the type of customer-company relationship. The hypothesis suggests that the proposed positive effect of a true relationship (H_5), will counterpoise the proposed negative effect of customer participation in service recovery (H_2), on the dependent variables *Satisfaction with the company, Perceived Justice and Loyalty.* Unfortunately, the proposed effects in H_2 and H_4 did not hold, except for H_4 (c). The Pillai's Trace test revealed insignificant result, F (4,224) = .565, p = .688, partial eta squared = .010, of an interaction on the dependent variables combined. This result is confirmed when examining the tests

of between-subjects effects, indicating no significant results. This implies that **H_6 is not supported**.

Even though H_6 is not confirmed, a visual inspection of the marginal mean profile plots reveal tendencies of the proposed interaction on the scores on *Satisfaction with the company*. These tendencies are also present on the scores of *Loyalty*, although the main effect of relationship, which we found significant in H_5(c), is dominating. Still, as these results were found insignificant, we cannot draw any conclusions from this.

5.8.7 Hypothesis 7

The final hypothesis proposed a moderating effect of a higher level (type) of customer-company relationship, suggesting that the interaction proposed in H_4 would no longer be present in the case of a true relationship. As seen, H_4 was found not significant. The Pillai's Trace test of the three way interaction between *customer participation in service production, customer participation in service recovery and customer-company relationship* was found insignificant, F (4,224) = .370, p = .830, partial eta squared = .007. The tests of between-subjects effects, shows no indication of the proposed effects of a three-way interaction on neither of the dependent variables. In sum, these results show that **H_7 is not supported.**

Summary of hypotheses

Hypothesis	Dependent variable	Supported / Not supported
H1: There will be a positive effect of participation in service production on customers;	*(a) Satisfaction with the company* *(b) Perceived Justice* *(c) Loyalty.*	**Supported** **Supported** **Supported**
H2: There will be a negative effect of participation in service recovery on customers;	*(a) Satisfaction with the company* *(b) Perceived Justice* *(c) Loyalty.*	Not supported Not supported Not supported
H3: There will be a positive effect of participation in service recovery on customers;	*(d) Satisfaction with service recovery.*	Not supported
H4: There will be a interaction between customer participation in production and participation in service recovery on customers;	*(a) Satisfaction with the company* *(b) Perceived Justice* *(c) Loyalty*	Not supported Not supported Not supported
H5: There will be a positive effect of the type of customer-company relationship on customers;	*(a) Satisfaction with the company* *(b) Perceived Justice* *(c) Loyalty* *(d) Satisfaction with the service recovery*	Not supported Not supported **Supported** Not supported

H6: There will be a interaction between customer participation in service recovery and customer-company relationship on customers;	*(a) Satisfaction with the company* *(b) Perceived Justice* *(c) Loyalty*	Not supported Not supported Not supported
H7: There will be a three-way interaction between relationship, participation in service production and participation in service recovery on customers;	*(a) Satisfaction with the company* *(b) Perceived Justice* *(c) Loyalty.*	Not supported Not supported Not supported

6. Discussion

Bendapudi and Leone (2003) stated that customer participation is the next frontier of competitive effectiveness, truly demonstrating the importance and influence of the service dominant logic (Vargo and Lusch 2004). The main purpose of this study was to examine the effect of customer participation in a context involving a service production, leading to a failure, and a following service recovery. Previous research has identified the effects of customer participation with both successful and unsuccessful outcomes. The latter case, a service failure, requires a service recovery. The question then remained; given the customers degree of participation in the process leading to a service failure, should the customer be involved in resolving the failure?

To answer this question, we developed a thorough understating of the current state of research involving customer participation. Building on Bendapudi and Leone (2003), we found two especially interesting aspects. First, their findings confirmed the presence of the self-serving bias in a business context. Social psychology research has also found that the type of relationship in a co-creating dyad (e.g friends) will moderate the effect of the self-serving bias. Considering the great focus on building relationships with customers within marketing we wanted to test whether the type of customer-company relationship will moderate the self-serving bias effect in a business context. Second, Bendapudi and Leone (2003) examined attribution and the self-serving bias through considering customers' "Satisfaction with the firm". They found that highly participating customers were less satisfied with the firm than customers participating less in cases of a successful outcome. The IKEA-effect on the other hand (Norton, Mochon, and Ariely 2011), found that customers participating in the creation of their own products were more satisfied. The distinctive difference here is: satisfaction with what? We see that customer participation potentially yields two

different satisfaction effects: *Satisfaction with the company* and *Satisfaction with the service recovery* (outcome). But in unsuccessful outcomes, the IKEA-effect dissipates and the self-serving bias effect changes. Therefore, we found it interesting to examine customer participation in a service recovery context, including both an unsuccessful (failure) and successful (recovery) outcome. In addition we know that *Satisfaction* is influenced by the customer's *Perceived Justice* and that it is the most important determinant of customers *Loyalty*. In sum, this study examines the effect of customer participation on these measures, in a context involving both a service failure and recovery.

One of the main findings in this study is the positive effect of customer participation on *Satisfaction with the company, Perceived Justice* and *Loyalty,* supporting H_1. Contrary to previous findings, we found a positive effect of customer participation on *Satisfaction with the company*. This is as hypothesized, because it is measured post-recovery. Evidence from previous research suggest that if we had measured satisfaction with the company post-failure, higher levels of customer participation would have yielded lower scores on *Satisfaction with the company (*Bendapudi and Leone 2003). This might be due to the self-protecting bias effect, suggesting that customers would not assume responsibility for an unsuccessful outcome. Furthermore, the increased participation in production also involves a higher non-monetary investment, making the failure represent a greater loss. Thus, as the failure is recovered, even with a bigger sense of loss, this yields higher perceived justice. Consequently, the *Satisfaction with the company* is higher, as well as the customers *Loyalty.*

Unfortunately, we were not able to statistically confirm our second and third hypotheses of a negative impact of customer participation in service recovery on *Satisfaction with the company, Perceived Justice* and *Loyalty,* and a positive impact on *Satisfaction with the service recovery.* The intention of these hypotheses was to illustrate the different effects customer participation has when the outcome is successful (failure is recovered). The self-protecting bias would suggest that even if the customer participated in the process leading to a failure, he/she would attribute the failure to the company, as would a customer with low participation in the service production. The self-enhancing bias would suggest that a highly participating customer would attribute the successful outcome of the

recovery to his/her effort. Because there is a loss involved (e.g. failure) and the severity of this loss is perceived as high (indicating task importance), we proposed that the recovery would correspond to an outcome exceeding what was initially expected. Thus, it would allow the self-enhancing bias to be demonstrated through higher levels of *Satisfaction with the recovery* (own effort) and lower *Satisfaction with the company* (attributed responsibility for failure, while not credited for the successful outcome). With the increased investment of own participation, the *Perceived Justice* was also hypothesized to be lower. Combined, these hypothesized effects would suggest lower *Loyalty* intentions as well.

However, we did not manage to illustrate these effects. There can be several reasons for this. First, we may have been able to illustrate H_1, but not H_2 and H_3 due to the fact that losses are perceived stronger than gains, or that the self-enhancing bias is weaker than the self-protecting bias (Baumeister et al. 2001). Social psychology states that the self-serving bias can be demonstrated in cases of successful unsuccessful outcomes (Wolosin, Sherman and Till 1973). However, Bendapudi and Leone (2003) found that, in most cases where the outcome is "*as expected*," there were no significant differences on *Satisfaction with the company* depending on the level of participation. They argue that, since the outcome is "*as expected*", there is no incentive, and consequently less effort devoted to attribute success or failure. In short, there is no actual success to "earn" or failure to disclaim. Still, their findings are only supported in four of six cases, where the remaining are congruent with our hypothesis. An alternative or complementary effect that could possibly influence the results is peoples' propensity to assume responsibility for the failure as suggested by the ego-centric bias theory (Ross and Sicoly 1979). This effect, however, would not only suggest that customers attribute the failure to themselves (which could be an effect causing the confirmation of H), but they would also attribute the recovery (in case of high participation) more strongly to their own effort. The presence of this effect should also help confirm H_2 and H_3. However, this effect has not been established in a business context, so it would only serve as a potential effect. Thus, the attribution effect of such outcomes remains unresolved.

One of the most interesting aspects of our study was to examine whether the effects of customer participation in service recovery is influenced by the level of

customer participation in service production. Despite theoretical indications of interactions between the levels of participation, we were unable to find any interaction. Contrary to our beliefs, we did not find any difference in the customers' responses despite our beliefs that high participation in both processes would yield the most negative customer responses from a company's perspective. The reasoning was that the customer would attribute the failure to the company while they will attribute the service recovery (successful) to his/her own effort. The attributed failure was also thought to be more influential than if the customer did not participate due to the loss of non-monetary investments of participation. Although we did not manage to find an interaction in this study, we remain open to the possibility that such a relationship might exist. One possible reason why we were unable to find it in this study might be the notion of the outcome perceived as "*as expected*" (Bendapudi and Leone 2003), discussed above. As we were unable to establish a significant effect of participation in service recovery, establishing an interaction effect proved more challenging too.

Despite the fact that *Relationship* (customer-company) only is considered as a moderator in this study, we decided to test its isolated effect through a hypothesis. The results indicated that the existence of a higher level (type) of customer-company relationship had a positive impact on all of our dependent variables, except for *Perceived Justice.* However, only one effect proved significant, *Loyalty.* Previous literature suggest that higher levels of relationship yields affective commitment (Gustafson, Johnson, and Roos 2005), which again results in increased *Loyalty.* Oliver (1999) argues that affective loyalty is a result of cumulative satisfaction evaluations. Thus, we based the hypothesis on a notion a higher type (true) customer-company relationship in theory should yield some sense of previous (accumulated) satisfaction. The results indicated that the type of relationship has a positive influence on both satisfaction measures. A higher type of customer-company relationship, moving from *pseudorelationship* to a *true relationship*, will also suggest an increased tolerance (buffer effect). This would in turn provide a positive effect of the customers' *Perceived Justice*. Still, the results from this did not find any such effect. This would suggest that the evaluation of *Perceived Justice* is more exchange specific, and not influenced by previous experiences.

The results indicate that our study was unable to manipulate these characteristics The only significant impact, on *Loyalty,* indicates that satisfaction measures alone are not enough to explain *Loyalty*. This is consistent with Gustafson, Johnson and Roos' (2005) research stating that satisfaction is not the only driver of retention, but also include affective and calculative commitment, two characteristics of a customer-company relationship. Our results suggest that the commitment effect of relationship has the strongest impact on *Loyalty*, and less impact on (cumulative) *satisfaction* measures and *Perceived Justice*. This can be seen in light of Mattilas' (2001,98) notion that customers having experienced a poorly delivered service are dissatisfied regardless of relationship type, but that the behavioral intentions can be different. An alternative explanation may be found in the calculative commitment of the relationship, meaning that the customer remains loyal due to the effort put into establishing the relationship. In addition, customers may also remain loyal because switching would suggest that they have made "a wrong" decision earlier. Thus, the customer confirms, to oneself, that the initial decision was "right", and remains loyal.

The proposed separate effects of *participation in service recovery* and *relationship* proved insignificant (except relationship on loyalty). Our study was not able to significantly confirm the hypothesis of a two-way interaction between the two, but found tendencies supporting the effects on the measures of *Satisfaction with the company* and *Loyalty.* We would argue that had the separate effects been more evident, it would also allow the interaction to demonstrate itself more clearly. Moreover, the hypothesized three-way interaction was based on the presence of both two-way interactions, and the effect they would have on each other. Unfortunately, neither of the interactions hypothesized in our study was confirmed.

Although several of the hypothesized effects were not supported in this study, we do not discard the potential effects outlined in general. We acknowledge the fact that our study entails some shortcomings. The first is related to the strength of the manipulations. Even though we established significant differences between the "participation in service recovery"-conditions, *high participation in service recovery* may only be high relative to the *low participation in service recovery*-condition. Thus, we have no guarantee that the conditions actually entail a

perceived high degree of participation, only significantly higher than the opposing condition. The same argument also applies to the *Relationship* manipulation where we found significantly different perceptions as well. However, we have no guarantee that these manipulations truly represent the types of customer-company relationship we aimed to illustrate. In addition, manipulating a customer-company relationship is challenging, as each respondents may perceive and weigh the different cues/manipulation arguments differently. This makes it especially challenging to accurately replicate the characteristics of the different relationship-types.

6.1 Managerial implications

Based on the findings of this study we can draw some managerial implications. In our review we discussed several positive effects of customer participation, ranging from the customers' valuation of (partly) self-produced outcomes demonstrated by the IKEA effect, to increased productivity gains, convenience and price reduction. Technological advances have facilitated the increase of customer participation through self-service technologies. But the implications of customer participation when things go wrong, and the participation in the process of resolving the failure, represents other aspects we should be aware of.

When customers have participated in the production of a failed service it affects how they respond to the recovery of the failure and their company evaluations. This study shows that a *higher level of participation in service production* has *positive* effects on their perception of justice after the service failure is recovered. Their satisfaction with the company's effort throughout the process and their loyalty intentions are also enhanced, even in cases where the customer participates in the recovery process. Following our notion that participating customers have a higher perceived loss; the same level of recovery effort may represent a higher level of reparation to them. The importance of a company's recovery-effort thereby increases when the customer participated in producing the service that failed.

Companies should be aware of the *negative* tendencies of customers' participation in *service recovery*. The findings suggest that customers are more prone to attribute the positive outcome of the service recovery to their own effort when

participating. In general this represent a threat to companies, as participating customers are satisfied with the outcome, but not necessarily with the company itself. This can also be seen in line with previous findings that customers opt-out from participating in the recovery, as they consider the failure to be company's responsibility (Andreassen 2011). Companies should carefully consider whether they should involve the customer in the recovery process and be aware of the potential threats. The type of customer-company relationship was found to have a significant effect on customer loyalty. By building relationship with the customer represents a unique possibility to retain a customer despite the negative experience of a service failure incident. No statistical difference was found on *Satisfaction with the company* depending on relationship type, indicating that relationship influences loyalty beyond the aspects of cumulative satisfaction measures.

