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-Self-Service Technology versus Human Interaction -

A study of how customers respond differently to human and machine in credence based service encounters

Navn:	Ina Christine Kreutz Pauli, Adina Litlere Bentsen

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Adina Litleré Bentsen
Ina Christine Kreutz Pauli

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Summary

Self-service technologies (SST) have been introduced extensively and promoted to replace traditional service encounters with human interaction (HI) in the last years. Advances in digital technologies and artificial intelligence are changing the world. Despite the great impact on consumers' everyday life, we know remarkably little about the interaction between technology and consumers. Although researchers in the past years have added valuable findings to the field of SST, some questions still remain unclear, and there are a number of contradictory conclusions.

This study aims to extend the present research of SST, by examining how customers respond differently when they interact with a machine instead of a human during a credence based service encounter. Drawing from theories of person sensitivity bias, service quality, attribution, satisfaction and behavioral intentions, we find that humans are evaluated more positively than machines after a successful service encounter, and less positively if the service encounter is unsuccessful.

The research provides a thorough review of research in SST and HI in service encounters, service quality, attribution theory, cognitive and affective satisfaction, and behavioral intentions. Based on the literature review we develop 7 hypotheses that we tested using a 2x2 factorial design. The empirical testing was carried out using four different scenarios with 240 respondents, in the age range from 24 to 69. The data collected in the survey is analyzed and validated to identify the relationship between the different constructs. Theoretical and managerial implications from the results are given as well as suggestions for future research.

1. Introduction

In recent years, the increased use of self-service technology (SST) across the service sector has changed the nature of the service delivery process and how customer interact with organizations (Dabholkar, 1994; Bobbit & Dabholkar, 2001). Today, consumers experience service encounters either by meeting service personal up front, or by consuming services electronically without contact with service personal (Meuter, Ostrom, Bitner, & Roundtree 2003; Ding, Verma, & Iqbal, 2007). Although previous research has argued that "service with a smile" have a positive impact on customer attitudes and behaviors (Oliver, 1997; Parasuraman, Zeithaml, & Berry, 1985), technology interaction in service encounters still increases. In striving to improve service productivity, businesses often substitute expensive service personnel with machines and encourage customers to use SST on a daily basis (White, Breazeale, & Collier 2012). Still, are human and machine encounters compatible and do customers respond to these encounters in the same way? This research aims to address this question.

Digitalization of traditional service encounters are resulting in great potential for new service offerings, in addition to increasing effectivity of a service (e.g. in service like airport check-outs, financial transactions and grocery store check-outs) (Parasuraman, 2010). Although prior research has provided an important starting point to understand why organizations adopt SSTs and what outcomes result from SST usage (e.g. Yang & Peterson 2004; Yen & Gwinner 2003.), the difference in customers' perceptions when experiencing an HI credence encounter compared to an SST credence encounter is still unclear.

Using theories of person sensitivity bias (Moon & Conlon, 2002) and attribution in human perception (Oliver, 2014, 290), we contrast customers' emotional (Kunz, Smith, & Meyer, 2010) and cognitive (Oliver, 1980) satisfaction towards a service encounters done either by a human or a machine. According to Moon and Conlon (2002), customers are expected to react more extreme to humans than machines. Therefore, a successful and unsuccessful credence service encounter will be investigated in order to grasp how customers may react differently, both negative and positive. Thus, we investigate how customers experience a credence service encounter differently with SST, compared to HI. More precisely, we address whether (1) customers using HI will be more satisfied when the encounter

is successful, compared to if the service encounter was done by SST, and (2) whether customers using HI will be less satisfied when the encounter is unsuccessful, compared to if the service encounter was done by SST.

Previous research on this topic offers contradictory conclusions, and our aim is to contribute to the literature by offering a study that tests prior predictions. Some studies show that HI is needed to create satisfied customers, and that SST has not yet completed to create the same customer satisfaction. Studies show that a service encounter with HI will increase service quality and customer expectations (Oliver 1997; Parasuraman et al., 1985). Additionally, service encounters with HI can go beyond the core service, where friendliness and other social treatments can increase satisfaction (Bendapudi & Berry, 1997; Gwinner, Bitner, Brown, & Kumar, 2005; Gwinner, Gremler, & Bitner, 1998). On the other hand, researchers claim that SST service encounters will help the firm more than HI in the future. This is because SST can create increased customer satisfaction, productivity effectiveness and availability, in addition to decreasing labor costs and time consumption (Curran & Meuter 2007; Kim, Moon, & Chang, 2014; Meuter et al., 2003, Parasuraman, 2010).

1.1 Technology in the Finance Industry

Financial technology (FinTech) is an industry delivering financial services with new technology and innovation, in order to compete in the marketplace of traditional financial institutions (Chishti & Barberis, 2016). Deloitte and Heads! (2016) created a report where they studied a global distribution map consisting of 17 clusters which are facing digital transformation as their most vital upcoming challenge. They found that the banking sector experience a deep impact from new technologies and competitors who enter the market and revolutionize the traditional business. They assume that banking will experience 40-45% transition toward technology-based services, such as SST, within two years.

In an increasingly competitive environment, the risks of customers being more indecisive will increase. Hence, creating loyal customers through technological innovation will become more important (Deloitte & WEF, 2015). Driven by generational shifts with younger customers and quick consumer adoption of technology, the customers' preferences for financial products and services are

shifting rapidly. That is why we believe it is interesting and important to investigate how customer expectations and satisfaction will be different when we compare HI and SST in a credence service encounter. Especially since FinTech most likely will become a large competitor to the traditional financial institute. As customer expectations for banks continue to rise, financial organizations will be required to create a more valuable online experience that is more customer driven, potentially changing the role of service providers (Deloitte & WEF, 2015).

In the past years, this industry has changed dramatically and technology is replacing the services that banks are offering (Accenture, 2017a). In traditional banks, transactions continue to drift from physical to digital channels, leading to large changes in the distribution as banks downscale their branches (Accenture, 2017a). Google, Apple, Facebook, Amazon and Microsoft (collectively known as GAFAM) and other platforms are planning to offer attractive alternatives to traditional banks.

More customers are open to receive entirely computer-generated support within banking service, as long as it can deliver the personalized services they need (Accenture, 2017b). According to a study by Frey and Osborne's (2015), financial advisors are one of the "Top five jobs that robots are already taking". Frey and Osborne's (2015) research emphasize that financial advisors are being replaced and driven by analytical systems, big data, and computers. It seems that customers are getting used to technology banking services such as mobile banking, online money transfers and paying online without any help from a service person. What is most interesting is that credence service is becoming more digital. Credence services are more complex services that make customers more dependent on guidance from experts in the field (Brush & Artz, 1999). Hence, studying customers getting this expertise guidance online, compared to HI, will be valuable to explore.

1.2 Digitalization in the Norwegian Finance Market

In order to understand the digitalization of the financial market in Norway better, we interviewed the Consulting Director of Sopasteria, Thorbjørn Sitre and Director of Finans Norge, Jan Digranes, who both have experience with SST and

other technological service offerings in the financial market. This provided us with better insights into the digitalization of the Norwegian financial market.

Jan Digranes is convinced that the digitalization and especially social media makes it easier for customers to find the right product for themselves online. He believes that this is one of the main reasons that customer will be less loyal to their banks is the future alongside an increased number of different players in the market, particularly international businesses. Digranes thinks that the finance industry needs to work harder in order to understand their customer's needs and desires. It will be even more important to tailor solutions for the customer and be where they are, whenever they are in need of advice. He also thinks that we will see more cooperation between the Norwegian finance industries in the future as a way to overcome the challenges from new players.

Torbjørn Sitre said that he believes customers patience with inactivity, inefficiency, confusing communication/services, inadequate service and poor customer experience are declining, among other things, because of increased digital competence, both between users and some businesses. He further stated that there will be less loyal customers in the future. In general, he believes that more people will change banks if they find that another company better serves them. Sitre thinks that there are interesting opportunities for the finance industry in Norway by facilitate more on innovation and development of products and services. The banking companies struggle in a landscape with a combination of strict regulations, a relatively high level of uncertainty and risk, and severely increasing disruptive competition. The banks need to balance between robust and efficient operation of the solutions they already manage on one hand, and customer-driven innovation on the other. According to Sitre, the most important focus for the banks should be simplification, efficiency, and transparency in order to deliver value to the customer.

With central managers seeing the digitalization of the finance industry as an opportunity, but also a challenge for customer loyalty, it will be valuable to examine whether, and how, customer's loyalty and satisfaction are affected by digitalization.

1.3 Research Objective and Research Question

1.3.1 Research Objective

Our overall research objective is to gain insight into how customers in the Norwegian finance market are affected by the digitalization of service encounters. To do so, we will study how customers respond differently to a credence encounter done by a human or a machine. Our aim is to examine whether the loss of a "human touch" in the service encounter actually changes costumer's perceived service quality, satisfaction, and behavioral intentions.

We also separate between emotional and cognitive satisfaction to see if the emotional and cognitive part of satisfaction will vary in the different encounters, both succeeding and not succeeding HI and SST credence encounters. The cognitive component refers to a customer's judgment of the service dimensions whereas the emotional component refers to emotional satisfaction such as pleasant/unpleasant. Moreover, we examine if the various encounters experienced (HI/SST and successful/unsuccessful) affect how customers reflect on the stability and controllability of the situation.

With this master thesis, we aim to provide insights that will positively contribute to enhance the understanding of change in customer experiences with SST encounters, compared to HI encounter.

1.3.2 Research Question

"How do costumers respond to successful or unsuccessful service encounters with a machine, as opposed to with a human?"

More specific, the research question can be broken down as we aim to:

1. Evaluate if the perception of service quality changes when experiencing a SST encounter instead of a HI encounter.
2. Identify the impact on satisfaction (both emotional and cognitive) and behavioral intention when going from a HI encounter to a SST encounter, when either experiencing successful and unsuccessful credence service encounters.

3. Determine if and how customers perceive control and stability differently in an unsuccessful credence service encounter when done through either SST or HI.

1.4 Purpose and Contribution

Our aim is to investigate the field of SST versus HI in the service context. We include well-established theories, including service quality theory, attribution theory, and satisfaction and behavioral intention theory, and see how these constructs differ between the services done by either SST or HI. We believe that a study focusing on credence service will have diverse effects on the quality, satisfaction and behavioral intention, between SST and HI. Moreover, this insight could be an important market capability for a company to consider when digitalizing their services.

Previous literature shows that SST satisfaction and SST service quality are important factors influencing the outcome of SST behavioral intentions in financial services (ATM, internet or mobile banking/finance/investments) (Lin & Hseih, 2006). Furthermore, HI has been found to be critical in order to create emotional connection, which has an effect on both satisfaction and behavioral intentions. Therefore, some researchers assume that services done with HI will have a larger effect on service quality, satisfaction, and behavioral intention, compared to SST (Moon & Conlon, 2002; Pine & Gilmore, 1988; Yu & Dean, 2001). To the best of our knowledge, these assumptions have not been previously investigated. Thus, we aim to study these effects.

In a credence based service, more information is needed to reduce the risk (Zeithaml, 1981), and the seller is the expert of the topic (Wolinsky, 1995). In addition, credence based services are highly professional and associated with a high degree of unpredictability (Zeithaml, 1981), so a customer need to explain their preferences (Guiltinan, 1987). Still, banks offer increasingly more credence services online, such as financial advancing. This type of service might often need a personalized and specialized approach. Therefore, we want to extend the study of how service quality, satisfaction and behavioral intention vary between HI and SST in a credence based service encounter.

In the following section, a theoretical overview of service quality, attribution theory, satisfaction and behavioral intentions will be presented and discussed. Based on this review, seven hypotheses were developed. Next, we will address the methodology applied, followed by a presentation of the results in our study. Lastly, we will include a discussion of the results, implications, limitations and suggestions for future research.

2. Literature Review

2.1 The Seller is the Expert

Wolinsky (1995) defined credence as aspects of a service that the customer cannot evaluate even after the consumption of the service or product. Hence, a credence service has an important perceived value, but the customer does not have enough knowledge or expertise to evaluate the quality of it (i.e. medical advice from a doctor or legal advice from a lawyer). For this type of service, a personalized and specialized approach by the service provider is essential, which will lower the opportunity for customers to compare offerings on the basis of price (Brush & Artz, 1999).

According to Brush and Artz (1999), offering high-quality services is the dominant driver for competitive advantage in experience and credence goods/services markets, because customers expect customized service and professional knowledge. For customers using credence based services, more information is needed to reduce the risk (Zeithaml, 1981). In addition, credence services are highly professional and associated with a high degree of unpredictability (Zeithaml, 1981), hence a customer needs to explain her or his preferences (Guiltinan, 1987).

Consumers that fail to find information that reduces their risk, typically avoid or delay the purchase (Zeithaml, 1981). According to Inderst and Ottaviani (2012), it is difficult for consumers to evaluate complex financial products offered, such as mortgages and investments, because they do not have expert knowledge like financial advisors. Consequently, financial advisors are able to play an essential role in a credence based service encounter. Thus, we believe it will be interesting

to use a credence based service encounter in order to establish findings of the different perceptions between a human and a machine.

2.2 Machines or Humans?

2.2.1 Machines

According to Meuter, Ostrom, Roundtree and Bitner (2000), SSTs are defined as technological interfaces (e.g., computer, laptop, tablet, interactive television smartphone/telephone, etc.), which allow consumers to implement their desired services by themselves without involvement from service personnel. Additionally, for some customers, SSTs are easier to use because it allows the customers to avoid the direct interactions with the service personnel. Furthermore, this also allows them to be active participants in the production process of the service (Meuter et al., 2000). SSTs characterize the crucial customer participation where service is produced entirely by the consumer without any interaction or assistance from service personnel (Zeithaml, Bitner, & Gremler, 2012).

The adoption of SSTs in the business sector brings benefits to both service providers and the customers. For the customers, the use of SSTs can be more convenient (Bitner, 2001; Houliez, 2010), time-saving (Mostaghel, Hultman, & Parida, 2012) and they can perceive more control and competence (Bitner, 2001; Lee & Allaway, 2002; Meuter et al., 2000; Oghazi et al., 2012). For service providers, SSTs enhance customer experience, reduce employee expenses, and improve productivity (Parasuraman, 2010) and consistency (Curran & Meuter, 2007; Meuter et al., 2003; Oghazi et al., 2012; Robertson, McQuilken, & Kandampully, 2012; Zhu, Wymer, & Chen, 2002). The advance of SST creates a trade-off between customer satisfaction and productivity improvement for the company. This allows firms to satisfy their customers to a greater extent, and be even more customer centric and cost-efficient than before.

Some service offerings that have incorporated technology to provide services through SST are; ATMs, automated hotel check out, internet services such as banking over the internet, and grocery self-check outs. The adaption of SSTs has been following an evolution process which is illustrated in table 1. The table shows Fitzsimmons (2003) concept of the self-service development stages, where

the service first started as a face-to-face service encounter and developed into the current trend of service encounters that is facilitated by technology.

Service industry	Human Interaction	Machine assisted service	Electronic service
Retail banking	Teller	ATM	Online banking
Grocery	Checkout clerk	Self-checkout station	Online order/pickup
Airlines	Ticket agent	Check-in kiosk	Online boarding pass
Restaurants	Wait person	Vending machine	Order online/delivery
Book store	Information clerk	Stock availability terminal	Online ordering
Education	Teacher	Computer tutorial	Distance learning
Retail store	Checkout clerk	Self-checkout station	Online shopping

Table 1: *Evolution of self-service* (*Fritzsimmons, 2003)*

Following this evolution process (Fitzsimmons, 2003), we see that services, especially search and experience based services, has become more automated and digital over the years. This has given the customer greater responsibility in transactions. Today, this has changed even further. Service encounters that require more guidance are moving towards online platforms. If done correctly, it can improve the trade-off between customer satisfaction and productivity (Huang and Rust, 2013), while, on the other hand, reduce costs for the company (Meuter et al., 2003). Still, however, if not done correctly, it can be challenging to give a specialized and personal offer online that customers can easily evaluate (Wolinsky, 1995). Thus, it might be easier to meet these challenges with service personnel.

2.2.2 Service Personnel

Service encounters with HI are services where the frontline employees interact with the customers (Bitner, 1990). Frontline employees interact with customers to learn and understand the customer's problems, needs, and requests, and then deliver the requested service to them (Bitner, 1990). The interaction a customer may experience during a HI service encounter can go beyond the core service of providing special treatments (Gwinner et al., 2005). According to Reichheld, (1993) and Reichheld and Teal (1996), special treatments (such as friendliness and customized service) are especially important for creating long-term loyalty

and thus larger revenue and profits. Pine and Gilmore (1998) stated that interaction with service personnel is critical in achieving personal connection, because a highly personal and emotional connection is considered important in order to create memorable experiences. Oliver (1997) and Parasuraman et al., (1985) found that a service encounter with s service person impacts customer attitudes and behaviors, such as perceived service quality and expectations. According to their findings, customers rely more on a service experience when they are able to evaluate the service quality based on the service personnel and the personal interaction they experience.

In sum, the prior research has found contradicting results, claiming that both types of services can generate satisfied customers. However, in our study, we aim test whether this is true, and to what extent SST and HI influence how costumers evaluate and experience the different credence service encounters in either a successful or unsuccessful service encounter.

2.2.3 Man versus Machine

Customers are more likely to use SST service encounters over HI service encounters when they have strong motivation and capacity with respect to the use of technology (Meuter, Bitner, Ostrom, & Brown, 2005). Research shows that when customers perceive SSTs as useful, easy to use, cost saving, reliable, and fun, they are more likely to use the technology (Ho & Ko 2008; Weijters, Rangarajan, Falk, & Schillewaert, 2007). Other individual differences such as experience level (Meuter et al., 2005) and customer trust (Suh & Han, 2002) do also have an impact on SST.