In sum, our result suggests that companies should not encourage customers to participate in the service recovery. This is due to the potentially negative effect on customers' *Perceived Justice, Satisfaction with the company* and *Loyalty*. If customers' participates in the service production leading to a failure, the importance of service recovery increases, as the same level of recovery yielded significantly better effects than if the customer did not participate in the service production. Still, the increase in a positive effect represents a potential risk of a equally negative effect if the failure is not recovered. The customers' perceived loss remains unrepaired and the company is blamed for the failure (attributed).

7. Limitations and future research

7.1 Limitations

The number and nature of our manipulations may have represented challenges for the respondents' perception of the situation, especially considering the two different or similar levels of participation. The contexts chosen are also different from the actual procedure of course registration at the school, and could potentially confuse the respondents. As mentioned, the use of students as respondents may imply homogeneity of the sample. We also note that by using business students, the respondents may possess a better understanding of the methodology than one would expect from the population in general, a potential source of biased results. Manipulating participation and customers-company

relationship through scenarios is difficult and we may not have captured all aspects involved in a real-life situation. Combined, using scenarios and student samples limits the generalizability of our findings, reducing the external validity. We also note that the sample size of 240 is just sufficient, and by reducing the number of respondents in some groups (5 in total), we may have reduced the observed power of our analysis. In order to ensure sufficient flexibility the sample size should ideally been somewhat higher.

Having removed the two of the items representing the interactional justice aspect in the measure of *Perceived Justice,* also limits the meaning of this construct in our study. In retrospect, the outcome of the recovery effort should have been either clearly successful (exceeding expectations) or unsuccessful (worse than expected) in order to illustrate the self-serving bias effect more clearly. By only considering pseudo- and true relationship the full effects of the self-serving bias may not have been reflected, as social psychology differ between strangers and friends. Thus, we cannot fully discard the possibility that customers in this study assume some responsibility for the failure and share credit for the outcome in both relationship levels included here. Choice has been found to moderate the self-serving bias. As we rather wanted to investigate whether relationship could moderate the self-serving bias, we did not include this aspect, as it would be difficult to determine what caused a potential moderation.

7.2 Future research

Based on this study, we have identified several avenues for future research. We have identified some interesting tendencies of customer participation, and future research should aim to address and test the hold of these effects in other contexts, such as other service industries. Exploring the effects of customer participation in production and recovery should also be considered in context with tangible products. Also, efforts should be made to explore these effects using non-student sample, capturing a more representative array of responses. Technological advances have changed the traditional customer-company interaction on the marketplace. Self-service technologies (SST) have emerged as a key factor in the service delivery for many companies, requiring customers to participate to a greater extent. Additional research is needed to better understand how customers

respond to a failure in a SST-situation, and if customers should participate in the recovery process.

One should also consider a longitudinal study, where the level of participation varies during the process, further exploring the effects of customer participation in service production and service recovery. An especially interesting aspect would be to examine whether customer participation can facilitate more complaints after service failures. Previous research has also found strong, structural relationships between the dependent variables included in this study, and future research should also address whether the aspects of customer-participation influence the relationships. The moderating effect of relationship-types should also be addressed more extensively, contrasting different types of relationships (or lack of) more clearly. Thus, measurements should also be made at different stages in the process in order to truly capture the effects, and gain a better understanding of the actual underlying mechanisms. Moreover, the self-serving bias effect has shown to be moderated by the presence of choice (to participate) (Bendapudi and Leone 2003), and it would be especially interesting to examine this aspect in relation to customer participation in service production and recovery.

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Appendices

Appendix 1:

Scenarios in questionnaire – in English

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Questionnaire

This questionnaire is a part of a masters-thesis at BI Norwegian Business School

In this survey, we ask that you to envision yourself in the story described, and thereby indicate your responses in the questionnaire that follows. Then, we ask that you read the second part of the scenario before answering the last statements. At the end there will be some general questions for descriptive purposes.

You are welcome to use your personal experiences as a student at BI Business School when reading the scenario, but please try as best you can to envision yourself in the situation described and answer the questions accordingly. Please note that BI is only used as an example and has no direct influence on the purpose of the study.

Please make sure that you conduct the survey in the provided order and that you only have one page in front of you at the time.

The duration of the survey is estimated to be 5-7 minutes and all participants remain anonymous.

(PAGE BREAK)

IMAGINE THIS HAPPENING TO YOU!

You are sitting in your dorm room, looking back at the passed year of studies. You have been working steadily, putting effort into your studies, and you have found yourself at-home as a student at BI Business school, both academically and socially.

(True relationship)
The time has come for you to choose elective courses for the next semester so you contact your regular student counselor, who smiles and recognizes you at once. You take a seat and give her a quick update on the current events before bringing up the subject of choosing elective courses. During your studies you have met this student counselor regularly and you are confident that she can help you make right choice.

(or)

(Pseudorelationship)
The time has come for you to choose elective courses for the next semester so you contact an available student counselor, and present yourself politely to her. You take a seat and give her a brief description of yourself before bringing up the subject of choosing elective courses. During your studies you have never met this student counselor, but you guess that she can help you make right choice.

(High Participation in Service Production)
You review the available alternatives together with the student counselor. There is much to choose from and together you discuss the courses that are most relevant to you. Based on this discussion, you decide which course you would like to sign up for. You contribute actively together with the student counselor filling out and submitting the registration form.

(or)

(Low Participation in Service Production)
The student counselor presents the available alternatives to you. There is much to choose from and the student counselor describes the courses that are most relevant to you. Based on this presentation, you decide to follow the student counselors' recommendation for what course to sign up for. The student counselor fills out and submits the registration form, without you needing to make any effort.

(PAGE BREAK)

(Manipulation checks)

1. The situation described in the story is realistic
2. I had no problems envisioning myself in the situation depicted in the scenario
3. Based on the story, I feel that I have a close relation to the student counselor
4. Based on the story, I feel that I contributed heavily in the process of registering my elective course for next semester.

All questions are assessed on a 7 point Likert scale, (Disagree-Agree).

(PAGE BREAK)

(Second part of scenarios)
(Common section, all participants subjected to this text)

During the summer, your new course schedule arrives by mail and you discover that something has gone wrong. You are not registered for the course you wanted, but a course that you have absolutely no interest in.

The course you thought you were registered for was something that you had been looking forward to since the registration submission and you have been told that this course in an important prerequisite to qualify for the jobs you want to apply for when graduating. Moreover, the course had limited capacity, and was one of the most popular courses available.

After contacting the school, you arrange for a meeting with the student counselor.

(High participation in service recovery)
Together you start looking for the cause of the failure. You both search to find your registration forms and you contribute actively in finding the cause of the problem. Together you thoroughly go through what you did last time. Eventually you find that it was caused by a misunderstanding. Fortunately, you are able to correct the mistake, and you got the course you wanted.

(or)

(Low participation in service recovery)
The student counselor starts looking for the cause of the failure. The student counselor searches to find your registration forms, and she thoroughly reviews what was done last time, without you contributing to find out what went wrong. Eventually she finds that it was caused by a misunderstanding. Fortunately, she is able to correct the mistake, and you got the course you wanted.

(PAGE BREAK)

(Manipulation checks)

5. The situation described in the story is realistic
6. I had no problems envisioning myself in the situation depicted in the scenario
7. Based on the story, I feel that the failure present represent potentially serious consequences to me.
8. Based on the story, I feel that I contributed heavily in the process of correcting the registration of my elective course for next semester.

   (All questions are assessed on a 7 point Likert scale, (Disagree-Agree)).

(PAGE BREAK)

Items in the questionnaire are provided in the table in section 4.4. They are arranged in the correct order, counting from item (q)9 to item (q)23.

The items were measured by the following.

- Item q9 was measured on a 9-point Likert scale,
  ranging between "Very dissatisfied – Neither- Very satisfied"
- Item q10 was measured on a 9-point Likert scale
  ranging between "Very distant – Neither – Very close"
- Item q11 was measured on a 9-point Likert scale
  ranging between "Very dissatisfied – Neither- Very satisfied"
- Items q12-q20 were measured on a 9-point Likert scale
  ranging between "Totally disagree – Neither agree nor disagree – Totally agree"
- Item q 21 was measured on a 9-point Likert scale
  ranging between "Very dissatisfied – Neither- Very satisfied"
- Item q22 was measured on a 9-point Likert scale
  ranging between "Very distant – Neither – Very close"
- Item q23 was measured on a 9-point Likert scale
  ranging between "Very dissatisfied – Neither- Very satisfied"

In addition, respondents were asked to indicate gender, age and year of study at the end of the questionnaire. (q 24-26).

Appendix 2:

Original questionnaire in Norwegian, with all manipulations

This questionnaire contains all manipulations in one. Respondents though, were only subjected to one of each manipulations, the distribution of these can be found in the table in the appendix above.

_____

SPØRREUNDERSØKELSE

Denne spørreundersøkelsen er en del av en masteroppgave
ved Handelshøyskolen BI.

I undersøkelsen ønsker vi at du skal sette deg inn i en kort historie, og dermed ta stilling til noen utsagn og spørsmål basert på dette. Videre ber vi deg lese den neste delen av historien før du tar stilling til de siste utsagnene. Til slutt kommer noen generelle spørsmål om deg.

Bruk gjerne dine erfaringer som student ved BI når du leser historien, men prøv så godt du kan å sette deg selv i situasjonen som beskrives og svar på spørsmålene deretter. Vi gjør oppmerksom på at Handelshøyskolen BI kun er brukt som et eksempel, og har ikke noe direkte med undersøkelsen å gjøre.

Sørg for at du gjennomfører undersøkelsen i den rekkefølgen den er gitt, og at du kun har én side oppe av gangen.

Det vil ta ca 5-7 minutter å svare på undersøkelsen, og undersøkelsen er anonym.

TENK DEG AT DETTE SKJER DEG

Du sitter hjemme i hybelen og ser tilbake på studieåret som har vært. Du har arbeidet jevnt og trutt med studiene, og funnet deg til rette som student på BI, både faglig og sosialt.

(True relationship)
Nå er tiden inne for å velge valgkurs til neste semester, og du henvender deg til din faste studieveileder som smiler og kjenner deg raskt igjen. Du setter deg ned og gir henne en kort oppdatering siden sist før du tar opp temaet om valgkurs. Du har hatt jevnlig kontakt med denne studieveilederen tidligere, og du stoler på at hun kan hjelpe deg med å velge rett valgkurs.

(eller)

(Pseudo-relationship)
Nå er tiden inne for å velge valgkurs til neste semester, og du henvender deg til en tilgjengelig studieveileder og presenterer deg høflig for henne. Du setter deg ned og gir henne en kort beskrivelse av deg selv før du tar opp temaet om valgkurs. Du har ikke hatt kontakt med denne studieveilederen tidligere, men du regner med at hun kan hjelpe deg med å velge rett valgkurs.

(High participation in Service Production)
Sammen med studieveilederen går du igjennom de alternativene du har. Det er mye å velge i, og du diskuterer de kursene som er mest relevante for deg med studieveilederen. På bakgrunn av samtalen bestemmer du deg for hvilket valgkurs du ønsker å melde deg opp i. Du bidrar aktivt sammen med studieveilederen når dere fyller ut registreringsskjemaet og sender det inn.

(eller)

(Low participation in Service Production)
Studieveilederen går igjennom de alternativene du har. Det er mye å velge i, og studieveilederen beskriver de kursene som er mest relevante for deg. På bakgrunn av samtalen bestemmer du deg for å følge studieveilederens anbefaling om hvilket kurs du bør melde deg opp i. Studieveilederen fyller ut registreringsskjemaet for deg og sender det inn, uten at du behøvde å bidra

I denne delen av undersøkelsen ber vi deg ta stilling til noen utsagn basert på historien på forrige side.

Basert på historien foran, vær vennlig å ta stilling til i hvilken grad du er enig/uenig i følgende utsagn:

1. **Situasjonen beskrevet i historien er realistisk.**

1	2	3	4	5	6	7
Uenig						Enig

2. **Jeg hadde ingen problemer med å forestille meg selv i situasjonen som er beskrevet i scenarioet.**

1	2	3	4	5	6	7
Uenig						Enig

3. **Basert på denne historien, føler jeg at jeg har et nært forhold til studieveilederen.**

1	2	3	4	5	6	7
Uenig						Enig

4. **Basert på denne historien føler jeg at jeg bidro mye i prosessen med å registrere valgkurset mitt for neste semester.**

1	2	3	4	5	6	7
Uenig						Enig

I løpet av sommeren kommer den nye timeplanen din i posten og du oppdager at det har skjedd en feil. Du er ikke oppmeldt i det valgkurset du ønsket mest, men har blitt registrert på et kurs du overhodet ikke har noen interesse av.

Kurset du trodde du var oppmeldt til er noe du har sett frem til siden oppmeldingen, og du har dessuten fått vite at det er en viktig forutsetning for å kvalifisere til de jobbene du ønsker å søke etter studiene. Dessuten hadde det begrenset med plasser og var ett av de mest populære kursene.

Etter å ha snakket med skolen avtales et nytt møte med studieveilederen.

(High participation in service recovery)
Sammen med studieveilederen begynner du å se etter hva som har gått galt under oppmeldingen. Dere leter opp oppmeldingsskjemaene dine, og du bidrar aktivt til å lete etter hva som har gått galt. Sammen går dere grundig igjennom det som ble gjort sist. Til slutt finner dere ut at det hele skyldes en misforståelse. Heldigvis klarer dere å rette opp feilen, og du får plass på det valgkurset du ønsker

(eller)

(Low participation in service recovery)
Studieveilederen begynner å se etter hva som har gått galt under oppmeldingen. Studieveilederen leter opp oppmeldingsskjemaene dine, og hun går selv grundig igjennom det som ble gjort sist, uten at du bidrar til å lete etter hva som har gått galt. Til slutt finner hun ut at det hele skyldes en misforståelse. Heldigvis klarer studieveilederen å rette opp feilen, og du får plass på det valgkurset du ønsker.

Ta stilling til i hvilken grad du er enig/uenig i følgende utsagn, og sett ring rundt den tallverdien som passer best!