Researchers have, however, stated that technology can weaken social connections and affect customer loyalty negatively (Gremler & Gwinner, 2000; Selnes & Hansen, 2001). Despite the increase in SST usage, many consumers are not satisfied with service technologies and some continue to resist SST because they perceive it as unattractive, frustrating, or failing (Harris, Grewal, Mohr, & Bernhardt, 2006; Johnson, Bardhi, & Dunn, 2008; Parasuraman, Zeithaml, & Malhotra, 2005; Robertson & Shaw, 2009; Yen, 2005). Some reasons for this is: lack of perceived benefits; poorly designed technology (Bitner et al., 2002; Meuter et al., 2000, 2003); preference for human over technological interaction

(Dabholkar & Bagozzi, 2002); concerns about privacy and confidentiality (Bitner, Brown, & Meuter, 2000); lack of perceived usefulness; and enjoyment (Oghazi et al., 2012).

The connection that a customer gets with a service provider, or with a specific service employee, is believed to be central to the delivery of credence based services (Pullman & Gross, 2004; Zomerdijk & Voss, 2010). A personal, emotional connection is considered vital in order to create truly memorable experiences. Pine and Gilmore (1998) argue that interaction with service personnel is critical in achieving personal connection. However, Pine and Gilmore (1998) also suggest that incorporating design principles into a service experience will engage customers and form a connection with them – either emotionally, physically, or intellectually. This suggests that, in the absence of any interaction between an employee and the customer, creating either emotional, physical, or intellectual connections with the customers through SST, should help customers engage more fully and establish a connection with the service firm.

2.3 Human Evaluation of Man versus Machine

Sears (1983) defines a person sensitivity bias as "*objects are evaluated more favorably the more they resemble individual human beings*." Moon and Conlon (2002) further researched this, and found that customer's evaluations of people and machines are affected by whether the performance has been successful or unsuccessful. According to Moon and Conlon (2002), humans evaluate HI in more extreme manners. That is, humans evaluate humans more positively when things go right. Nevertheless, when things go wrong, the effect is reverse and humans are evaluated less positively than machines.

One of the reasons for the difference in perceived quality is that customers perceive the service person to intentionally causes the service outcome (Moon & Conlon, 2002). Campbell (2007) provides two explanations for this bias: First, on average, customers are more familiar with themselves and another person, than they are familiar with themselves and a machine. Second, humans react more sympathetically to other humans than to machines. As an example, Campbell (2007) demonstrated that customers show higher levels of negative affect when an increase in price is communicated by a person, than through a machine. Similarly,

Moon and Conlon (2002) found that feelings of discomfort are higher towards humans than towards machine when negative events occur. This is because customers relate more to humans than machines, and evaluate the performance lower with humans than machines under poor performance conditions, such as an increase in prices.

2.4 Evaluating Service Quality: Human versus Machine

Hoffman and Bateson (2006) define service quality as "an attitude formed by a long-term, overall evaluation of a firm's performance". Further, Grönroos (2001) states that the perceived quality is the gap between expected quality and experienced quality. Similarly, Parasuraman et al. (1985) defines service quality as a comparison between consumer expectations of service and perceptions of the service provided.

The quality of services and goods has become increasingly recognized as a strategic variable in accomplishing productivity as well as effectiveness in business operations (Anderson & Zeithaml, 1984). Prior research has explored the relationship between perceived service quality and behavioral intentions. Parasuraman et al. (1993) found a positive relationship between service quality and the customer's word of mouth. Bei and Chiao (2001) found that high perceived service quality only had an indirect significant positive effect on consumer loyalty through satisfaction. Yu and Dean (2001), who used an emotional satisfaction scale, found significant relationships between satisfaction and several intentional behaviors. Additionally, Wong (2004) found that a customer's feeling of enjoyment or frustration is an important predictor of customer loyalty. Heskett, Sasser and Schlesinger (1997), further suggests that customer loyalty should increase quickly after customer satisfaction passes a certain level.

Prior literature has found different determinants of SST usage and service quality. According to Lin and Hiseh (2006), perceived service quality is a significant driver of evaluating customer satisfaction, intention to purchase, and firm performance. They also proved that perceived service quality of SST has a significantly positive impact on customers' satisfaction with SSTs. Further, Lin and Hseih (2006) found that SST satisfaction and SST service quality were

influencing factors on the outcome of SST behavioral intentions in financial services (ATM, internet or mobile banking/finance/investments).

Several studies have attempted to identify the factors that consumers consider when evaluating service quality. Parasuraman et al. (1988) developed the SERVQUAL model and identified five dimensions for evaluating service quality. These five dimensions are; tangible elements, reliability, responsiveness, assurance, and empathy. The SERVQUAL scale has in the recent past years been broadly used to measure service quality (van Dyke, Prybutok, & Kappelman, 1999; Carr, 2002; Jiang, Klein, & Carr, 2002). Traditionally the SERVQUAL scale were primarily designed to address customer-to-employee interaction, but Parasuraman and Grewal (2000) suggested that research is desirable on whether the definitions and relative importance of the SERVQUAL dimensions change when customers interact with technology, rather than with service personnel. Studies on online service quality have developed an e-SERVQUAL scale used to measure service in several online contexts including web-based service (Kuo, 2003; Negash, Ryan, & Igbaria, 2003), internet retail (Kaynama & Black, 2000; Barnes & Vidgen, 2001), and electronic banking (Zhu et al., 2002). Still, there is no SERVQUAL scale created to test both HI and SST simultaneously. Therefore, based on previous research on online service quality using the SERVQUAL model, two dimensions as judgment criteria will be used: reliability and assurance.

2.4.1 Reliability

How a company are able to perform the service as promised, both dependably and accurately is the customers perceived reliability. It is also considered the most important dimension for the consumer of services (Parasuraman et al.,1986). The importance of reliability has been emphasized by the information technology-based service. Moreover, Zhu et al. (2002) argued that reliability dimension has a direct positive effect on perceived service quality and customer satisfaction by electronic banking systems. In addition, reliability has been found to represent overall electronic or technology-based service quality and refers to the correct functioning, in technical terms, of a SST (Weijters et al., 2007). It has been conceptualized as a performance metric in prior literature on consumers' evaluation of SSTs (Dabholkar & Bagozzi, 2002), and refers to the consistency

and accuracy of the technology based self-service. Reliability has further been found to be a strong predictor of consumer satisfaction (Wolfinbarger & Gilly 2003).

Weijters et al. (2007) found that reliability affected consumers' attitude towards SST. In addition, service by HI was viewed as more reliable than service with SST. This is because of the higher level of interaction between a service person and a customer, and the service person's ability to provide more detailed information compared to SST (Dabholkar & Bagozzi 2002). For many customers, HI is very important for evaluating the service (Solomon, Suprenant, Czepiel, & Gutman, 1985; Bitner, Booms, & Tetreault, 1990). When the customers are present, they evaluate the quality of the service based on the interaction (Grönroos, 1982; Surprenant & Solomon, 1987). In a credence based service, where the customers expect the service person to be the expert, they will rely more on the personal interaction. Moreover, some customers feel strongly that the use of machines in a service encounter dehumanizes the interaction (Breakwell, Fife-Schaw, Lee, & Spencer, 1986; Zeithaml & Gilly, 1987).

Therefore, we assume that the perceived reliability will be higher with HI than SST during a credence service. This is because we believe that a customer will experience a higher level of interaction with a human, than if the encounter was with SST. We also assume that the customer relies more on the human to perform the promised task. Contrary, we assume that when the service encounter is unsuccessful, the effect will be opposite, and customers will find the encounter with HI less reliable than SST. Since a customer evaluate the quality of a service based on the interaction with the service provider (Greenrooms, 1982), we believe that HI will have a stronger negative effect on reliability than SST when the encounter is unsuccessful. Therefore, we hypothesize:

H_1: *Customers involved in a credence service encounter, that is either experienced as (a) successful or (b) unsuccessful, will perceive a (a) higher or (b) lower level of reliability in a human interaction encounter, than in a self-service technology encounter.*

2.4.2 Assurance

From a customer point of view, the service provider is expected to be the expert of the service they are delivering. Assurance by definition, represents dimensions such as communication, credibility and competence and is about the ability of employees to convey confidence and trust (Parasuraman et al., 1988). It has also been validated as a key measure of service quality of SSTs because customers often expect more from technology; faster time, faster solving of numbers, and faster thinking (Lin & Hsieh, 2011). Still, some customers do not see these benefits as valuable when the human touch is lost (Zeithaml & Gilly, 1987). While SSTs can be technically accurate and provide suitable service, it cannot provide the same level of assurance to customers that a service person might provide. Especially based on the personal level because the trust and confirmation that a customer may experience from a service provider, cannot be compared to a machine. It might be easier for service providers to communicate competencies and create customer expectations based on the personal interaction (Lin and Hsieh, 2011).

Similar to reliability, we assume that customers' perception of assurance will change when the credence service is either successful or unsuccessful, and whether or not it is done with HI or SST. Professional knowledge is of critical importance to a customer in a credence based service encounter. A high level of credence needs to be involved in order for the customer to trust the service provider. Therefore, we assume that customers are more assured in a HI service encounter, compared to a SST encounter. On the contrary, we believe that when the service provider is involved in an unsuccessful encounter, the assurance will be lower, compared to SST. The reason for this is that customers relate more to humans than machines, and evaluate the performance lower with humans than machines under poor performance conditions (Moon and Conlon, 2002). Therefore, we hypothesize:

H_2: *Customers involved in a credence service encounter, that is either experienced as (a) successful or (b) unsuccessful, will perceive a (a) higher or (b) lower level of assurance in a human interaction encounter, than in a self-service technology encounter.*

2.5 Do You Acclaim or Blame?

With the evaluation of service quality, customers will point fingers differently in various encounters experienced. Customers might assign causes of an outcome differently between human and machine. Therefore, attribution theory will be discussed.

According to Kassin, Fein, & Markus (2010), attribution in social psychology is the process by how and why individuals explain the causes of behavior and events as they do. Humans are motivated to assign causes to the behavior of themselves and others (Moskowitz, 2005). Weiner (1982) states that consumers draw conclusions for cause of success or failure of a service based on three dimensions: locus of causality, stability, and control. Where locus of causality is external and internal causes of an event, satiability is whether or not the customer believes the event is going to change over time or not, and control is the degree of which people believe they have control over an event, or if it is beyond their control (Weiner, 1982). The causes can differ from an individual's reasons for an outcome of an event, and the reasons are the individual intuitive explanation of the event from the individual's perspective of the observation (Oliver, 2014, 290). How a customer acclaim or blame responsibility to the cause of an event is only based on the facts and reasoning available to that individual (Oliver, 2014, 290). Attribution theory is the aspect where customers draw conclusions based on choices they have made, and what the consequences of these choices are (Folkes, 1988). To get a better insight of how customers attribute responsibility to events between HI and SST, two of Weiners (1982) dimensions will be discussed further; stability and controllability.

2.5.1 Will This Happen Again?

Stability is about how a customer will reflect upon the stability of an event (Weiner 2000). According to Bitner (1990), customers will be more dissatisfied when they experience a service failure to be stable, because the perceived stability gives them reasons to believe that the failure will happen again. On the other hand, they will be less dissatisfied when they perceive the stability of the event as unstable, because they then believe that it can change over time, and that the next service encounter may be more successful. Oliver (1997) found that uncertainty is related to stability, and therefore it will influence customer's future expectation of

service performance, because they will either be certain or uncertain that the same event might happen again. Folkes (1984) found that delay of response or little information will increase the uncertainty, making the customer believe that the event is more likely to happen again in the future. The aspect of little information can be directly related to this study where the respondent either get much or little information in a credence based service encounter. It will therefore be interesting to investigate if little information in a credence service will increase customers' uncertainty and make them believe that the same experienced encounter will happen again.

According to Rebertson, McQuilken and Kandmpully (2012), SST is more likely to change, compared to HI. When there are technological challenges, such as SST being difficult to use or that SST provide little information, SST would be likely to be perceived by the customer as a stable cause of failure. Hence, customers might perceive an unsuccessful service encounter by a machine as more stable, less likely to change in the future, in comparison to dealing with a service person. It is interesting to understand how a customer reflect upon an unsuccessful service encounter and what type of service encounter that might be seen as most stable. Hence, we hypothesize:

H_3: *Customers that experience an unsuccessful service encounter with self-service technology will perceive it as more stable, compared to if the encounter was done with human interaction.*

2.5.2 Do I Have the Control of the Situation?

The controllability dimension is divided into causes that can be controlled and causes that cannot be controlled. Controllability referrers to the extent where customers believe that the failure of a service could be prevented or that the cause is beyond their control. Weiner (2000) states that a controllable external attribution is much more damaging than the uncontrollable. This because an external service failure that are controllable, could be avoided and therefore increases the possibility of the customer taking active actions to go against the firm instead of just avoiding it. Prior research has suggested that consumer typically believe that product or service failures are stable and controllable. Further, indication of perceived controllability from the company leads to

enhanced anger (less satisfaction), and will again affect the repurchase intention (Folkes et al., 1987).

The perceived control of an SST, is based on what degree a customer believes they have the ability to adapt and use the SST to fulfil the service they need. (Avertill, 1973; Bateson 1985; Hui and Toffoli, 2002). Bateson (1985), states that perceived control over a service situation is a key motive for customers to prefer SST over HI. When a service failure occurs, the customers perceived control over SST, suggests that customers have an ability to change and improve the situation. Moreover, McAuley, Duncan, and Russell (1992) identified two dimensions of stability that is whether the cause is controllable by the oneself or others. Therefore, customer will feel that a situation is more in control with SST, than HI. Prior findings from research on social psychology claims that when the customer feels more in control, a customer tolerance for frustration enhances, which results in a more positive perception of the customers' own performance (Skinner 1996; Weiner 1985). Hence, the customer will be more satisfied when they feel that they are in control of the situation. With this, we assume that customers will feel more in control of an unsuccessful encounter if they experience the encounter with SST, compared to HI. Thus, we hypothesize:

***H_4**: When an unsuccessful service encounter occurs, customers feel that they are more in control of the situation when they use self-service technology, compared to human interaction.*

2.6 Meeting or Exceeding the Expectations

How customers perceive the stability and controllability of a service encounter will also have an effect on how satisfied they are with the service encounter. Customer satisfaction is a measure of how products and services supplied by a company meet or exceed customer expectations, and provide an indicator of consumer purchase intentions and loyalty (Oliver, Rust & Varki, 1997). Customer satisfaction has gained much attention in the literature because of its potential influence on consumer behavioral intention such as customer retention, word of mouth and loyalty (Cronin, Brady, & Hult, 2000). Moreover, different researchers (Cardozo, 1965; Fornell, 1992; Taylor & Baker, 1994) have in the past proposed

that consumer satisfaction mediates the relationship between service quality and behavioral intentions.

According to Hartline and Ferrell (1996), customers evaluate the behaviors of service personnel at the frontline whenever they face a HI service encounter. It has been seen in many cases that the customer's positive behavioral response towards the service person predicts how the customer feels about the service employee and the organization (Butcher et al., 2002). Liljander and Strandvik (1995) found that if the customer develops a positive emotional response towards the individual service employee, it shows that the customer has established a stronger relationship to the service or organization and will therefore be more loyal. Bowen (2016) further builds on this view by claiming that human touch can help differentiate offerings in a marketplace where offerings are becoming too similar, making price the only competitive advantage. Satisfaction is influenced by two components: the cognitive and emotional aspect.

2.6.1 Cognitive and Emotional Satisfaction

Previous studies argue that satisfaction is a combination of both cognitive and emotional elements (Gracia, Bakker, & Grau, 2011; Jones, Reynolds, & Arnold, 2006; Oliver, 1997; Wong, 2004). Moreover, the order in which cognition, emotion, or cognition with emotions are supposed to be the most important, have been widely discussed (Oliver, 2014). Liljander and Strandvik (1997) argue that customer satisfaction includes both emotional and cognitive components. In the satisfaction literature, there has been a debate about whether satisfaction is either an emotional construct or a cognitive construct that includes an emotional component (Babin and Griffin, 1998; Bagozzi, 1991).

Wirtz and Bateson (1999) found that satisfaction is a partly cognitive and a partly emotional evaluation of the experience, and that separating the two evaluations is both valuable and necessary for demonstrating customer behavior in service settings. This is consistent with what Oliver (2014) states, that a more basic view is cognition first, then emotions second. Today's standard of measuring satisfaction should include both emotional and cognitive satisfaction. Including both aspects can proceed to measuring the ultimate satisfaction response. Theoretically, the cognitive judgment theory of emotions emphasizes that the

judgment of a situation causes an emotional or affective response: emotions are stimulated by the evaluation of a specific event Oliver (2014). Ladhari (2009) suggests that satisfaction has both a cognitive and an emotional component. The cognitive component refers to a customer's judgment of the service dimensions whereas the emotional component refers to emotional satisfaction such as pleasant/unpleasant and happy/unhappy. Therefore, both affective and cognitive satisfaction is included in this research.

The rational and judgmental part of customer's reaction to a service is identified as the cognitive satisfaction. This means that when a customer is evaluating a service encounter, they evaluate the service by the actual experience and judge the experience out of their expectation (Kunz et al., 2010). According to Khalid and Helander (2006), cognition forms beliefs, knowledge and the information process. Moreover, the cognitive responses involve knowledge, beliefs and meanings. The cognitive dimensions that refer to the judgment can for example be about whether the product was useful, if the product fits the situation, or if it was an important part of the overall experience or not. On the other hand, emotional responses involve emotions and attitudes (Khalid & Helander, 2006).

Emotions are defined as a mental state of satisfaction that arises from cognitive evaluations, events or thoughts (Bagozzi, Gopinath, &, Nyer, 1999). This is the hedonic performance of a service which can be derived from the feeling (Mano & Oliver 1993; Kunz et al., 2010). Emotions are normally caused by events, persons or objects, and are a type of state formed by the prior mood of an individual, strengthened by responses to the surroundings of the environment (Rook & Gardner, 1993). Emotions are considered as a main factor for understanding perceptions of service experience (Arnould & Price, 1993; Bigné et al., 2008; Jani & Han, 2015; Dubé & Menon, 1998; Mattila & Enz, 2002). Additionally, emotions are one of the most valuable predictors of consumer behavior (Gaur, Herjanto, & Makkar, 2014). Prior research states that both satisfaction and emotions are linked to behavioral intentions such as loyalty and recommendation (Jani & Han, 2015; Ladhari, 2009).