5. Situasjonen beskrevet i historien er realistisk.

1	2	3	4	5	6	7
Uenig						Enig

6. Jeg hadde ingen problemer med å forestille meg selv i situasjonen som er beskrevet i scenarioet.

1	2	3	4	5	6	7
Uenig						Enig

7. Basert på denne historien føler jeg at feilen kunne ha fått alvorlige konsekvenser for meg.

1	2	3	4	5	6	7
Uenig						Enig

8. Basert på denne historien føler jeg at jeg bidro mye i prosessen med å rette opp registreringen av valgkurset mitt for neste semester.

1	2	3	4	5	6	7
Uenig						Enig

I denne delen av undersøkelsen ber vi deg ta stilling til noen utsagn basert på siste del av historien.

Ta stilling til i hvilken grad du er enig/uenig i følgende utsagn, og sett ring rundt den tallverdien som passer best!

9. På bakgrunn av historien, hvor fornøyd eller misfornøyd er du med studieveilederen?

1	2	3	4	5	6	7	8	9
Svært misfornøyd				Hverken eller				Svært fornøyd

10. Tenk deg en ideell studieveileder. Med bakgrunn i historien, hvor langt fra eller hvor nært synes du studieveilederen er i forhold til dette idealet.

1	2	3	4	5	6	7	8	9
Svært langt fra				Hverken eller				Svært nært

11. På bakgrunn av historien, i hvilken grad føler du at studieveilederen innfrir til dine forventninger?

1	2	3	4	5	6	7	8	9
Svært misfornøyd				Hverken eller				Svært fornøyd

12. På bakgrunn av historien føler jeg at utfallet av situasjonen er rettferdig

1	2	3	4	5	6	7	8	9
Helt uenig				Hverken enig eller uenig				Helt enig

13. På bakgrunn av historien føler jeg at håndteringen av situasjonen er riktig

1	2	3	4	5	6	7	8	9
Helt uenig				Hverken enig eller uenig				Helt enig

14. På bakgrunn av historien føler jeg at forholdet mellom min innsats i prosessen og utfallet av situasjonen er rettferdig

1	2	3	4	5	6	7	8	9
Helt uenig				Hverken enig eller uenig				Helt enig

15. På bakgrunn av historien føler jeg at håndteringen av situasjonen var rettferdig.

1	2	3	4	5	6	7	8	9
Helt uenig				Hverken enig eller uenig				Helt enig

16. På bakgrunn av historien føler jeg at studieveilederen var oppmerksom og virket oppriktig interessert i å hjelpe meg.

1	2	3	4	5	6	7	8	9
Helt uenig				Hverken enig eller uenig				Helt enig

17. På bakgrunn av historien føler jeg at studieveilederen var oppmerksom under håndteringen av min situasjon

1	2	3	4	5	6	7	8	9
Helt uenig				Hverken enig eller uenig				Helt enig

18. På bakgrunn av historien vil jeg omtale studieveilederen positivt i samtale med mine medstudenter.

1	2	3	4	5	6	7	8	9
Helt uenig				Hverken enig eller uenig				Helt enig

19. På bakgrunn av historien vil jeg anbefale denne studieveilederen til mine medstudenter om de spør meg om råd.

1	2	3	4	5	6	7	8	9
Helt uenig				Hverken enig eller uenig				Helt enig

20. På bakgrunn av historien ser jeg på denne studieveilederen som mitt første valg neste gang jeg trenger hjelp.

1	2	3	4	5	6	7	8	9
Helt uenig				Hverken enig eller uenig				Helt enig

21. På bakgrunn av historien, hvor fornøyd eller misfornøyd er du med klagehåndteringen?

1	2	3	4	5	6	7	8	9
Svært Misfornøyd				Hverken eller				Svært fornøyd

22. Tenk deg en ideell måte å håndtere klager på. Med bakgrunn i historien, hvor langt fra eller hvor nært synes du klagehåndteringen i dette tilfellet er i forhold til idealet.

1	2	3	4	5	6	7	8	9
Svært langt fra				Hverken eller				Svært nært

23. På bakgrunn av historien, i hvilken grad føler du at klagehåndteringen innfrir til dine forventninger?

1	2	3	4	5	6	7	8	9
Svært Misfornøyd				Hverken eller				Svært fornøyd

24. **Kjønn:**

☐ Kvinne
☐ Mann

25. Alder: _____

26. Studieår:

☐ 1. Studieår
☐ 2. Studieår
☐ 3. Studieår
☐ 4. Studieår
☐ 5. Studieår

TUSEN TAKK FOR HJELPEN!

Appendix 3:

Manipulation checks – Pretest 1

ANOVA

Relationship_Perc

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	19.531	1	19.531	5.748	.023
Within Groups	101.938	30	3.398		
Total	121.469	31			

ANOVA

PSProd_Perc

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11.281	1	11.281	3.961	.056
Within Groups	85.438	30	2.848		
Total	96.719	31			

ANOVA

PSR_Perc

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.281	1	.281	.132	.719
Within Groups	63.938	30	2.131		
Total	64.219	31			

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Severity	32	1.00	7.00	5.6562	1.47253
Valid N (listwise)	32				

Appendix 4:

Manipulation checks – Pretest 2

ANOVA

Relationship_Perc

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	22.500	1	22.500	8.593	.006
Within Groups	99.500	38	2.618		
Total	122.000	39			

ANOVA

PSProd_Perc

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	36.100	1	36.100	21.502	.000
Within Groups	63.800	38	1.679		
Total	99.900	39			

ANOVA

PSR_Perc

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	42.025	1	42.025	16.172	.000
Within Groups	98.750	38	2.599		
Total	140.775	39			

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Severity	40	2.00	7.00	5.7750	1.44093
Valid N (listwise)	40				

Appendix 5:

Descriptive statistics of the sample

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	95	39.6	39.6	39.6
	Female	145	60.4	60.4	100.0
	Total	240	100.0	100.0	

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	240	19.00	54.00	22.5875	3.30092
Study_y	240	1.00	5.00	2.0042	1.11099
Valid N (listwise)	240				

q25.Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19.00	10	4.2	4.2	4.2
	20.00	46	19.2	19.2	23.3
	21.00	43	17.9	17.9	41.3
	22.00	44	18.3	18.3	59.6
	23.00	32	13.3	13.3	72.9
	24.00	23	9.6	9.6	82.5
	25.00	19	7.9	7.9	90.4
	26.00	8	3.3	3.3	93.8
	27.00	5	2.1	2.1	95.8
	28.00	1	.4	.4	96.3
	29.00	2	.8	.8	97.1
	30.00	1	.4	.4	97.5
	31.00	2	.8	.8	98.3
	32.00	1	.4	.4	98.8
	35.00	2	.8	.8	99.6
	54.00	1	.4	.4	100.0
	Total	240	100.0	100.0	

Study_year

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	90	37.5	37.5	37.5
	2.00	100	41.7	41.7	79.2
	3.00	25	10.4	10.4	89.6
	4.00	9	3.8	3.8	93.3
	5.00	16	6.7	6.7	100.0
	Total	240	100.0	100.0	

Appendix 6:

Descriptive statistics – Means, SD, Skewness and Kurtosis

Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
q1.Realism	240	4,0042	1,77264	-,061	,157	-1,063	,313
q2.Depict	240	4,4167	1,81847	-,181	,157	-1,108	,313
q3.Relationship_Perc	240	4,1250	1,84805	-,113	,157	-1,083	,313
q4.PSProd_Perc	240	3,8000	1,73133	,112	,157	-,927	,313
q5.Realism2	240	4,2417	1,49194	,014	,157	-,710	,313
q6.Depict2	240	4,4333	1,69040	-,162	,157	-,947	,313
q7.Severity	240	5,8208	1,25311	-1,188	,157	1,050	,313
q8.PSR_Perc	240	4,4250	1,79568	-,275	,157	-,988	,313
q9.Sat1	240	5,3083	2,06908	-,079	,157	-,559	,313
q10.Sat2	240	5,0750	1,96906	,034	,157	-,513	,313
q11.Sat3	240	5,3625	1,94642	-,139	,157	-,561	,313
q12.PercJ4	240	6,8583	1,93750	-,968	,157	,562	,313
q13.PercJ5	240	7,1250	1,53106	-,833	,157	,786	,313
q14.PercJ6	240	6,3875	1,91336	-,569	,157	-,054	,313
q15.PercJ7	240	6,6750	1,75562	-,617	,157	,065	,313
q16.PercJ8	240	6,6583	1,94483	-,845	,157	,247	,313
q17.PercJ9	240	5,5333	2,17991	-,280	,157	-,789	,313
q18.Loyalty10	240	5,6500	2,28932	-,308	,157	-,810	,313
q19.Loyalty11	240	5,4125	2,28892	-,105	,157	-,891	,313
q20.Loyalty12	240	5,1125	2,51020	-,026	,157	-1,114	,313
q21.SatSR13	240	6,9125	1,67077	-,642	,157	-,009	,313
q22.SatSR14	240	6,4417	1,75149	-,479	,157	-,234	,313
q23.SatSR15	240	6,8833	1,60639	-,633	,157	,088	,313
Valid N (listwise)	240						

Appendix 7:

Manipulation checks

Mean scores - Realism and imaginability

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
q1.Realism	240	1.00	7.00	4.0042	1.77264
q2.Depict	240	1.00	7.00	4.4167	1.81847
q5.Realism2	240	1.00	7.00	4.2417	1.49194
q6.Depict2	240	1.00	7.00	4.4333	1.69040
Valid N (listwise)	240				

Manipulation check – Perceived customer Company relationship

ANOVA

q3.Relationship_Perc

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	138,017	1	138,017	48,432	,000
Within Groups	678,233	238	2,850		
Total	816,250	239			

q3.Relationship_Perc

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
True relationship	120	4,8833	1,81582	,16576	4,5551	5,2116	1,00	7,00
Pseudo relationship	120	3,3667	1,54992	,14149	3,0865	3,6468	1,00	7,00
Total	240	4,1250	1,84805	,11929	3,8900	4,3600	1,00	7,00

Manipulation check – Perceived Participation in Service Production

ANOVA

q4.PSProd_Perc

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	290,400	1	290,400	162,242	,000
Within Groups	426,000	238	1,790		
Total	716,400	239			

Descriptives

q4.PSProd_Perc

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Low level of participation in S. Prod	120	2,7000	1,30029	,11870	2,4650	2,9350	1,00	6,00
High level of participation	120	4,9000	1,37444	,12547	4,6516	5,1484	1,00	7,00
Total	240	3,8000	1,73133	,11176	3,5798	4,0202	1,00	7,00

Manipulation check – Perceived Participation in Service Recovery

ANOVA

q8.PSR_Perc

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	170,017	1	170,017	67,369	,000
Within Groups	600,633	238	2,524		
Total	770,650	239			

Descriptives

q8.PSR_Perc

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Low level of part. in SR	120	3,5833	1,76132	,16079	3,2650	3,9017	1,00	7,00
High level of part. in SR	120	5,2667	1,39467	,12732	5,0146	5,5188	1,00	7,00
Total	240	4,4250	1,79568	,11591	4,1967	4,6533	1,00	7,00

Manipulation check – Perceived Severity

ANOVA

q7.Severity

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10,796	7	1,542	,982	,445
Within Groups	364,500	232	1,571		
Total	375,296	239			

Descriptives

q7.Severity

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
A	30	5,4333	1,16511	,21272	4,9983	5,8684	3,00	7,00
B	30	5,9333	1,31131	,23941	5,4437	6,4230	2,00	7,00
C	30	5,6000	1,32873	,24259	5,1038	6,0962	2,00	7,00
D	30	6,1000	,95953	,17518	5,7417	6,4583	4,00	7,00
E	30	6,0667	1,28475	,23456	5,5869	6,5464	3,00	7,00
F	30	5,7333	1,22990	,22455	5,2741	6,1926	2,00	7,00
G	30	5,8667	1,40770	,25701	5,3410	6,3923	2,00	7,00
H	30	5,8333	1,28877	,23530	5,3521	6,3146	2,00	7,00
Total	240	5,8208	1,25311	,08089	5,6615	5,9802	2,00	7,00

Appendix 8:

EFA- Rotated Factor Matrices

EFA- Rotated Factor Matrix 1 - Varimax

Rotated Factor Matrix[a]

	Factor			
	1	2	3	4
q9.Sat1	.411		.696	
q10.Sat2	.333		.729	
q11.Sat3	.358		.775	
q12.PercJ4		.564		
q13.PercJ5		.570		
q14.PercJ6		.593		
q15.PercJ7		.879		
q16.PercJ8	.460	.330		
q17.PercJ9	.592			
q18.Loyalty10	.845		.352	
q19.Loyalty11	.862		.338	
q20.Loyalty12	.823		.326	
q21.SatSR13				.715
q22.SatSR14				.664
q23.SatSR15		.320		.796

Extraction Method: Maximum Likelihood.

Rotation Method: Varimax with Kaiser Normalization.

EFA- Rotated Factor Matrix 2 - Varimax

Rotated Factor Matrix[a]

	Factor			
	1	2	3	4
q9.Sat1	.382		.708	
q10.Sat2	.302		.742	
q11.Sat3	.325		.786	
q12.PercJ4		.580		
q13.PercJ5		.579		
q14.PercJ6		.607		
q15.PercJ7		.871		
q18.Loyalty10	.819		.380	
q19.Loyalty11	.850		.361	
q20.Loyalty12	.802		.353	
q21.SatSR13				.712
q22.SatSR14				.668
q23.SatSR15		.331		.799

Extraction Method: Maximum Likelihood.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

EFA- Rotated Factor Matrix 3 - Oblimin

Pattern Matrix[a]

	Factor			
	1	2	3	4
q9.Sat1			.715	
q10.Sat2			.812	
q11.Sat3			.844	
q12.PercJ4		.576		
q13.PercJ5		.572		
q14.PercJ6		.640		
q15.PercJ7		.978		
q18.Loyalty10	.889			
q19.Loyalty11	.947			
q20.Loyalty12	.885			
q21.SatSR13				.738
q22.SatSR14				.708
q23.SatSR15				.816

Extraction Method: Maximum Likelihood.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Structure Matrix

	Factor			
	1	2	3	4
q9.Sat1	.667	.417	.836	.357
q10.Sat2	.584	.342	.819	
q11.Sat3	.650	.449	.892	.362
q12.PercJ4	.353	.666	.366	.449
q13.PercJ5	.356	.667	.344	.464
q14.PercJ6	.349	.662	.314	.368
q15.PercJ7	.351	.892	.325	.414
q18.Loyalty10	.950	.477	.701	.410
q19.Loyalty11	.962	.441	.687	.396
q20.Loyalty12	.913	.417	.660	.389
q21.SatSR13	.384	.449		.773
q22.SatSR14	.304	.397	.345	.717
q23.SatSR15	.381	.557		.872

Extraction Method: Maximum Likelihood.