According to Pine and Gilmore (1998), companies can be able to create a more positive cognitive, emotional and behavioral response from their customers by

improving customers SST experience through improved design and ease of use. Still, it is vital that the SST works as the customers expects it to and that it exceeds interpersonal alternatives (Bitner et al., 2002). Moreover, customers evaluate humans more extreme than machines under both successful and unsuccessful conditions. This can lead to customers being more satisfied with HI than SST in a successful encounter, and less satisfied with HI than SST in an unsuccessful encounter (Moon and Conlon, 2002).

On the contrary, for many customers, the HI is very important for evaluating the experienced service (Solomon, Suprenant, Czepiel, & Gutman, 1985; Bitner, Booms, & Tetreault, 1990), because the customers evaluate the quality of the service based on the interaction (Grönroos, 1982; Surprenant & Solomon, 1987). Furthermore, in credence based services, customers expect the service person to be the expert and will rely more on the personal interaction (Breakwell et al., 1986) Moreover, some customers feel strongly that the use of machines in a service encounter dehumanizes the interaction (Zeithaml & Gilly, 1987). Further, the expectations towards a service encounter by HI might be higher due to the personal connection between the customer and a service person (Oliver, 1997; Parasuraman et al., 1985). The expectations towards SST can be lower due to lack of personal interaction (Dabholkar & Bagozzi, 2002) and lack of perceived benefits (Bitner et al., 2002).

Thus, we assume that HI will have a stronger effect on cognitive and emotional satisfaction than SST in a successful service encounter. We also expect that when costumers experience an unsuccessful service encounter with HI, they will be less emotional and cognitive satisfied than if it was with a machine. Thus, we hypothesize:

***H_5**: When a (a) successful or (b) unsuccessful encounter is experienced with HI, there will be a (a) higher cognitive satisfaction of the experienced service or (b) lower cognitive satisfaction than when using SST.*

***H_6**: When a (a) successful or (b) unsuccessful encounter is experienced with HI, there will be a (a) higher emotional satisfaction or (b) lower dissatisfaction than when using SST encounters.*

2.7 Will the Costumer Stay Loyal?

We believe that if the customers are satisfied, they want to use the service again in the future and tell their friends and family about it. Also, it has been recognized that satisfaction has an influence on behavioral intentions (Oliver, 1997; Liljander & Strandvik, 1997). Therefore, we have included behavioral intentions as an aspect in this study.

According to Lee et al (2001), loyalty involves word-of-mouth, recommendations to others, and an increased likelihood of buying the brand, in addition to repeat purchase of the goods or services that are offered by the company. Pearson (1996) has defined customer loyalty as the customers who has favorable attitudes toward a company, commits to repurchase products and services offered by the company, and recommend it to others. Loyalty can be established by developing a relationship with a company, buying more services, and by expressing a preference for it to friends and acquaintances (Zeithaml et al., 1996). Loyal customers are important for businesses, and loyalty have been strongly related to profitability (Reichheld & Sasser, 1989; Fornell, 1992; Zeithaml et al., 1996; Kandampully & Suhartanto, 2000).

According to Zeithaml, Berry, and Parasuraman, (1996), behavioral intentions are an indicator of whether customers will remain with the company or not. Behavioral intentions are a multidimensional construct, consisting of: loyalty, recommendation, retention and word-of-mouth (Ladhari, 2009). Further, behavioral intentions can be categorized as favorable or unfavorable (Ladhari, 2009). Favorable behavioral intentions include positive word of mouth and remaining loyal. Inversely, unfavorable behavioral intentions include leaving the company and spreading negative word of mouth.

According to Host and Knie-Andersen (2004), recommendation or word of mouth is when a customer communicates the service to other customers. These customers act as ambassadors of the company where they recommend and talk positively about the company's products and service to others. The company's ambassadors are important because they can affect how others perceive the company and its products and services (Host & Knie-Andersen, 2004).

Based on studies on HI versus SST, Moon and Conlon (2002) found that feelings of discomfort are higher towards humans than machines when an unsuccessful event occurs. Therefore, we assume that when the customer experiences an unsuccessful encounter by HI, behavioral intentions will be lower, compared SST. This assumption is based on the belief that the unfavorable behavioral intentions (Ladhari, 2009) will be stronger in the personal interaction between a customer and a service person. Consequently, we also believe that when a customer experiences a successful encounter by HI, the behavioral intentions will be higher, compared to SST.

A personal and emotional connection with a service person is considered to be vital in order to establish a memorable experience (Pine and Gilmore, 1998). If this memorable experience also is successful, we believe it will have a greater positive effect than SST on behavioral intentions. Heskett, Sasser and Schlesinger (1997), suggested that customer loyalty should increase quickly after customer satisfaction passes a certain level. That is, the more satisfied a customer is, the larger is the chance of becoming loyal. In a credence based service, professional knowledge is of critical importance since the customer expects the service provider to fulfill their needs (Brush & Artz, 1999). Even though a machine (SST) can provide the customer with professional knowledge, we believe that the personal interaction that consist between a customer and a service provider will increase behavioral intention even more. Furthermore, according to Oliver et al. (1997), "extremely satisfied" or "delighted" customers have a large potential to remain customers of an organization than those who are merely "satisfied". Therefore, we hypothesize:

***H_7**: Customers involved in a credence service encounter, that is either experienced as (a) successful or (b) unsuccessful, will perceive a (a) higher or (b) lower level of behavioral intention in a human interaction encounter, than in a self-service technology encounter.*

2.8 Framework

In the larger context, the overall relations between the different constructs are already well established. The framework of the relationships is illustrated in appendix 1. This is included to replicate analysis of previous findings, with some

extension, to establish that the relationship found previously is present in this data as well. An extended analysis of how the relationship changes between the different scenarios will also be examined.

Our main interest is to study the construct of *assurance, reliability, controllability, stability, emotional satisfaction, cognitive satisfaction and behavioral intention* and how customer react differently when experiencing different encounters. We will study each construct and analyze how customer react differently in traditional encounters with a person giving guidance versus if the encounter is digitalized and done through online banking. The overall expectations of the seven hypotheses demonstrate that customer react more extreme, either more positive and more negative depending on the if the encounter is successful or unsuccessful, when experiencing an HI encounter compared to a SST encounter.

3. Methodology

3.1 Subject, Design and Context

To examine the seven foregoing hypotheses, we develop a quantitative 2x2 factorial design. The empirical testing was carried out using a quasi-experimental scenario based survey experiment (Grefen & Ridings, 2002) including 240 respondents in the age range from 24 to 69.

Previous retailing and self-service research has successfully used scenario-based studies to evaluate a variety of topics (Dabholkar & Bagozzi, 2002; Mittal, Huppertz, & Khare, 2008). We argue that such a study is particularly relevant because the different constructs we employ are already well established in the literature. Furthermore, such a study is effective in reducing biases often associated with reflective self-reports, such as memory lapse, rationalization, and consistency factors (Mitchell & Jolley, 2012). The method also allows expensive or challenging manipulations to be more easily operationalized. Thus, the researcher gains more control over uncontrollable variables, and eases the use of time by summarizing events that might take more time in reality (Bitner, 1990).

	Outcome of Encounter		
Encounter		*Successful*	*Unsuccessful*
	HI	HI, Successful	HI, Unsuccessful
	SST	SST, Successful	SST, Unsuccessful

Table 2: *2x2 between subject design*

Table 2 presents our 2x2 factorial design. The participants were randomized into four groups based on whether they were 1) given a HI or a SST service encounter, or 2) a successful or unsuccessful service encounter. Such a 2x2 between-subject factorial design require participant for four different treatment groups, each subjected to different scenarios. An approximately amount of 30 participants should be exposed to each scenario, and therefore a minimum of 120 participants are needed.

The context of the scenarios is a credence based service encounter in a bank and the general population of the Norwegian market is used. The general population is relatively large and diverse, and it is therefore important to apply a context everyone can be familiar with. Based on this, the credence service of applying for a mortgage in bank was used. The sample was collected through digital connections with both known and unknown respondents. When using digital connections, the survey can quickly expend through different digital surfaces and reach a wide range of demographics.

3.2 Operationalization of Independent and Dependent Variables

First, the successful/unsuccessful variable is used to set the tone of the scenario. By using this variable, we were able to find out how the customers reacted to the service encounter when it either was successful or unsuccessful. Similarly, the HI/SST variable was used to understand how the customers attributed responsibility for the event. These two classifications are made the basis of the manipulation. The scenarios put the respondents in a position where they needed a financial advice about getting a new mortgage where one was going to the bank to seek help and the other was seeking help on the banks online platform. The successful scenario left the respondent with plenty of information regarding getting a mortgage and the unsuccessful left the respondent with little information. The scenario structure was equal to each other and the questionnaire was identical

for all four scenarios. The scenarios and are available in appendix 2 and the questionnaire is available in appendix 3.

The measurement items are presented in table 3, all items are based on previous research with small adjustments in order to fit this study. All the questions were answered on a 7-point Likert scale.