Rotation Method: Oblimin with Kaiser Normalization.

Factor Correlation Matrix

Factor	1	2	3	4
1	1.000	.458	.703	.409
2	.458	1.000	.430	.552
3	.703	.430	1.000	.353
4	.409	.552	.353	1.000

Extraction Method: Maximum Likelihood.

Rotation Method: Oblimin with Kaiser Normalization.

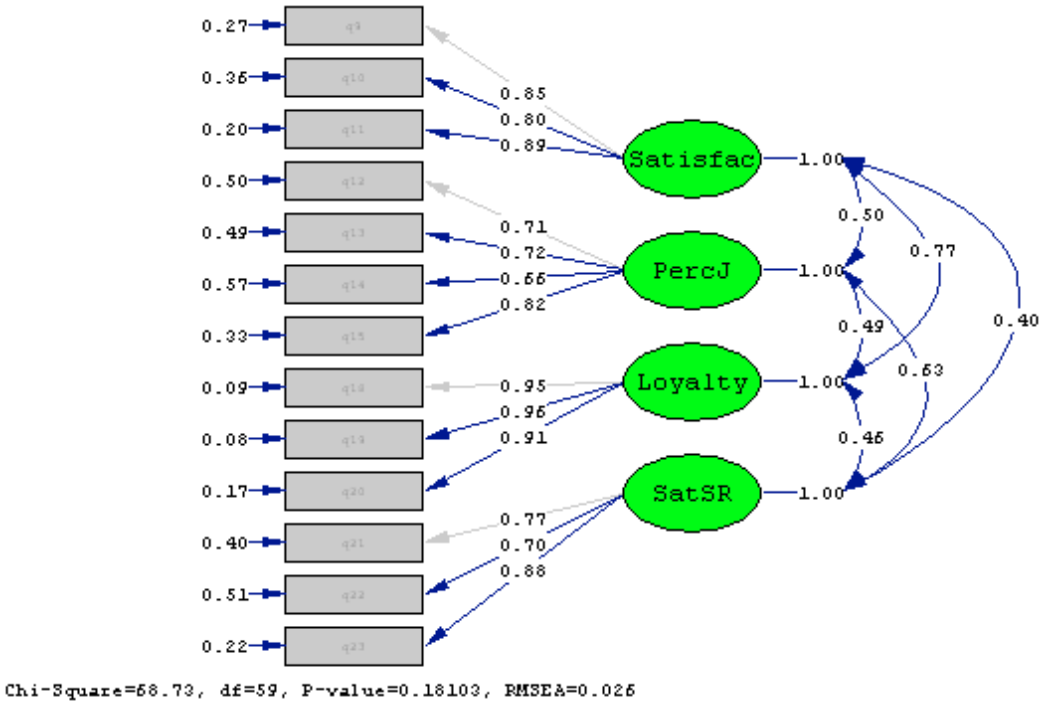
Appendix 9:

CFA- Syntax and Goodness of fit Statistics

Syntax

```
Confirmatory Factor Analysis

Observed variables
      q9 q10 q11 q12 q13 q14 q15 q16 q17 q18 q19 q21 q22 q23

Raw data from file MainStudyLISREL1506.psf
Sample size 240

Latent Variables: SatisfactionWC PercJ Loyalty SatSR

Relationships:
q9 = 1*SatisfactionWC
q10 = SatisfactionWC
q11 = SatisfactionWC
q12 = 1*PercJ
q13 = PercJ
q14 = PercJ
q15 = PercJ
!q16 = PercJ (Excluded after second CFA run)
!q17 = PercJ (Excluded after first CFA run)
q18 = 1*Loyalty
q19 = Loyalty
q20 = Loyalty
q21 = 1*SatSR
q22 = SatSR
q23 = SatSR

Path diagram
Number of decimals = 3
Lisrel output: RS SS SC EF
Wide print
Print residuals

End of problem
```

Measurement model



Goodness of fit statistics

```
Goodness of Fit Statistics

Degrees of Freedom = 59
Minimum Fit Function Chi-Square = 70.717 (P = 0.141)
Normal Theory Weighted Least Squares Chi-Square = 68.731
P = 0.181)
Estimated Non-centrality Parameter (NCP) = 9.731
90 Percent Confidence Interval for NCP = (0.0 ; 34.535)

Minimum Fit Function Value = 0.296
Population Discrepancy Function Value (F0) = 0.0407
90 Percent Confidence Interval for F0 = (0.0 ; 0.144)
Root Mean Square Error of Approximation (RMSEA) = 0.0263
90 Percent Confidence Interval for RMSEA = (0.0 ; 0.0495)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.954

Expected Cross-Validation Index (ECVI) = 0.555
90 Percent Confidence Interval for ECVI = (0.515 ; 0.659)
ECVI for Saturated Model = 0.762
ECVI for Independence Model = 16.212

Chi-Square for Independence Model with 78 Degrees of Freedom =
3848.622
Independence AIC = 3874.622
Model AIC = 132.731
Saturated AIC = 182.000
Independence CAIC = 3932.871
Model CAIC = 276.112
```

```
Saturated CAIC = 589.738

Normed Fit Index (NFI) = 0.982
Non-Normed Fit Index (NNFI) = 0.996
Parsimony Normed Fit Index (PNFI) = 0.743
Comparative Fit Index (CFI) = 0.997
Incremental Fit Index (IFI) = 0.997
Relative Fit Index (RFI) = 0.976

Critical N (CN) = 295.594


Root Mean Square Residual (RMR) = 0.118
Standardized RMR = 0.0329
Goodness of Fit Index (GFI) = 0.958
Adjusted Goodness of Fit Index (AGFI) = 0.935
Parsimony Goodness of Fit Index (PGFI) = 0.621
```

Appendix 10:

AVE, CR and squared correlation – calculations

Average Variance Extracted (AVE) and Composite Reliability (CR) calculations.

(Lambda's and Erros were found CFA measurement model output.)

	Lambda	Lambda2	Error	AVE	CR
Satisfaction with the company					
q9	0,854	0,729316	0,271		
q10	0,803	0,644809	0,356		
q11	0,893	0,797449	0,203		
Sum	2,55	2,171574	0,83	**0,723478415**	**0,886805319**
Perceived Justice					
q12	0,708	0,501264	0,499		
q13	0,716	0,512656	0,488		
q14	0,656	0,430336	0,569		
q15	0,816	0,665856	0,334		
Sum	2,896	2,110112	1,89	**0,52751323**	**0,816090898**
Loyalty					
q18	0,955	0,912025	0,088		
q19	0,958	0,917764	0,082		
q20	0,913	0,833569	0,166		
Sum	2,826	2,663358	0,336	**0,887976027**	**0,959626429**
Satisfaction with the service recovery					
q21	0,774	0,599076	0,4		
q22	0,699	0,488601	0,511		
q23	0,88	0,7744	0,225		
Sum	2,353	1,862077	1,136	**0,621090452**	**0,829751751**

AVE = Avergave Variance Extracted , CR= Composite Reliability

Correlation of dependent variables

Correlations between the dependent variables were calculated using bivariate correlation in SPSS, and all correlations were significant at a 0.000 level.

Correlation matrix of latent/dependent variables

	Sat w/C	Perceived J.	Loyalty	Sat. w/ SR.
Satisfaction with the company	1			
Perceived Justice	0,436	1		
Loyalty	0,709	0,443	1	
Satisfaction with the service recovery	0,363	0,514	0,417	1

Squared correlations

	Sat w/C	Perceived J.	Loyalty	Sat. w/ SR.
Satisfaction with the company	1			
Perceived Justice	0,190096	1		
Loyalty	0,502681	0,196249	1	
Satisfaction with the service recovery	0,131769	0,264196	0,173889	1

Appendix 11:

MANOVA assumptions

Test of normality

This is the first test if normality after the factor analysis.

Another test of normality is run after Mahalanobis distance tests, to see if the items removed changed the normality scores.

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
SatisfactionWC	.055	240	.076	.987	240	.031
PerceivedJustice	.080	240	.001	.966	240	.000
Loyalty	.074	240	.003	.964	240	.000
SatSR	.082	240	.000	.971	240	.000

a. Lilliefors Significance Correction

Mahalanobis distance tests

1. Test

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	89.7085	155.0588	120.5000	10.54489	240
Std. Predicted Value	-2.920	3.277	.000	1.000	240
Standard Error of Predicted Value	4.866	27.475	9.457	3.222	240
Adjusted Predicted Value	83.4549	158.1339	120.4384	10.81108	240
Residual	-124.33489	139.17972	.00000	68.62073	240
Std. Residual	-1.797	2.011	.000	.992	240
Stud. Residual	-1.805	2.045	.000	1.002	240
Deleted Residual	-125.44995	143.84993	.06156	70.01730	240
Stud. Deleted Residual	-1.813	2.059	.000	1.003	240
Mahal. Distance	.186	36.676	3.983	4.303	240
Cook's Distance	.000	.037	.004	.005	240
Centered Leverage Value	.001	.153	.017	.018	240

a. Dependent Variable: CaseNO

2.Test

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	90.8625	154.6317	119.9322	10.07119	236
Std. Predicted Value	-2.886	3.445	.000	1.000	236
Standard Error of Predicted Value	5.009	20.463	9.738	2.815	236
Adjusted Predicted Value	84.5266	158.2685	119.8880	10.35685	236
Residual	-124.93783	140.83192	.00000	69.03694	236
Std. Residual	-1.794	2.023	.000	.991	236
Stud. Residual	-1.803	2.059	.000	1.002	236
Deleted Residual	-126.44424	145.89513	.04417	70.53789	236
Stud. Deleted Residual	-1.812	2.073	.000	1.004	236
Mahal. Distance	.220	19.299	3.983	3.144	236
Cook's Distance	.000	.042	.004	.006	236
Centered Leverage Value	.001	.082	.017	.013	236

a. Dependent Variable: CaseNO

3. Test

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	91.1089	154.5237	120.0766	9.98034	235
Std. Predicted Value	-2.902	3.451	.000	1.000	235
Standard Error of Predicted Value	5.049	20.016	9.791	2.778	235
Adjusted Predicted Value	84.7828	158.1527	120.0202	10.28945	235
Residual	-124.71568	140.02174	.00000	69.16488	235
Std. Residual	-1.788	2.007	.000	.991	235
Stud. Residual	-1.796	2.044	.000	1.002	235
Deleted Residual	-125.89890	145.21289	.05637	70.69153	235
Stud. Deleted Residual	-1.805	2.058	.000	1.004	235

Mahal. Distance	.230	18.266	3.983	3.050	235
Cook's Distance	.000	.043	.004	.006	235
Centered Leverage Value	.001	.078	.017	.013	235

a. Dependent Variable: CaseNO

Univariate normality – after removing 5 observations

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
SatisfactionWC	.063	235	.024	.988	235	.053
PerceivedJustice	.074	235	.003	.973	235	.000
Loyalty	.074	235	.004	.967	235	.000
SatSR	.081	235	.001	.972	235	.000

a. Lilliefors Significance Correction

Box M's test of Equality of Covariance Matrices

Box's Test of Equality of Covariance Matrices[a]

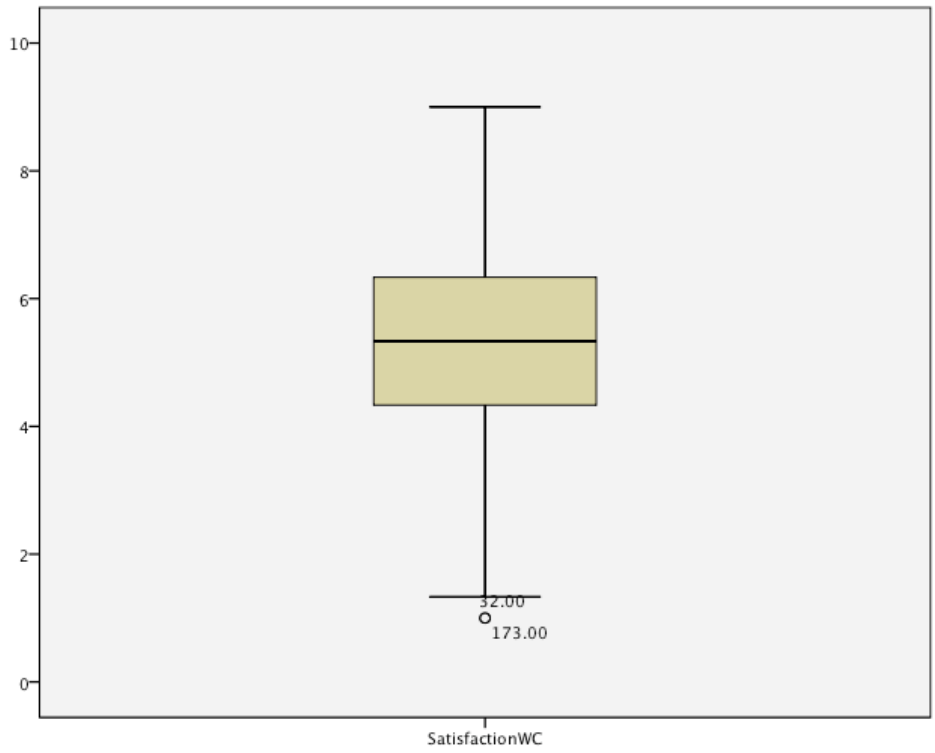
Box's M	96.970
F	1.305
df1	70
df2	70424.358
Sig.	.044

Levenes test of Equality of Error Variances

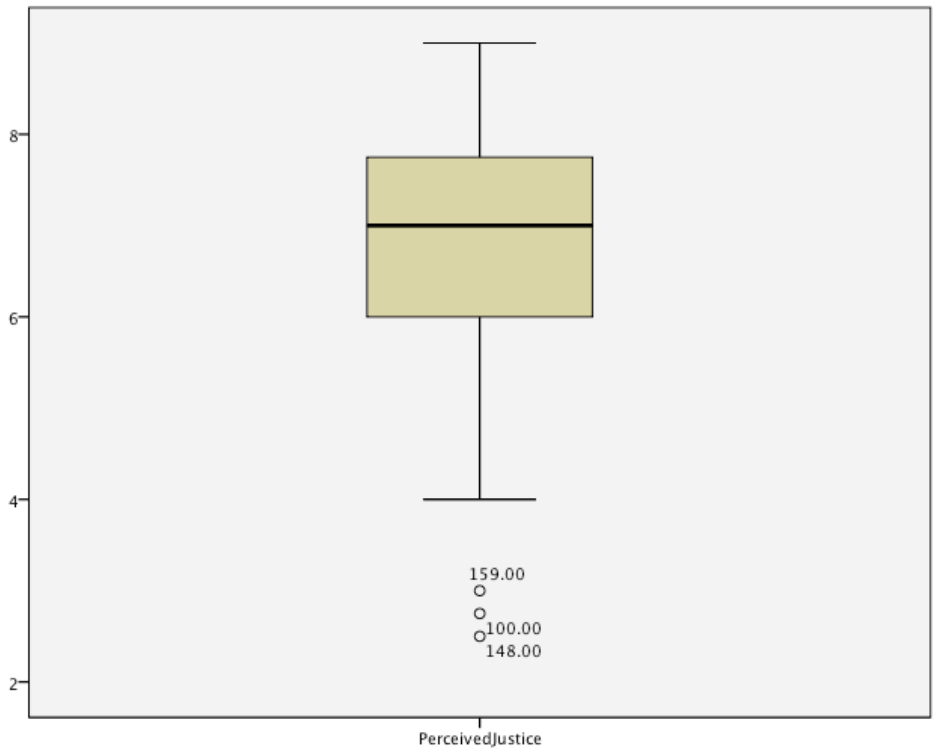
Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
SatisfactionWC	2.552	7	227	.015
PerceivedJustice	1.683	7	227	.114
Loyalty	1.476	7	227	.177
SatSR	1.629	7	227	.128

Outliers ***Box-plot of Satisfaction with the company***



Box-plot of Satisfaction with the company



5% trimmed mean of dependent variables

	Mean	5% trimmed mean	Difference
Satisfaction with the company	5,3234	5,3286	-0,0052
Perceived Justice	6,8128	6,8528	-0,0400
Loyalty	5,3801	5,4180	-0,0379
Satisfaction with the service recovery	6,7177	6,7671	-0,0494

Correlation matrix of dependent variables

Note that this correlation matrix is different from the one provided in the AVE and CR calculations. This is due to the fact that we removed five observations during the assessment of Normality (multivariate normality). Having removed these items, we needed to calculate a new correlation-matrix in this assessment.

Correlations

		Satisfaction WC	Perceived Justice	Loyalty	SatSR
SatisfactionWC	Pearson Correlation	1	.410**	.774**	.428**
	Sig. (2-tailed)		.000	.000	.000
	N	235	235	235	235
PerceivedJustice	Pearson Correlation	.410**	1	.445**	.602**
	Sig. (2-tailed)	.000		.000	.000
	N	235	235	235	235
Loyalty	Pearson Correlation	.774**	.445**	1	.443**
	Sig. (2-tailed)	.000	.000		.000
	N	235	235	235	235
SatSR	Pearson Correlation	.428**	.602**	.443**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	235	235	235	235

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

Muliticollinearity; Tolerance and VIF-statistics

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	155.043	25.775		6.015	.000		
SatisfactionWC	-1.460	4.195	-.036	-.348	.728	.392	2.554
PerceivedJustice	-3.685	4.357	-.071	-.846	.398	.597	1.675
Loyalty	4.960	3.328	.158	1.491	.137	.378	2.642
SatSR	-4.284	4.114	-.088	-1.041	.299	.592	1.688

Appendix 12:

MANOVA-analyis significance testing

Multivariate Tests[c]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Intercept	Pillai's Trace	,970	1825.444[a]	4,000	224,000	,000	,970	7301,774	1,000
	Wilks' Lambda	,030	1825.444[a]	4,000	224,000	,000	,970	7301,774	1,000
	Hotelling's Trace	32,597	1825.444[a]	4,000	224,000	,000	,970	7301,774	1,000
	Roy's Largest Root	32,597	1825.444[a]	4,000	224,000	,000	,970	7301,774	1,000
Relationship	Pillai's Trace	,068	4.105[a]	4,000	224,000	,003	,068	16,418	,913
	Wilks' Lambda	,932	4.105[a]	4,000	224,000	,003	,068	16,418	,913
	Hotelling's Trace	,073	4.105[a]	4,000	224,000	,003	,068	16,418	,913
	Roy's Largest Root	,073	4.105[a]	4,000	224,000	,003	,068	16,418	,913
PSProd	Pillai's Trace	,153	10.151[a]	4,000	224,000	,000	,153	40,603	1,000
	Wilks' Lambda	,847	10.151[a]	4,000	224,000	,000	,153	40,603	1,000
	Hotelling's Trace	,181	10.151[a]	4,000	224,000	,000	,153	40,603	1,000
	Roy's Largest Root	,181	10.151[a]	4,000	224,000	,000	,153	40,603	1,000
PSRecov	Pillai's Trace	,011	.613[a]	4,000	224,000	,653	,011	2,454	,200
	Wilks' Lambda	,989	.613[a]	4,000	224,000	,653	,011	2,454	,200
	Hotelling's Trace	,011	.613[a]	4,000	224,000	,653	,011	2,454	,200
	Roy's Largest Root	,011	.613[a]	4,000	224,000	,653	,011	2,454	,200

Continued : MANOVA-analyis significance testing

Multivariate Tests[c]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Relationship * PSProd	Pillai's Trace	,023	1.300[a]	4,000	224,000	,271	,023	5,200	,403
	Wilks' Lambda	,977	1.300[a]	4,000	224,000	,271	,023	5,200	,403
	Hotelling's Trace	,023	1.300[a]	4,000	224,000	,271	,023	5,200	,403
	Roy's Largest Root	,023	1.300[a]	4,000	224,000	,271	,023	5,200	,403
Relationship * PSRecov	Pillai's Trace	,010	.565[a]	4,000	224,000	,688	,010	2,260	,186
	Wilks' Lambda	,990	.565[a]	4,000	224,000	,688	,010	2,260	,186
	Hotelling's Trace	,010	.565[a]	4,000	224,000	,688	,010	2,260	,186
	Roy's Largest Root	,010	.565[a]	4,000	224,000	,688	,010	2,260	,186
PSProd * PSRecov	Pillai's Trace	,013	.715[a]	4,000	224,000	,583	,013	2,859	,229
	Wilks' Lambda	,987	.715[a]	4,000	224,000	,583	,013	2,859	,229
	Hotelling's Trace	,013	.715[a]	4,000	224,000	,583	,013	2,859	,229
	Roy's Largest Root	,013	.715[a]	4,000	224,000	,583	,013	2,859	,229
Relationship * PSProd * PSRecov	Pillai's Trace	,007	.370[a]	4,000	224,000	,830	,007	1,478	,134
	Wilks' Lambda	,993	.370[a]	4,000	224,000	,830	,007	1,478	,134
	Hotelling's Trace	,007	.370[a]	4,000	224,000	,830	,007	1,478	,134
	Roy's Largest Root	,007	.370[a]	4,000	224,000	,830	,007	1,478	,134

a. Exact statistic
b. Computed using alpha = 0,05
c. Design: Intercept + Relationship + PSProd + PSRecov + Relationship * PSProd + Relationship * PSRecov + PSProd * PSRecov + Relationship * PSProd * PSRecov

Appendix 13:

MANOVA-analysis Hypothesis testing- Tests of Between-subjects effects

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	SatisfactionWC	60.233[a]	7	8,605	3,023	,005	,085	21,163	,935
	PerceivedJustice	32.384[c]	7	4,626	2,644	,012	,075	18,505	,893
	Loyalty	199.262[d]	7	28,466	6,718	,000	,172	47,025	1,000
	SatSR	13.169[e]	7	1,881	,904	,504	,027	6,331	,387
Intercept	SatisfactionWC	6649,201	1	6649,201	2336,204	,000	,911	2336,204	1,000
	PerceivedJustice	10903,219	1	10903,219	6230,375	,000	,965	6230,375	1,000
	Loyalty	6790,856	1	6790,856	1602,600	,000	,876	1602,600	1,000
	SatSR	10601,564	1	10601,564	5096,281	,000	,957	5096,281	1,000
Relationship	SatisfactionWC	4,460	1	4,460	1,567	,212	,007	1,567	,238
	PerceivedJustice	,012	1	,012	,007	,934	,000	,007	,051
	Loyalty	46,648	1	46,648	11,009	,001	,046	11,009	,911
	SatSR	3,114	1	3,114	1,497	,222	,007	1,497	,230
PSProd	SatisfactionWC	50,525	1	50,525	17,752	,000	,073	17,752	,987
	PerceivedJustice	24,281	1	24,281	13,875	,000	,058	13,875	,960
	Loyalty	137,505	1	137,505	32,450	,000	,125	32,450	1,000
	SatSR	3,395	1	3,395	1,632	,203	,007	1,632	,246
PSRecov	SatisfactionWC	2,711	1	2,711	,953	,330	,004	,953	,163
	PerceivedJustice	,019	1	,019	,011	,917	,000	,011	,051
	Loyalty	5,497	1	5,497	1,297	,256	,006	1,297	,205
	SatSR	2,491	1	2,491	1,197	,275	,005	1,197	,193
Relationship * PSProd	SatisfactionWC	,280	1	,280	,098	,754	,000	,098	,061
	PerceivedJustice	5,579	1	5,579	3,188	,076	,014	3,188	,428
	Loyalty	1,785	1	1,785	,421	,517	,002	,421	,099
	SatSR	1,543	1	1,543	,742	,390	,003	,742	,138
Relationship * PSRecov	SatisfactionWC	2,245	1	2,245	,789	,375	,003	,789	,143
	PerceivedJustice	1,083	1	1,083	,619	,432	,003	,619	,123
	Loyalty	2,331	1	2,331	,550	,459	,002	,550	,114
	SatSR	,130	1	,130	,063	,802	,000	,063	,057

Continued: **MANOVA-analysis Hypothesis testing- Tests of Between-subjects effects**

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Relationship * PSRecov	SatisfactionWC	2,245	1	2,245	,789	,375	,003	,789	,143
	PerceivedJustice	1,083	1	1,083	,619	,432	,003	,619	,123
	Loyalty	2,331	1	2,331	,550	,459	,002	,550	,114
	SatSR	,130	1	,130	,063	,802	,000	,063	,057
PSProd * PSRecov	SatisfactionWC	,042	1	,042	,015	,903	,000	,015	,052
	PerceivedJustice	,281	1	,281	,160	,689	,001	,160	,068
	Loyalty	6,091	1	6,091	1,437	,232	,006	1,437	,223
	SatSR	,206	1	,206	,099	,753	,000	,099	,061
Relationship * PSProd * PSRecov	SatisfactionWC	,007	1	,007	,003	,959	,000	,003	,050
	PerceivedJustice	1,097	1	1,097	,627	,429	,003	,627	,124
	Loyalty	,000	1	,000	,000	,999	,000	,000	,050
	SatSR	2,234	1	2,234	1,074	,301	,005	1,074	,178
Error	SatisfactionWC	646,077	227	2,846					
	PerceivedJustice	397,252	227	1,750					
	Loyalty	961,889	227	4,237					
	SatSR	472,218	227	2,080					
Total	SatisfactionWC	7365,889	235						
	PerceivedJustice	11336,875	235						
	Loyalty	7963,444	235						
	SatSR	11090,444	235						

Corrected Total	SatisfactionWC	706,310	234						
	PerceivedJustice	429,637	234						
	Loyalty	1161,152	234						
	SatSR	485,387	234						

a. R Squared = ,085 (Adjusted R Squared = ,057)

b. Computed using alpha =

c. R Squared = ,075 (Adjusted R Squared = ,047)

d. R Squared = ,172 (Adjusted R Squared = ,146)

e. R Squared = ,027 (Adjusted R Squared = -,003)

Appendix 14:

Group means according to manipulations

1. Grand Mean

Dependent Variable	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
SatisfactionWC	5,320	,110	5,103	5,537
PerceivedJustice	6,812	,086	6,642	6,982
Loyalty	5,376	,134	5,112	5,641
SatSR	6,718	,094	6,532	6,903

2. Relationship

Dependent Variable	Relationship	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
SatisfactionWC	True relationship	5,458	,155	5,152	5,764
	Pseudo relationship	5,182	,156	4,875	5,490
PerceivedJustice	True relationship	6,820	,122	6,580	7,060
	Pseudo relationship	6,805	,122	6,564	7,046
Loyalty	True relationship	5,822	,190	5,448	6,195
	Pseudo relationship	4,931	,190	4,556	5,306
SatSR	True relationship	6,833	,133	6,571	7,094
	Pseudo relationship	6,602	,133	6,340	6,865

3. PSProd

Dependent Variable	PSProd	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
SatisfactionWC	Low level of participation in S. Prod	4,856	,156	4,549	5,164
	High level of participation	5,784	,155	5,478	6,090
PerceivedJustice	Low level of participation in S. Prod	6,491	,122	6,250	6,732
	High level of participation	7,134	,122	6,894	7,374
Loyalty	Low level of participation in S. Prod	4,611	,190	4,236	4,986
	High level of participation	6,141	,190	5,768	6,515
SatSR	Low level of participation in S. Prod	6,597	,133	6,335	6,860
	High level of participation	6,838	,133	6,576	7,099

4. PSRecov

Dependent Variable	PSRecov	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
SatisfactionWC	Low level of part. in SR	5,427	,155	5,121	5,733
	High level of part. in SR	5,213	,156	4,905	5,520
PerceivedJustice	Low level of part. in SR	6,821	,122	6,581	7,061
	High level of part. in SR	6,803	,122	6,562	7,044
Loyalty	Low level of part. in SR	5,529	,190	5,156	5,903
	High level of part. in SR	5,223	,190	4,848	5,598
SatSR	Low level of part. in SR	6,820	,133	6,559	7,082
	High level of part. in SR	6,615	,133	6,352	6,877