Measurement Items – Construct and Sources

Sources:	Construct:	Items:
Parasuraman, Zeithaml, & Berry, 1988	Service Quality: *Assurance*	I trust that this bank service was done accurate.
		I feel safe about the super vision I got during the service.
		I trust that this bank service was tailored to my needs.
Parasuraman, Zeithaml, & Berry, 1988	Service Quality: *Reliability*	The quality of this supervision was good.
		I feel that this supervision was done correctly
		The information I got under this supervision was reliable
		This supervision was accomplished within the expected time.
Russel, 1982	Attribution Theory: *Stability*	If I use the same banking service again in the future, the outcome will probably be the same
		If I use the same banking service again in the future, the outcome will probably change.
		If I use the same banking service again in the future, I will probably experience the service the same way
Russel, 1982	Attribution Theory: *Controllability*	The outcome of this banking service is beyond my control.
		The outcome of this banking service is beyond the control of the bank.
		I am responsible for the outcome of this bank service.
		The bank is responsible for the outcome of this bank service.
		The outcome of this banking service was random and not affected by me.
		The outcome of this banking service was random and not affected by the bank.
		This service delivery is something that the bank is responsible for.
		This service delivery is something that I am responsibility for.
Kunz et al. 2010	*Emotional Satisfaction*	Based on the story, I, as a customer, feel: Indifferent – Engaged Bored – Inspired Certain – Uncertain Disappointed – Positively surprised Angry – Happy * Keep in mind that the feelings might be different in Norwegian and English since the English vocabulary have a broader choice of words for explaining their feelings.
Johnson et al. 2001	*Cognitive Satisfaction*	How satisfied or dissatisfied are you with this banking service?

		In what extent does this banking service meet your expectations?
		Imagine an ideal banking service with customer advice. Based on the story, how far from or how close do you think the outcome of the banking service is in relation to the ideal?
		How attractive or unattractive do you find that this banking service is, compared to other ways to get mortgage advice?
		HI: How attractive or unattractive do you find that this banking service is, compared to getting guidance on your bank's website using a mortgage calculator?
		SST: How attractive or unattractive do you feel that this banker is, compared to going to your bank and getting guidance from a customer advisor?
Zeithaml, Berry and Parasuraman, 1996	*Behavioral Intention*	How likely or unlikely is it that you would recommend this banking service if someone ask you for advice?
		How likely or unlikely is it that you would refer to this bank service as positive to others?
		How likely or unlikely it is that you would use this banking service again if you were in need for this type of service in the future?

Table 3: *Measurement Items*

The items in service quality let us illustrate the respondent's perception of assurance and reliability with the service. *Assurance* focused on how the respondents felt about the guidance. That is, if they felt safe and trusted and that the service was done correctly (Parasuraman et al., 1988). When respondents were given the different statements listed in table 3, the respondent either agreed or disagreed at a 7-point Likert scale. *Reliability* let us understand how the customers relied on the given service. The items were, similar to assurance, based on the study of Parasuraman et al., (1988). The items for the construct was taken from Parasuraman et. al 1988, where they developed the 22-item instrument to assess SERVQUAL. From their paper, the questions were developed to better fit the credence service and bank industry.

The items in attribution theory allowed us to see how the participants attributed responsibility for the outcome of the service encounter. With both *controllability* and *stability*, as the two constructs used, we got a clear understanding of how they evaluated to situations differently in the different scenarios. The items of both constructs were based on the study of Russel (1982), and the statements was answered at the 7-point Likert scale with categories from strongly disagree to strongly agree.

Emotional satisfaction was measured based on the study of the Kunz et al. (2010) and the items let us understand how the customers were affected by the service encounter. Five items were adapted from Kunz et al. (2010) and adjustments to fit our study. Visible in table 3, the items of the emotional satisfaction construct were based on a semantic differential scale with 7 points. Further, the items used in the *cognitive satisfaction* was based on the study of Johnson et al. (2001).

Lastly, the construct that measure *behavioral intention* was adapted from Zeithaml et al. (1996). The three items asked about customer's behavior towards loyalty and word of mouth. The respondents answered on categories between very likely to very unlikely on a 7-point Likert scale.

3.3 Validity and Reliability

Unless measurement validity and reliability reflect the concept of the theory being tested, conclusions drawn from a study will be invalid or biased and will not advance the development of evidence-based practice. In order to research data to be of value and of used, the data must therefore be both valid and reliable (LoBindo-Wood & Habler, 2014).

Validity is defined as the degree to which measures accurately represent the concept of interest (Hair, Black, Babin, & Anderson, 2014, 125). The content validity is the assessment of the correspondence between the item and the construct, that can be done through rating by expert judges. It is important that all the items in the survey actually explains the desired characteristics of the construct. If items in the test would be irrelevant to the construct, a risk of creating potential biases could be present. As we show in the operationalization section above, the constructs in this study are well-established theories, and the items are accepted to reflect the characteristics of the constructs in previous studies.

Construct validity is the degree to whether the items actually represent what they are believed to measure. Construct validity consist of converge validity which is the assessment of the degree to which the measures of the same concept are correlated (Hair et al., 2014, 124). Convergent validity is valuable to establish the strength of the relationship between the items used for the constructs in the paper.

This is to be certain that the relationship with the items actually measures the same constructs.

In addition, construct validity consists of discriminant validity that assesses whether the conceptually similar concepts are distinct from each other (Hair et al. 2014, 124). It is important to test for discriminant validity to examine that different constructs in the paper are unrelated from each other. This to be certain that the constructs measure theoretically different concepts. Both of these analyses will be addressed in the part of validity and reliability under the result section. Furthermore, as different scenarios are included in this study, randomizing these scenarios was done in order to maintain the internal validity. Internal validity is the degree to which observed changes in a dependent variable can be attributed to changes in a dependent variable. Therefore, internal validity is a matter of degree, such as high, medium, or low, rather than presence or absence of validity. Experiments are research designs that have strong internal validity. The participants in an experiment are randomized to experimental conditions, and other means are used to ensure that changes in dependent variable can be attributed to the experimental manipulation of the independent variable (Tylor & Asmundson, 2008). Further, external validity is relating to generalizations, and examines whether or not an observed causal relationship can be generalized to different measures, persons, settings and times. The main criteria of external validity are the process of generalization and if the results obtained from a small sample can be extended to make predictions concerning the entire population (Rothwell, 2005).

Assessing the degree of consistency between multiple measurement of a variable is referred to as reliability (Hair et al. 2014, 123). Reliability refers to the extent to which the questionnaire will provide consistent and replicable findings, whether similar observations and conclusions can be made by other researchers at different times and under various conditions, and whether there is transparency in how conclusions are drawn from the raw data (Hair et al. 2014, 124).

Our constructs are based on previous research, and are measured by several items. It is important that there are enough indicators for each latent variable. Hair et al., (2014, 614) states that researchers often use a three-indicator rule as a guideline.

This rule of thumb recommends that there should be three significant items per latent. Further, a two-indicator rule will also be identified, as long as the latent construct has significant relationships with some other latent construct (Hair et al., 2014, 614).

To measure internal consistency of the survey for the dependent variables, the Cronbach's alpha levels are examined. This to demonstrates that the contribution each item has makes the construct reliable. Further, construct reliability is assessed to estimate the internal consistency of the construct's. Different from Cronbach's alpha, composite reliability does not assume that all the items are equally reliable (Hair, Ringle, & Sarstedt, 2011).

3.4 Pretest

After developing the scenarios with the different manipulations, we conducted a pre-test. This to test if the scenarios were realistic and imaginable, and to be sure that the manipulations where significantly different from each other in both dimensions. The first pre-test included 46 respondents where an equal amount of the respondents got one of the four scenarios.

Question	Manipulation	Mean	Std. Deviation
I think the outcome of this banking service went as expected.	Successful	5.17	1.249
	Unsuccessful	2.45	1.143
I think the outcome of this banking service went better as expected.	Successful	4.89	1.568
	Unsuccessful	2.09	1.743
I think the outcome of the banking service is worse than expected.	Successful	2.22	1.003
	Unsuccessful	5.41	1.469

Table 4: *Mean and Standard Deviation*

Question		F	Sig.
I think the outcome of this banking service went as expected.	Between Group	51.287	0.000
I think the outcome of this banking service went better as expected.	Between Group	27.891	0.000
I think the outcome of the banking service is worse than expected.	Between Group	61.201	0.000

Table 5: *ANOVA*

Table 4 and 5, shows that there is a significant difference between successful and unsuccessful credence service encounter. In the second pretest, we tested the difference between HI and SST with a number of 50 respondents. Visible in table 6 and 7, the result showed that there is a significant difference between this manipulation as well.

Question	Manipulation	Mean	Std. Deviation
To what extent did you experience that you as a customer contributed to the outcome of this banking service?	SST	4.82	1.736
	HI	3.58	1.774
Who do you think is the most responsible for the outcome of this banking service?	SST	3.73	1.549
	HI	5.00	1.653

Table 6: Mean and Standard Deviation

Question		F	Sig.
To what extent did you experience that you as a customer contributed to the outcome of this banking service?	Between Group	5.092	0.030
Who do you think is the most responsible for the outcome of this banking service?	Between Group	6.825	0.013

Table 7: ANOVA

On the basis of the pre-tests, we conclude that both HI/SST and Successful/Unsuccessful manipulations are significantly different. Also, we checked for realism by asking the respondents to rate the realism of the scenarios used in the survey on a seven-point Likert scale (Dabholkar, 1996). This to make sure that the respondents could see themselves in the situation presented. All the questions to the pretest is available in appendix 4.

Lastly, the questions for the different constructs were developed and a final pretest was conducted. This time we got 20 respondents. In this pretest, we asked for feedback on the whole survey. This to be certain that the respondents understood the questions asked. The feedback helped us change some of the questions that respondents did not understand and to get an approximate time each respondent spent taking the survey.

3.5 Procedure

We used the online survey software Quatrains to design and launch the questionnaire. The respondent was first exposed to the manipulated scenarios with the different treatments. They then answered the different questions that builds on

the all the constructs in this paper. The concluding part of the questionnaire included demographic questions.

We used SmartPLS and SPSS to analyze the collected data. The replicated and extended framework of the relationships between the constructs was done with SmartPLS. This was done to establish that our findings correspond with previous findings. A partial least square method was used as an alternative to SEM, this because it explains the variance instead of the covariance. Moreover, it also produces parameter estimates that maximizes the explained variance. Hence, SmartPLS focus more on prediction than SEM (Hair et al., 2011). Validity and reliability is estimated based on Cronbach's alpha, composite reliability, convergent validity, and discriminant validity attained in SmartPLS. Additionally, we conducted an extended analysis in SmartPLS to examine the variations in these relationships in the different scenarios.

We examined the effect on each dependent variable isolated. This to see if the different manipulations significantly vary in the ratings on all the dependent variables. Our argumentation of hypothesis focuses on how the manipulations effect the different dependent variables and therefore is it also appropriate to use a multivariate analysis of variance (MANOVA).

4. Results

4.1 Data and Descriptive

After collecting data and excluding respondents that where incomplete and cleaning the data we were left with 240 completed questionnaires. We managed to get close to equal amount of the different scenarios. An illustration of distribution to the different scenarios are visible in table 8 below.

	Successful	**Unsuccessful**
Human Interaction	67	66
Self-service technology	53	54

Table 8: *Scenario labels and number of respondents*

The equal number of respondents in each scenario was possible through the evenly presented in randomizing options in Qualtrics. The 240 completed surveys had no missing values. Of the respondents 148 (61.7%) of them was female and 92 (38.3%) male. The aged ranged from less than 24 to 69 where the largest group of respondents (113) where between 24 and 29 years' old and the rest was almost equally in groups of the other intervals. The largest group (52%) have bachelor as the highest completed education, 20% have master, 23.3% have high school and 4.6% have primary school as their highest completed education. Most of the respondent are either fulltime students (30.8%) or working fulltime (59.6%) and the remaining of 9.6% are part-time employees, students or other. Investigating the income to the respondents, the largest group with 32.1% of the respondents have an income that is 500 000 NOK or higher. Another 20.7% have an income between 400 000 NOK and 499 000 NOK. The third largest group with 17,7% have an income between 100 000 NOK and 199 000 NOK. This shows that over 50% of the respondents have an income higher than 400 000 NOK.

Further, the mean, standard deviation, skewness and kurtosis of all the items was examined. Skewness measures the symmetry of the distribution, and are used to compare normal distribution (Hair et al., 2010, 36). Hair et al., (2010, 36) states that skewness values falling outside the range of -1 to +1 indicate a substantially skewed distribution. The items ControllabilityBank_4 is the only item that is substantially skewed. It has a skewness of -1.334 and therefore have relatively few small values and tails off to the left. The kurtosis that provides information about the peakedness or the flatness of the distribution (Hair et al., 2010, 70). Here values above 0 indicates a peaked distribution, and values below 0 indicates a flatter distribution. The results show that 28 of the items have a more peaked distribution, while only 2 of the items have a flatter distribution. More detailed information of the mean, standard deviation, skewness and kurtosis are available in appendix 5.

4.2 Confirmatory Factor Analysis

We first conducted a confirmatory factor analysis in SmartPLS to assess the extent to which the items reflect the established theory of the latent construct. By using this method, the items will be assigned to the factors that is already established in previous theory (Hair et al., 2010, 664). Moreover, CFA tells us

how well the theoretical specifications of the factors matches the actual data. In other words, CFA is a tool that allow us to confirm or reject the preconceived theory.

The outer model of the framework, where the items factor loading where visible showed that, seven items were below 0.7 (which is the preferred value) and had to be removed from the analysis (Wong, 2013). Hence, according to Hair et al., (2014, 614) stability and controllability have less indicators than preferred. Since two-indicators also can be identified when the factors have significant relationship with other factors, we kept the constructs and took this into consideration when continuing our analysis (Hair et al., 2014, 614). One of the larger changes, after removing the variables, was that controllability only consist of questions that are about customers control. Hence, the banks control was excluded from the analysis. We still find it interesting to see how a customer perceive their control in the different scenarios, and we therefore chose to keep this construct. As visible in table 9 below, all the items have high loadings, above 0.7, on their ascribed latent construct.

	Assurance	Behavioral Intention	Cognitive Satisfaction	Controllability	Emotional Satisfaction	Reliability	Stability
Assurance_1	0.929						
Assurance_2	0.950						
Assurance_3	0.940						
BI_1		0.967					
BI_2		0.979					
BI_3		0.951					
CognitiveSat_1			0.953				
CognitiveSat_2			0.959				
CognitiveSat_3			0.949				
CognitiveSat_4			0.921				
ControllabilityME_1				0.930			
ControllabilityME_3				0.920			
Emotion_1					0.873		
Emotion_2					0.884		
Emotion_3					0.803		
Emotion_4					0.924		
Emotion_5					0.892		
Reliability_1						0.920	
Reliability_2						0.947	
Reliability_3						0.805	
Reliability_4						0.905	
Stability_1							0.848
Stability_2							0.870

Table **9**: *Factor Loadings*

Furthermore, when running the bootstrapping algorithm to see if the factor loadings are significant on a level of 5%, it is visible, in table 10, that all the t-values are well above 1.96 and the p-value are 0.000 and therefore every factor loadings are statistically significant in the outer model (Wong et al. 2011).

	T-values	P-value
Assurance_1	65.928	0.000
Assurance_2	114.440	0.000
Assurance_3	111.745	0.000
BI_1	202.521	0.000
BI_2	268.418	0.000
BI_3	98.692	0.000
CognitiveSat_1	92.488	0.000
CognitiveSat_2	165.691	0.000
CognitiveSat_3	127.637	0.000
CognitiveSat_4	72.151	0.000
ControllabilityME_1	75.839	0.000
ControllabilityME_3	62.199	0.000
Emotion_1	48.595	0.000
Emotion_2	55.725	0.000
Emotion_3	24.542	0.000
Emotion_4	83.844	0.000
Emotion_5	58.488	0.000
Reliability_1	77.076	0.000
Reliability_2	100.157	0.000
Reliability_3	24.867	0.000
Reliability_4	60.476	0.000
Stability_1	18.850	0.000
Stability_2	22.840	0.000

Table 10: T-value and P-value of the Factor Loadings

4.2.1 Test of Validity and Reliability of the Construct

4.2.1.1 Validity

To investigate if there is convergent validity of the construct, average variance extracted (AVE) is examined. The convergent validity is the extent to which the different measures within the same construct correlate with each other (Cunningham, Preacher & Banaji 2001). An AVE value of 0.50 and higher imply that there is an adequate degree of convergent validity. As visible in table 11 below, all of the latent variables have a AVE value that exceeds 0.70, meaning that each latent variable explains more than 70% of its indicators' variance (Hair et al., 2011).

	Average Variance Extracted
Assurance	0.883
Behavioral Intentions	0.933
Cognitive Satisfaction	0.894
Controllability	0.856
Emotional Satisfaction	0.768
Reliability	0.803
Stability	0.738

Table 11. *Reliability and Validity tests*

Next, we used the Fornell-Larcker criterion to assess discriminant validity. The Fornell- Larcker criterion predicts that a latent construct shares more variance with its assigned indicators than with the other latent variables in the model (Hair et al., 2011). Fornell-Larcker suggests that the correlation of each latent variable is compared with the square root of the AVE.

Fornell-Larcke							
	Assurance	**Behavioral Intention**	**Cognitive**	**Controllability**	**Emotional**	**Reliability**	**Stability**
Assurance	0.940						
Behavioral Intention	0.875	0.966					
Cognitive	0.901	0.941	0.945				
Controllability	0.424	0.433	0.464	0.925			
Emotional	0.820	0.843	0.859	0.422	0.876		
Reliability	0.929	0.876	0.901	0.429	0.820	0.896	
Stability	0.341	0.271	0.309	0.053	0.279	0.319	0.859

Table 12: *Fornell-Larcker squared correlation matrix*

Looking at table 12, we see that from the squared correlation matrix that all the latent variables indicate good evidence for discriminant validity. The only exception in the matrix is that the indicators for reliability share more variance with assurance and cognitive satisfaction than with their assigned indicator. Still, looking at the cross loadings (presented in table 13 below), which is a slightly more liberal test than the Fornell-Larcker criterion, the items loadings of reliability latent is higher than the loadings with the remaining construct (Hair et al., 2011, 146).