5. Relationship * PSProd

Dependent Variable	Relationship	PSProd	Mean	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
SatisfactionWC	True relationship	Low level of participation in S. Prod	5,029	,220	4,596	5,461
		High level of participation	5,887	,220	5,454	6,320
	Pseudo relationship	Low level of participation in S. Prod	4,684	,222	4,247	5,120
		High level of participation	5,680	,220	5,248	6,113
PerceivedJustice	True relationship	Low level of participation in S. Prod	6,344	,172	6,005	6,683
		High level of participation	7,295	,172	6,956	7,635
	Pseudo relationship	Low level of participation in S. Prod	6,638	,174	6,296	6,980
		High level of participation	6,973	,172	6,633	7,312
Loyalty	True relationship	Low level of participation in S. Prod	4,970	,268	4,442	5,498
		High level of participation	6,674	,268	6,146	7,202
	Pseudo relationship	Low level of participation in S. Prod	4,253	,270	3,720	4,785
		High level of participation	5,609	,268	5,080	6,137
SatSR	True relationship	Low level of participation in S. Prod	6,631	,188	6,261	7,001
		High level of participation	7,034	,188	6,664	7,404
	Pseudo relationship	Low level of participation in S. Prod	6,563	,189	6,190	6,936
		High level of participation	6,642	,188	6,272	7,012

6. Relationship * PSRecov

Dependent Variable	Relationship	PSRecov	Mean	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
SatisfactionWC	True relationship	Low level of part. in SR	5,467	,220	5,035	5,900
		High level of part. in SR	5,448	,220	5,015	5,881
	Pseudo relationship	Low level of part. in SR	5,387	,220	4,955	5,820
		High level of part. in SR	4,977	,222	4,541	5,414
PerceivedJustice	True relationship	Low level of part. in SR	6,761	,172	6,421	7,100
		High level of part. in SR	6,878	,172	6,539	7,218
	Pseudo relationship	Low level of part. in SR	6,882	,172	6,543	7,222
		High level of part. in SR	6,728	,174	6,386	7,071
Loyalty	True relationship	Low level of part. in SR	5,875	,268	5,347	6,403
		High level of part. in SR	5,769	,268	5,240	6,297
	Pseudo relationship	Low level of part. in SR	5,183	,268	4,655	5,711
		High level of part. in SR	4,678	,270	4,146	5,211
SatSR	True relationship	Low level of part. in SR	6,959	,188	6,589	7,329
		High level of part. in SR	6,706	,188	6,336	7,076
	Pseudo relationship	Low level of part. in SR	6,682	,188	6,312	7,052
		High level of part. in SR	6,523	,189	6,150	6,896

7. PSProd * PSRecov

Dependent Variable	PSProd	PSRecov	Mean	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
SatisfactionWC	Low level of participation in S. Prod	Low level of part. in SR	4,977	,222	4,541	5,414
		High level of part. in SR	4,735	,220	4,303	5,168
	High level of participation	Low level of part. in SR	5,878	,218	5,449	6,307
		High level of part. in SR	5,690	,222	5,253	6,126
PerceivedJustice	Low level of participation in S. Prod	Low level of part. in SR	6,534	,174	6,192	6,877
		High level of part. in SR	6,447	,172	6,108	6,787
	High level of participation	Low level of part. in SR	7,108	,171	6,772	7,445
		High level of part. in SR	7,159	,174	6,817	7,502
Loyalty	Low level of participation in S. Prod	Low level of part. in SR	4,925	,270	4,393	5,458
		High level of part. in SR	4,297	,268	3,769	4,825
	High level of participation	Low level of part. in SR	6,133	,266	5,610	6,657
		High level of part. in SR	6,149	,270	5,617	6,682
SatSR	Low level of participation in S. Prod	Low level of part. in SR	6,730	,189	6,357	7,103
		High level of part. in SR	6,465	,188	6,095	6,835
	High level of participation	Low level of part. in SR	6,911	,186	6,544	7,278
		High level of part. in SR	6,764	,189	6,391	7,138

8. Relationship * PSProd * PSRecov

Dependent Variable	Relationship	PSProd	PSRecov	Mean	Std. Error	95% Confidence Interval	
						Lower Bound	Upper Bound
SatisfactionWC	True relationship	Low level of participation in S. Prod	Low level of part. in SR	5,046	,313	4,429	5,663
			High level of part. in SR	5,011	,308	4,404	5,618
		High level of participation	Low level of part. in SR	5,889	,308	5,282	6,496
			High level of part. in SR	5,885	,313	5,268	6,502
	Pseudo relationship	Low level of participation in S. Prod	Low level of part. in SR	4,908	,313	4,291	5,525
			High level of part. in SR	4,460	,313	3,842	5,077
		High level of participation	Low level of part. in SR	5,867	,308	5,260	6,474
			High level of part. in SR	5,494	,313	4,877	6,112

Note! The table continues on the next pages.

Dependent Variable	Relationship	PSProd	PSRecov	Mean	Std. Error	95% Confidence Interval	
						Lower Bound	Upper Bound
Perceived Justice	True relationship	Low level of participation in S. Prod	Low level of part. in SR	6,388	,246	5,904	6,872
			High level of part. in SR	6,300	,242	5,824	6,776
		High level of participation	Low level of part. in SR	7,133	,242	6,657	7,609
			High level of part. in SR	7,457	,246	6,973	7,941
	Pseudo relationship	Low level of participation in S. Prod	Low level of part. in SR	6,681	,246	6,197	7,165
			High level of part. in SR	6,595	,246	6,111	7,079
		High level of participation	Low level of part. in SR	7,083	,242	6,607	7,559
			High level of part. in SR	6,862	,246	6,378	7,346

Dependent Variable	Relationship	PSProd	PSRecov	Mean	Std. Error	95% Confidence Interval	
						Lower Bound	Upper Bound
Loyalty	True relationship	Low level of participation in S. Prod	Low level of part. in SR	5,184	,382	4,431	5,937
			High level of part. in SR	4,756	,376	4,015	5,496
		High level of participation	Low level of part. in SR	6,567	,376	5,826	7,307
			High level of part. in SR	6,782	,382	6,028	7,535
	Pseudo relationship	Low level of participation in S. Prod	Low level of part. in SR	4,667	,382	3,913	5,420
			High level of part. in SR	3,839	,382	3,086	4,592
		High level of participation	Low level of part. in SR	5,700	,376	4,959	6,441
			High level of part. in SR	5,517	,382	4,764	6,270

Dependent Variable	Relationship	PSProd	PSRecov	Mean	Std. Error	95% Confidence Interval	
						Lower Bound	Upper Bound
SatSR	True relationship	Low level of participation in S. Prod	Low level of part. in SR	6,885	,268	6,357	7,413
			High level of part. in SR	6,378	,263	5,859	6,897
		High level of participation	Low level of part. in SR	7,033	,263	6,514	7,552
			High level of part. in SR	7,034	,268	6,507	7,562
	Pseudo relationship	Low level of participation in S. Prod	Low level of part. in SR	6,575	,268	6,047	7,102
			High level of part. in SR	6,552	,268	6,024	7,079
		High level of participation	Low level of part. in SR	6,789	,263	6,270	7,308
			High level of part. in SR	6,494	,268	5,967	7,022

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- Preliminary Thesis Report -

- You break it, you fix it?
Customer participation in service production and service recovery-

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Table of contents

Summary

This preliminary thesis report aims to examine how customer participation affects attribution in the service recovery process. We seek to explore the effects of customer participation in both production and service recovery on their attribution of outcome and their perceived justice. Further, we aim to investigate whether the presence of a customer-company relationship has any effect on the customers' attribution of outcome and their perceived justice, under different levels of participation in both production and service recovery. Participations effect on attribution has never before been investigated in a service recovery setting, nor has the effects of relationships on attribution in a business context. By this, the current paper contributes and extends the current knowledge on several important aspects.

This preliminary report provides a thorough review of the state of research in service recovery, participation, perceived justice, attribution, and relationship. Based on the review we hypothesize that participation in service recovery will yield different effects on satisfaction with the company (as a measure of attribution) and perceived justice, depending on the level of participation in service production and the presence of an established customer-company relationship. The hypotheses also aim to suggest; that even though existing literature state that satisfaction with the company and the customers perceived justice are positively closely linked, this might not be the case when the customer is involved in the service production and/or service recovery.

A 2(low participation in service production vs. high participation in service production) x 2(low participation in service recovery vs. high participation in service recovery) x 2(established relationship vs. no established relationship) randomized between-subjects factorial design, with *satisfaction with the firm* and *perceived justice* as dependent variables, using scenarios is suggested to investigate these relationships.

1 Introduction

Berry (1995, 243) argue that the "*relationship marketing's time has come"* and that engaging in this is beneficial both for the firm and the customer. We extend on this notion, and consider Bendapudi and Leones' (2003) statement, claiming that encouraging customers to be co-producers, participating in their own value creation, is the next frontier in competitive effectiveness. This paper seeks to examine these topics in a service recovery setting, proposing an investigation of the customers' responses to participation in service recovery, and how this might be influenced by the level of participation in service production and the presence of a customer-company relationship.

The emergence of customer participation has shown to generate several positive effects from a business' point of view. Vargo and Lusch (2004; Lusch and Vargo 2006) argue that we are moving into a service dominant logic, where the customers are co-creators of value, both the value they consume themselves, and the value generated to the company. So far, research has mainly focused on the economic advantages of customer participation for the company, how to manage participating customers and what motivates them to participate. The aspect of customers' responses has only just started to gain interest in research, and we aim to contribute to this stream of research by considering the customers' responses in terms of attribution theory and perceived justice.

Some research indicates the presence of a self-serving bias in customer participation, leading participation to influence customers' attribution in service interactions. Despite the focus on building relationships with the customer in marketing literature, none have yet examined the connections between relationships and participation, and how this might affect attribution in service recovery and perceived justice. How relationships and participation interact in creating attributions is suggested by Bendapudi and Leone (2003) as an interesting area of research. Further, considering participation in the service recovery process would be a significant contribution, as this only has been investigated with regards to future value co-creation (Dong, Evans, and Zou 2008). In sum, as none have yet examined the following, this paper contributes by *(1) examining the effects of both participation in production and participation*

in service recovery, (2) examining the attribution of outcome in a service recovery context depending on the presence of a customer-company relationship, (3) examining whether the findings in social psychology, that close dyads can reduce the self-serving bias, is transferrable to a customer-company relationship, (4) examining the effects of participation and customer-company relationship on the customers' perceived justice. These aspects will make a theoretical contribution to the existing literature. On this basis, we have developed the following research question:

1.1 Research question

"What is the effect of customer participation in Service recovery on consumer responses, and how are these effects moderated by level of customer participation in production and the presence of a customer-company relationship?"

The title of this paper, "You break it, you fix it?" illustrates our interest in finding out whether a participating customer should take part in the service recovery process, and how this would be different from a customer who does not participate. In essence, by considering both the satisfaction with the company (as a measure of attribution) and the customers' perceived justice, the study seek to illustrate the potential different effects on these constructs with varying levels of participation in both service production and service recovery, and the presence of a customer-company relationship.

In the following, we will review the current state of the research areas involved by the research question. The topics included are service recovery, participation, perceived justice, attribution theory and relationships. Based on this, we have developed our hypotheses, and illustrated these in a conceptual model. The last section will briefly outline the methodology we aim to employ in order to test the hypotheses.

In Appendix 1. we have outlined a progression plan for the final MSc-thesis.

2. Literature review

2.1 Service recovery

Most of the research in service recovery acknowledge the manufacturing statement of "zero defects" proposed by Reichheld and Sasser (1990). Still, service failures occur quite frequently, as the nature of a service makes it nearly impossible to avoid failures (Fisk, Brown, and Bitner 1993). Reichheld and Sasser (1990) argue that service provider should not aim for "zero defections", as this would remove the flexibility of adapting services according to customers' preferences. In the context of our study, this statement is in line with one of the main reasons for encouraging customer participation, the possibility to customize the service according to the customers needs. Strict procedures and standardization will not lead to "zero defections", but may on the other hand remove the company's' ability to meet the customer needs. On the other hand, encouraging customers to participate reveals possible sources of service failures due the company's lack of control.

Service recovery is defined by Grönroos (1988) as "*the actions an organization takes in response to a service failure*". Research in this field has identified several strategies for how to successfully recover from a service failure, and it is most often a combination of efforts that lead to this. The customer seeks information about the failure, as a means to know how to adapt to it (Bitner, Booms, and Tetreault 1990). Several researchers have confirmed the importance of a "fair-fix" (a fair compensation for the customers loss), an apology, sincerity (empathy) and empowerment of employees to handle the recovery efforts (Craighead, Karwan, and Miller 2004; Boshoff 1997; Smith, Bolton, and Wagner 1999). Response speed, acknowledgement of complaint importance, apology and recovery initiation are all found to be of importance by Smith, Bolton and Wagner (1999).

A major determinant of customers' satisfaction with the service encounter after a service failure incident is the customers' perception justice/fairness of the encounter and/or recovery (Tax, Brown, and Chandrashekaran 1998; Tax and Brown 1998; Smith, Bolton, and Wagner 1999; Goodwin and Ross 1992; McCollough, Berry, and Yadav 2000). In addition to perceived justice, satisfaction is also influenced by measures of disconfirmation.

The importance of building relationship with the customer has gained more attention in the recent years, and successful service recovery has emerged as a key factor for maintaining a relationship with the customer (Smith, Bolton, and Wagner 1999; Tax, Brown, and Chandrashekaran 1998). Effective service recovery can enhance satisfaction, loyalty and profitability, reduce bad word-of-mouth and the main goal for the company is to build long-term relationships (Hart, Heskett, and Sasser Jr 1990; Tax and Brown 1998; Andreassen 2000). Most research on relationships in the service recovery context has focused on customer expectation to service recovery, customer (post-recovery) satisfaction, complaint handling and types of relationship (Tax, Brown, and Chandrashekaran 1998; Hess Jr, Ganesan, and Klein 2003; Mattila 2001; Bitner 1990; Smith, Bolton, and Wagner 1999). Of particular interest in this case, is how relationships influence attributions of failure and how this affects the satisfaction with the recovery process. An effective way to build customer relationships is through customer participation, where the company creates value together with the customer. In addition, recent research has found evidence that customer participation also is a significant determinant of how customers attribute responsibility of a jointly produced outcome (Bendapudi and Leone 2003). Still, none have examined how relationship and participation together influence attribution in a business context.

2.2 Customer participation

Vargo and Lusch (2004; Lusch and Vargo 2006) argue that the fields of marketing is moving into a service dominant logic (SDL) paradigm, where the participation of customers is essential in the value creation process, and the customers would consequently always be co-creators of value. This perspective on co-creation of value can be seen in light of what Toffler (1980) refer to as "prosumption", where the role of the consumer involves both producing and consuming the value of what is produced. The perspective of dividing the roles of production and consumption suggests that the customer is a passive receiver of value, acquiring it simply through transactions. Xie, Bagozzi and Troye (2008) define prosumtption as "*value creation activities undertaken by the consumer that result in the production of products they eventually consume and that become their consumption experiences"* and consider prosumption as a process rather than an act (single transaction), integrating physical activities, mental efforts and socio-

psychological experiences. This is congruent with the primary tenents of the service dominant logic; *"(1) The conceptualization of service as a process, rather than a unit of output, (2) A focus on dynamic resources, such as knowledge and skills, rather than static resources, such as natural resources; and (3) An understanding of value as a collaborative process between providers and customers, rather than what producers create and subsequently deliver to customers"* (Lusch, Vargo, and Wessels 2008). In contrast to the view of customer participation as a value co-creation effort, much of the research has not focused on the customer value aspect as such, but rather the effects of participation in terms of productivity gains, managing participating customers and incentives created. This stream of research would classify as a view on co-production rather than co-creation. These views are not contradicting, but consider the effects of customer participation in different stages of the service process.

Dabholkar (1990) defines customer participation as "*the degree to which the customer is involved in producing and delivering the service*". Meuter and Bitner (1998) classified three types of customer participation; firm, joint and customer production. This suggests that the classification of production only involving the firm, would not hold according to the SDL, in the end the firm is inextricably dependent on some degree of customer participation. Based on this, we choose not to apply the categorization suggested by Meuter and Bitner, but rather consider this along a continuum, where the customer either contributes to a low extent (similar to firm production) or to a high degree (similar to joint production). As one of the effects this study aims to illustrate is relationship between the customer and the company, a customer production situation would not be of interest in this context. The active participation of customers in the production, delivery and consumption of goods and services allows the customers to serve their personal needs in a customized way, enhancing their satisfaction (Dong, Evans, and Zou 2008).

Throughout the existing literature on customer participation (also referred to as co-production), the focus has been on three major research perspectives (Dong, Evans, and Zou 2008; Bendapudi and Leone 2003). The first is concentrated towards why customers should take part in the production process, from a company perspective. In essence, the focus here is on the potential economic

advantages of including customers in production, as a source of productivity gains (Lovelock and Young 1979; Mills, Chase, and Margulies 1983). Fitzsimmons (1985) pointed to the potential cost reductions through aspects like reducing employee efforts with customers' self-efforts, replacing interpersonal contact with technology and adjusting demand through incentives and restrictions. The second perspective is focused towards managing the customer as a "partial employee" through organizational socialization, and how this might influence customers' behaviors and perceptions of service quality aspects (Kelley, Donnelly Jr, and Skinner 1990; Claycomb 2001; Dabholkar 1990). The third perspective deals with the customers' motivation to participate in production. Incentives that drives motivation includes aspects such as a price reduction, convenience through technology (Fitzsimmons 1985), less perceived waiting time (Dabholkar 1990), increased customer control (Bateson 1985), and customers' opportunity to customize the product/service to their personal needs (Firat, Dholakia, and Venkatesh 1995). The emergence of customer participation in production has shown to generate several positive effects from a business view. Even though customer participation has several beneficial effects, the service is critically dependent on the customers' effort, experience and outcome of the participation.

All of these research streams offer valuable insights on customer participation. However, they all fail to acknowledge that participation might influence how customer responds to failures and recovery processes. A new, more recent stream of research tries to address this issue, through examining how highly participating customers attribute the causes of failure and success differently from customers that participates to a lower degree. Bendapudi and Leone (2003) found significant differences in satisfaction with the firm, through different impacts of attribution, depending on level of participation and different outcomes. In addition, Yen, Gwinner and Su (2004) found participation to be a significant determinant of attribution of blame following a service failure. Dong, Evans and Zou (2008) was one of the first to examine customer participation in service recovery. Building on Meuter and Bitners (1998) levels of participation they examine its effects on customers' ability and role clarity in future value creation. Their results indicate that when customers choose to participate in the recovery, they display higher levels of role clarity, perceived value in the future, satisfaction with the recovery and higher propensity to participate in the future, (Dong, Evans and Zou 2008,

132). However, as most research on participation, they do not recognize the importance of consumer responses with regards to attribution, nor the effects of established relationships. Based on this we find it interesting to further investigate this relationship in a service recovery setting.

2.3 Perceived Justice

The importance of perceptions of justice has been recognized since Homans (1961) introduced the concept of distributive justice in social psychology. Peoples' reactions to conflict situations has across several context been found to be largely explained by the concept of justice (Tax, Brown, and Chandrashekaran 1998). Justice theory has also established itself as a dominant framework in service recovery research, as a vital part of understanding customers' evaluations of service recovery efforts and outcome in terms of what compensation is offered, and how it is done (Mattila 2001). Several researchers have investigated the effects of perceived justice, and it has been found to influence factors like satisfaction, trust, commitment, repurchase intentions and word-of-mouth (Tax, Brown, and Chandrashekaran 1998; Blodgett, Hill, and Tax 1997). Having voiced their complaint, customers expect action to be taken by the service provider, and evaluate these actions in terms of perceived justice or fairness (Tax and Brown 1998; Goodwin and Ross 1992). Perceived justice has evolved to consist of three dimensions; *distributive justice, process justice and interactional justice* (Tax, Brown, and Chandrashekaran 1998).

Distributive justice is a measure of the outcome (compensation) offered in a service recovery situation, focused on the allocation of benefits and cost (Tax, Brown, and Chandrashekaran 1998). The evaluation is mainly based on the customers perceived fairness of the distribution of equity in an exchange situation (Goodwin and Ross 1992), which Andreassen (2000) found to have a significant positive impact on satisfaction with service recovery.

Procedural justice is defined by Lind and Tyler (1988) as the perceived fairness of the means by which the ends are accomplished. Tax, Brown and Chandrashekaran (1998) found that major determinants of procedural justice in a service recovery situation is speed of the recovery process, accessability and firm follow-up. Goodwin and Ross (1992) argue that the customers perceived process

control , opportunity to express emotions and to provide relevant information are important aspects of the customers perceived procedural justice.

Interactional Justice refers to the interactional treatment the customer receive during a service recovery process (Wirtz and Mattila 2004), including the perceived courtesy, politeness, apology and general helpfulness. Schoefer and Ennew (2005) also include the observed effort in resolving the situation and providing an explanation to the service failure. Of the different conceptualizations, apology has been identified to have most impact on customers perceived interactional justice (Smith, Bolton, and Wagner 1999; Goodwin and Ross 1992).

In sum, all three components of perceived justice have been found to positively influence (explaining uptil 85% of the variance) satisfaction with complaint handling (Tax and Brown 1998) . Two-way interactions between the components also influence the customers' satisfaction, for instance could the satisfaction with the compensation (distributive justice) be offset by a long waiting time (procedural justice), or vice versa (Tax, Brown, and Chandrashekaran 1998; Blodgett, Hill, and Tax 1997).

There is a limited amount of research investigating the specific drivers of perceived justice beyond the aspects mentioned above. However, the overall quality of the complaint handling design, perceived importance of the product, intensity of the business relationship and failure severity have been identified as general drivers (Homburg, Fürst, and Koschate 2010).

2.4 Attribution

Attribution theory got its breakthrough in social psychology research in the late 1950`s, however it has mainly been used in a marketing context for the last three decades. Fiske and Taylor (1991) define attribution theory as *" how the social perceiver uses information to arrive at causal explanations for events",* and is a result of peoples need to predict the future and control events in order to combine and use information to reach causal judgments/inferences. Attribution theory has been adopted to several areas of marketing, including advertising, marketing communications and consumer behavior (Yong Jian 2008).

In relation to service failures, attribution theory has been found to be of importance. Research show that how consumers attribute the causes for a failure will influence how they respond to it (Folkes 1984). Early research has focused on attribution in terms of whether it was a buyer- or a seller-related issue that caused the failure. However, as services to an increasing degree involves several parties and are more complex, the source of the failure is, more often than not, hard to determine with certainty (Folkes 1988). Especially three aspects of this issue has been focused on in previous research; locus, controllability and stability. Locus refers to the internality versus externality of a problems cause (Weiner 1985). Controllability is related to whether or to which degree the situation is under the control of the different parties, while stability refers how temporary or permanent the cause of the event is (Folkes 1988). These factors are usually seen as three separate dimensions, each contributing the consumers perceived causality of the problem.

Perceived causality is important in order to understand how consumers attribute blame in the case of a specific service failure. However, these dimensions are difficult to generalize as they will differ significantly between industries, specific cases and are rarely controllable for service providers. When introducing customer participation, determining locus, controllability and stability is increasingly difficult both for managers and customers. In the context of participation, it is more important to consider factors that in general will affect how customers perceive the causality of service failures and its outcomes.

Some researchers suggest that a higher level of participation will lead to higher satisfaction with the servicer provider, in the case of a service failure (Bitner et al. 1997; Bitner 1990; Folkes 1984; Hubbert 1995). The reasoning being that since the customer participates in the production of a service, they will be willing to accept at least some responsibility for the negative outcome (Bitner et al. 1997). Ross and Sicoly (1979) found support for individuals being more willing to accept more responsibility for an outcome (both negative and positive) when they contribute to the process themselves, explained by ego-centric bias theory. However, this is done in a non-business related setting and on a group level.

Even if this logic seems quite solid in theory there is a limited amount of empirical support for these claims. The evidence presented is either on a theoretical level, or as indirect evidence in somewhat similar contexts. Further, research (except for Ross and Sicoly 1979) is based on situations where the three causality dimensions (locus, controllability and stability) are easily recognized (eg. it is clear who caused/had control over the problem). The self-serving bias (SSB) theory, on the other hand, has got stronger support in marketing research (Yen, Gwinner, and Su 2004). Proceeding with the SSB logic therefore seems most appropriate for this study.

The SSB theory originated from personal psychology research, and has been widely supported (Streufert and Streufert 1969; Wolosin, Sherman, and Till 1973; Wortman, Costanxo, and Witt 1973). A self-serving bias refers to a persons` tendency to claim more responsibility than a partner for success and less responsibility for failure in a situation where an outcome is produced jointly (Wolosin, Sherman, and Till 1973). It is considered as a strategy for protecting and enhancing ones self-concept. This implies that people turn to internal (related to oneself) attribution for successful outcomes, while they turn to external attribution (related to others, luck, task difficulty) for unsuccessful outcomes (Campbell and Sedikides 1999). Sedikides et al. (1998) argue that; as the task importance and threat to one self-increase, the SSB becomes stronger. The task importance can be related to a complaint situation, where customers that choose to complain perceive the service failure as having high task importance, suggesting that customer that choose not to complain perceive the service failure as having low task importance.

In the context of customer participation the self-serving bias would yield quite opposite predictions than the research outlined in the section above. For instance, it has been found that highly participating customers will attribute the service failure to the company and its employees to a higher degree than would lower participating customers (Yen, Gwinner, and Su 2004). Customers that participate to a high extent would have to invest more (non-monetary costs) than low participating customers, therefore their output to input ratio would be lower (high input, low output (i.e. failure)). Large differences in the felt output-to-input ratio will lead individuals to protect their self-esteem (self-concept) and thus attribute

failure to external sources. In the case of an outcome that exceeds expectations Bendapudi and Leone (2003) found that participating customers will be less satisfied with the company than will customers who does not participate. Arguing that through the self-serving bias, people attribute more of the positive outcome to them selves and are in turn less satisfied with the company (Bendapuni and Leone 2003). In a study of Self-Service Technology (SST)(high participation by def.) Meuter et al. (2000) suggest that customers are likely to attribute a failure to external sources.

Though the self-serving bias theory has got support in the context of participation, none have investigated how an established customer-company relation may affect the attribution of blame and success, in service recovery. Some evidence has shown that previous relations may moderate the effects of the self-serving bias, and the authors see it as important that this phenomenon is investigated further.

2.5 Relationship

The term "relationship marketing" was first introduced in service marketing literature in 1983 by Berry (1995, 236), defined as "attracting, maintaining and – in multi-service organizations- enhancing customer relationships". Still, Berry acknowledged the literatures earlier recognition of the importance of marketing to existing customers. Berry and Parasuraman (1991) divides relationship marketing into three levels, including both financial, social and structural ties as the level increases. They also state that both the degree of customization and potential for sustained competitive differentiation increases with higher levels of relationships. Building on Gutek (1995) and Guteks et al. (1999) framework, Mattila (2001) established the distinctions between the *service encounter,* single interactions between customer and company, *pseudorelationships,* with repeated contact between the customer and the firm, and *true relationships*. The difference between the latter two is that in a *true relationship* the customer meets the same service representative each time, while in pseudorelationships one meet with different service representatives within the same company.

The frameworks presented above represents a categorized view on relationships in marketing, while other researchers argue that relationships should be considered as a continuum (Garbarino and Johnson 1999; Dwyer, Schurr, and Oh 1987), ranging from strictly exchanges to close relations. The idea of such a continuum

is based on theories based on partnership development, advocating that relationship strengths increases as a result of increased levels of trust and commitment (Morgan and Hunt 1994; Berry 1995). Johnson and Selnes (2004) developed a typology of exchange relationships; treating customers as stranger, acquaintances, friends and partners, suggesting that a customer portfolio is dynamic with different types of customer relationships. Their typology and the characteristics of the relationships resemble much of what one would find in interpersonal social relationships.

The self-serving bias in a relationship context can be examined through looking in to the social psychology literature. Research on this field has considered dyadic relations between friends (close) and strangers (distant) and how they attribute outcome from jointly produced task (Sedikides et al. 1998). Mattila (2001, 98) states that customers that experience poorly delivered service recovery are dissatisfied regardless of the relationship type, "*yet their behavioral intentions might differ depending on the closeness of the customer-provider bond"*. This indicates that the relationship the customer has with a service provider can affect their behavior in a service recovery setting. Berry (1995) argues that relationships are built on trust, and that close customer- company relationships can reduce uncertainty and vulnerability for the customer.

Trust and commitment are two key factors in building and retaining close relationships (in addition to having a strong influence on perceived justice) and in a recovery setting the company have the opportunity to demonstrate their trustworthiness to the customer (Morgan and Hunt 1994; Tax, Brown, and Chandrashekaran 1998). Priluck (2003) suggest that customers' that has a relationship with the company is more inclined to overlook a poor service delivery and that relationship can mitigate the negative response to a service failure.

Sedikides et al. (1998) research revealed that participant in distant (strangers) relationship took more responsibility for the outcome if it was a success, than if it was a failure. Participants in close relationship (dyads) did not differ in their attribution of success or failure, in fact they claimed less positive contribution for success than distant participants (Sedikides et al. 1998). The results indicate that close relationship can reduce the SSB, because participants in a close relationship

will have a more positive impression of each other, thereby reducing the manifest of the SSB (Sedikides et al. 1998). This implies that relationships can serve as a "buffer" for poor complaint handling, based on positive prior experiences leading to less dissatisfied customers, indicating that customer in close relationships entails greater tolerance when service failure occurs (Berry 1995; Tax, Brown, and Chandrashekaran 1998; Hess Jr, Ganesan, and Klein 2003). Still, it is important to note that research has also found contradicting results, arguing that relationships can increase customers responses regarding a failure, due to their relatively higher expectations (Goodman et al. 1995; Kelley and Davis 1994).

3. Hypotheses

Much of the existing literature on service recovery has found several positive effects of customer participation, in regards to the co-creation of value, cost reductions and efficiency, both for the customer and the company. Still, attribution theory indicates that due to the self-serving bias, the customers' responses to participation may not necessarily be favorable to the company. In the dyadic interaction between the customer and the company, a service co-production leading to a failure will cause the customer to elaborate on the cause of the failure. The self-serving bias states, that in cases of a jointly produced outcome (the service production and service recovery in this case), people will attribute a favorable result to their own efforts, indicating the self-enhancing bias effect (Fiske and Taylor 1991). In the case of a unfavorable outcome (the service failure) on the other hand, the self-serving bias proposes a reversed effect, as people would attribute an unsuccessful outcome to the other party (external cause) of the dyad, indicating a self-protecting bias (Fiske and Taylor 1991).

As this study will include a service production leading to a service failure and a service recovery process (setting as constant outcome, "as expected", across all conditions), we propose both effects of the self-serving bias, self-protecting and self-enhancing bias, to be present. Previous research has found contradicting results regarding the self-protecting bias aspect. Bendapudi and Leone (2003) found that there is no significant difference on satisfaction with the company between participating and non-participating customer. This can be explained by the non-participating customers attribution, as they will attribute the failure to the company as well, because they have not participated. Consequently, the self-

protecting bias effect among participating customers will result in similar levels of satisfaction with the company. This contradicts the findings of Yen, Gwinner and Su (2004), who found that high-participation customers were more likely to attribute service failure to the organization and its employees. The latter constructs would serve as a strong indication of the customers' satisfaction with the company. The main difference between these studies is the importance of the failure involved. While Bendapudi and Leone (2003) uses failure situations involving bookshelves, jeans and a poster frames, Yen, Gwinner and Su (2004) consider the failure of an educational program. The latter study is in our opinion involving a situation with a much higher importance. As Yen, Gwinner and Su argue, higher participation implies a higher non-monetary cost of the service for the customer. Thus will the perceived loss, as a measure between inputs vs. outputs, be more severe in a high participation setting. As this study also involves a service recovery process, the failure must be severe (important) enough to ensure that the customers do complain, and thereby a service recovery process is initiated. Furthermore, in order for the effects of the self-serving bias to be present, there must be a significant degree of task importance for customers to display the SSB effects (Sedikides et al. 1998). The self-enhancing aspect of the self-serving bias was demonstrated by Bendapudi and Leone (2003), and we propose that this aspect of the self-serving bias will be present in the case of a successful service recovery, with high participation customers. Based on this, we have developed the following hypothesis;

H_1: *When there is no established relationship, there will be a negative main effect of participation in both the production and service recovery process. More specifically; customers with low participation, in either production, service recovery or both, will be more satisfied with the company than will customers with high participation in either production, service recovery or both.*

The effects of the self-serving bias have been found to be moderated by the relation among the participants in the dyads. Sedikides et. al (1998) found that close dyads (e.g friends) did not differ in their attribution of outcome of failure and success. It is important to note that this effect was proven within the fields of social psychology. As the reviewed literature on relationship marketing suggests, companies are working hard to establish relationships with customers, building

trust and commitment as means to keep customers loyal. Much of the development of relationship marketing is based on research on interpersonal interactions. In addition, the characteristics of a customer-relationship in the range between pseudorelationships and true relationships bear many similarities to friendships (building on trust and commitment). Therefore, we hypothesize that the effects found in social-psychology are transferrable to a business context with an established customer-company relationship. The established relationship in this study will have characteristics from both *pseudorelationships* and *true relationships*, implying that we choose to consider relationships as a continuum rather than categories.

Based on the effects of an established relationship outlined above, under low participation in service recovery, customers with high participation in production will assume some responsibility for the production leading to the failure and will be more satisfied with the company than those with low participation in production (assume no responsibility for the failure). Under high participation in service recovery, the customers with low participation in production will be more satisfied with the company, than will customers with high participation in production. This is because the customers with high participation in production will initially be less satisfied in the service failure phase than the low participation customers. Considering the moderating effect of the customer-company relationship, the initial negative effect (exceeding that of low participation customers) will not be neutralized, only moderated.

Given an established customer-company relationship, when we consider the differences between customers with high participation in service production, customers with low participation in service recovery will be more satisfied with the company than will those who with high participation in service recovery. The same effect will also will also be demonstrated if the customers have low participation in production. The key argument here is that the difference between the levels of participation in service recovery will be significantly greater under high participation in production than in the low participation in production. Prospect theory state that the customers' value function is steeper for losses than for gains (Choong 2001), thereby is the level of atonement needed for high participation customers in general higher than for low. And, with high

participation in service recovery, one would also share credit for this level of atonement, while in low participation in service recovery most credit of the recovery will be attributed to the company. Hence;

H_2: *When there is an established relationship, there will be a two-way interaction between customer participation in production and participation in service recovery. More specifically, under low participation in service recovery, customers with high participation in production will be more satisfied with the company, than will customers with low participation. Under high participation in service recovery, customers with low participation in production will be more satisfied with the company, than will customers with high participation in production.*

Furthermore, because of the different effects hypothesized in H_1 and H_2, we have the following hypothesis;

H_3: *There will be a three-way interaction between relationship, participation in service production and participation in service recovery. This will manifest itself through a two-way interaction between participation in service production and participation in service recovery when there is an established relationship. When there is no established relationship, there will be no interaction between participation in service production and participation in service recovery.*

The hypothesized effects in H_1, H_2 and H_3 are illustrated in Appendix 2.

The hypotheses above have outlined the effects of customer participation in the dependent variable satisfaction with the firm. Still, previous research has established a positive link between participation and satisfaction (Dong, Evans, Zu 2008). What is of particular interest here is that the satisfaction with the company and satisfaction with the service recovery are not necessarily mutually dependent of each other. A customer participating in service recovery may be very satisfied with the recovery (because he/she has contributed to it), but is not necessarily satisfied with the company because of this. Service recovery literature has shown, that the major determinant of customer satisfaction with service recovery is the customers' perceived justice (Andreassen 2000; Tax and Brown

1998), and the major determinant of perceived justice is the distributive justice. As the level of non-monetary costs (input-to-output ratio) increases with the level of participation, this may decrease their perception of fairness with regards to their input-to-output ratio (distributive justice). On the other hand, customers with high participation in service recovery can experience enhanced levels of procedural justice, as they are actively taking part in it themselves. In high participation in service production, the effect on procedural justice will be reversed (negative), as the common process of the service production results in a failure.

H_4: *Customers with high participation in service recovery will have higher perceived procedural justice and lower perceived distributive justice than will customers with low participation in the service recovery. Furthermore, customers with high participation in production will have lower perceived justice than customers with low participation in production.*

Research has also revealed that the intensity of the business relationship is a general driver of perceived justice (Homburg, Fürst, and Koschate 2010), and that relationships can reduce the dissatisfaction a service failure induce (Hess Jr, Ganesan, and Klein 2003). The positive prior experiences in an established relationship can serve as a buffer for service failure and poor complaint handling (Berry 1995; Tax, Brown, and Chandrashekaran 1998; Priluck 2003). Considering the hypothesis above, the combinations of participation in service production and service recovery, will, respectively, differ depending on the presence of a customer-company relationship. Therefore;

H_5: *Customers with an established relationship in the service recovery will have higher perceived justice than customers with no established relationship with the company.*

4. Conceptual model

Based on the hypotheses outlined above, we have developed the following conceptual model.

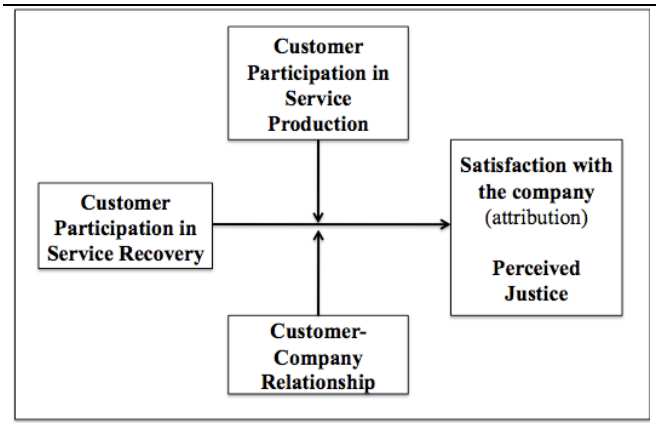

Figure 1: Conceptual model

5. Methodology

In order to test out hypotheses we want to apply an experimental design, where we will subject participants in the study to scenarios. The study will apply a 2(low participation in service production vs. high participation in service production) x 2(low participation in service recovery vs. high participation in service recovery) x 2(established relationship vs. no established relationship) randomized between-subjects factorial design, with *satisfaction with the firm* and *perceived justice* as dependent variables. Applying a 2x2x2 between-subjects factorial design will require participants for eight -8- different treatment groups, each subjected to different scenarios. We will need a minimum of 30 participants per treatment group, requiring a minimum of 240 participants in total.

The dependent variable "Satisfaction with the firm" will serve as an indicator of attribution, and will be measured by a three-item scale, adapted from Bendapudi and Leone (2003), while "Perceived Justice" will be measured by a 7 point likert scale, and will be adapted from Tax, Brown and Chandrashekaran (1998) and Smith, Bolton and Wagner (1999) with minor adjustments to fit the study.

The independent variables "participation in service production" and "participation in service recovery" will be measured on a 7-point scale, asking the participants to rate the effort the put into the production- and recovery process. This is adapted from Bendapudi and Leone (2003). The independent variable "Customer-Company" relationship will be adapted from Mattila (2001), where "No established relationship" will be adapted from the "Service Encounter" condition, and the "Established relationship" will be adapted to include characteristics from

"Pseudorelationship" and "True relationship". This is due to our view on customer-company relationships as a continuum, rather than categories.

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Appendices

Appendix 1: Master thesis progression plan

Below, we have outlined the planned progress with our Master Thesis. After handing in the preliminary thesis report, we will proceed with developing the scenarios and the questionnaire, before we pretest our manipulations and the questionnaire in February. During March we will run our experiment, and register the data collected, and before returning to the literature review, which will be revised based on the feedback we get from the evaluation of our preliminary thesis report. The following two months we will devote to the data analysis, the write-up of our results and analysis. This, along with the write-up of our discussion and the implications of our study will be conducted in June, leaving the last two months before submission of the Master Thesis to copyedit and proofread the thesis. The

Month	Task
January:	- Submission of Preliminary Thesis Report - Scenario and questionnaire development
February:	- Scenario and questionnaire development - Pretest of manipulations - Pretest of questionnaire
March:	- Run experiment, data collection and punching - Write-up of literature review
April:	- Data analysis - Write-up of results
May:	- Write-up of results - Write-up of analysis
June:	- Write-up of analysis - Write-up of discussion - Write-up of implications
July:	- Write-up of implications - Copyediting - Proofreading
August:	- Copyediting - Proofreading
September:	- Submission of Master Thesis, September 1st.

progression plan is tentative, and allows for adjustments to be made if necessary.

Appendix 2: Illustration of hypotheses H_1 – H_3.

Below, we have outlined the effects of the proposed hypotheses (H_1-H_3). These figures are only ment to serve as illustrations, and they do not necessarily reflect the strength of relationships, only the hypothesized directions.

H_1: *When there is no established relationship, there will be a negative main effect of participation in both the production and service recovery process. More specifically; customers with low participation, in either production, service recovery or both, will be more satisfied with the company than will customers with high participation in either production, service recovery or both.*

H_1 is illustrated by:

H_2: *When there is an established relationship, there will be a two-way interaction between customer participation in production and participation in service recovery. More specifically, under low participation in service recovery, customers with high participation in production will be more satisfied with the company, than will customers with low participation. Under high participation in service recovery, customers with low participation in production will be more satisfied with the company, than will customers with high participation in production.*

H_2 is illustrated by:

H_3: *There will be a three-way interaction between relationship, participation in service production and participation in service recovery. This will manifest itself through a two-way interaction between participation in service production and participation in service recovery when there is an established relationship. When there is no established relationship, there will be no interaction between participation in service production and participation in service recovery.*