Cross Loadings							
	Assurance	**Behavioral Intention**	**Cognitive Satisfaction**	**Controllability**	**Emotional Satisfaction**	**Reliability**	**Stability**
Assurance_1	0.929	0.759	0.802	0.377	0.703	0.872	0.296
Assurance_2	0.949	0.832	0.857	0.391	0.801	0.900	0.335
Assurance_3	0.941	0.869	0.877	0.424	0.802	0.848	0.329
BI_1	0.864	0.967	0.913	0.401	0.819	0.859	0.284
BI_2	0.864	0.979	0.928	0.405	0.836	0.866	0.287
BI_3	0.805	0.951	0.887	0.450	0.788	0.814	0.213
CognitiveSat_1	0.878	0.881	0.952	0.437	0.827	0.882	0.320
CognitiveSat_2	0.889	0.896	0.958	0.454	0.836	0.896	0.325
CognitiveSat_3	0.841	0.912	0.949	0.449	0.809	0.844	0.262
CognitiveSat_4	0.796	0.871	0.922	0.415	0.776	0.789	0.261
ControllabilityME_1	0.396	0.391	0.440	0.929	0.427	0.404	0.069
ControllabilityME_3	0.388	0.411	0.419	0.921	0.391	0.390	0.028
Emotion_1	0.750	0.776	0.791	0.453	0.876	0.742	0.263
Emotion_2	0.727	0.746	0.746	0.437	0.885	0.731	0.209
Emotion_3	0.659	0.654	0.685	0.315	0.801	0.645	0.209
Emotion_4	0.726	0.763	0.781	0.387	0.923	0.744	0.263
Emotion_5	0.725	0.746	0.753	0.333	0.891	0.724	0.275
Reliability_1	0.856	0.820	0.852	0.434	0.770	0.923	0.283
Reliability_2	0.902	0.824	0.873	0.388	0.790	0.949	0.335
Reliability_3	0.674	0.683	0.681	0.344	0.667	0.796	0.175
Reliability_4	0.874	0.803	0.811	0.369	0.709	0.909	0.328
Stability_1	0.279	0.225	0.260	0.034	0.226	0.257	0.846
Stability_3	0.306	0.240	0.270	0.056	0.253	0.289	0.871

Table 13: *Cross Loadings*

4.2.1.2 Reliability

Cronbach's alpha is the most common measurement of reliability used to measure internal consistency of a survey. The score of Cronbach's alpha range between 0 and 1, and the closer the coefficient is to 1 the greater the internal consistency of the variables in the scale. The coefficient should not be lower than 0.70, which is the general "rule". In exploratory research, however, it is possible to accept values down to 0.60 (Hair et al., 2011). Visible below in table 14, we can see that all of the variable except stability have a value above 0,80 and most of them above 0.90. This Cronbach's Alpha values are optimal, but Stability with a value of 0.645 is acceptable in this exploratory study even though it is lower than 0.70.

	Cronbach's Alpha	**Composite Reliability**
Assurance	0.934	0.958
Behavioral Intentions	0.964	0.977
Cognitive Satisfaction	0.960	0.971
Controllability	0.832	0.922
Emotional Satisfaction	0.924	0.943
Reliability	0.917	0.942
Stability	0.645	0.849

Table 14: *Test of reliability*

Looking at table 14, we can see that all of the variables, except the one measuring stability, have a value above 0,80 and most of them above 0.90. These Cronbach's Alpha values are optimal. The value for Stability (0.645) is also acceptable in this study although it is lower than 0.70. Furthermore, the composite reliability (CR) measures the internal consistency and do not assume that all factor loadings are equal. The CR should be above 0.70 to suggest good reliability. It is visible in table 14 that all CR-scores exceed 0.70 (Hair et al., 2011). Taking the findings into consideration, we can conclude that the items in our study provide reliable measures on our constructs.

With the confirmation of the different items loading to their ascribed theory, we will continue with analyzing the relationships between the construct and the differences between groups within each construct. In the last analysis, all the construct will be dependent variables and with several dependent variables a MANOVA analysis will be conducted. Before starting these analysis, several assumptions need to be met.

4.3 Assumptions

4.3.1 Sample Size

Hair, Black, Babin and Anderson (2014, 679) states that a sample size for each group should exceed the number of dependent variables and have a minimum of 20 observations per cell. Our sample size has a number of 67, 66, 54 and 53 in each group. Therefore, since all the groups in our study exceed 50 respondents, the assumption of sample size is met (Hair et al., 2014, 679).

4.3.2 Independence of Observations

A more serious of violation of an assumption would be the absence of independence among observations. As this survey experiment was shared through various social channels, we can never be certain that it was not any violation to this assumption. Still, we assume that since the survey were distributed online, that people would not collaborate or taking the survey while sitting next to each other.

4.3.3 Normality

Normal distribution of the dependent measures is one of the assumptions that need to be met before running an MANOVA-analysis. On the other hand, as discussed in Hair et al., (2011), a covariance-based SEM (CB-SEM) need to assumption of normality of data to be met, but PLS-SEM often provide a more robust estimation of the structural model.

We use univariate normality to determine normal distribution. Although MANOVA is a multivariate analysis, Janssens et al. (2008, 113) show that SPSS does not provide any test for multivariate normal distribution. To assess univariate normality, we use the Kolmogorov-Smirnov and Shapiro-Wilk's statistics. As there were four different scenarios, a normal distribution of all the dependent variables in each scenario was acquired.

When analyzing the Kolmogorov-Smirnov, a significant result tells us that the data is not normally distributed. Running the univariate test of the dependent variable separated into the scenarios, 22 of the 28 variables was significant according to the Kolmogorov-Smirnov statistics. The Kolmogorov-Smirnov statistics, including the significant levels, are visible in appendix 6. Thus, only six

of the dependent variables divided into the scenarios are considered normally distributed. Still, this is not that uncommon. Both Kolmogorov-Smirnov and Shapiro-Wilks statistics are extremely sensitive to minor deviation of normality, and therefore a rejection of the null hypothesis might not be an indication that the deviation is large enough to cause an alteration of the statistical analysis, both in MANOVA and SmartPLS (Janssens et al. 2008, 114). As long as the violation is due to skewness and not outliers.

Therefore, we also performed a more graphical inspection of normality. Outliers were examined in the box plot and when exploring the data set, three outliers was removed because we considered them to be extreme outliers. Throughout the inspection of the q-q plots and histograms, we found indication that the distribution is close to a normal distribution. Examining the q-q plots, we found that the point was close to the diagonal line which indicate that they are close to normally distributed. In addition, the histograms showed a bell curve, however, with some signs of skewness. In conclusion, we consider the violation of normal distribution to not have a considerable impact on the SmartPLS and MANOVA analysis.

4.3.4 Equality of Variance-Covariance Matrix

Next, the assumption homoscedasticity must be verified (Hair et al., 2014, 685). This because "the variance of the dependent variable being explained in the dependence relationship should not be concentrated in only a limited range of the independent values" (Hair et al. 2010, 72). Therefore, we examine the equality of the variance-covariance matrices of the variables across the groups. This is examined through a Box's Test (Janssens et al. 2008, 115).

Box's Test of Equality of Covariance Matrices	
Box's M	236.695
F	2.665
df1	84
df2	115178.122
Sig.	.000

Table 15: *Box M test*

Looking at table 15, the Box's Test shows that dependent variables had problem with heterogeneity. It is also important to keep in consideration that the Box M

test is sensitive to deviation from normality and therefore there may be heteroscedasticity because of some skewness in the normality curve (Hair 2014, 72). Data transformation was attempted to remove heteroscedasticity, but did not change the result. Fortunately, if this assumption is violated it will have a minimal impact as long as the groups sizes are approximately equal in size (Largest group / smallest group <1.5) (Hair et al. 2014, 685). The largest groups sample in the dataset is 67, and the smallest is 54 (67/54=1.24), and concluding, the group sizes are approximately the same size. Therefore, homoscedasticity in the dataset is not considered a threat to the SmartPLS and MANOVA analysis.

4.3.5 Outliers

The data was examined for outliers, since the MANOVA-analysis is sensitive to outliers and their effect on Type 1 error (Hair 2014, 686). When examining outliers, 3 was removed in the previous section when looking for normality where when examining the dataset of the respondent that was shown as outliers in the boxplot. In the data, there were only three extreme values. The 16 other outliers, according to the box plot, was kept. Even though they were considered as outliers in the box plot, the values they selected were close to the rest of the sample. Considering these outliers independently, we found these answers important because their scores can portray a representative element of the sample. The mean was also looked at, with and without the 16 outliers, and they had a minor effect on the mean scores which again support the conclusion of keeping the outliers.

4.3.6 Linearity and Multicollinearity

Lastly, the assumption of linearity and multicollinearity between the dependent variables will be checked for before running a MANOVA-analysis (Hair et al. 2014, 686). There should exist linear relationship between the dependent variables, and to assess the linearity scatterplots was examined. The scatterplots showed linearity. Furthermore, we also examined a correlation matrix because the MANOVA-analysis works best when that dependent variables correlated at a moderate level (Pallant, 2010, 290). If the correlations are above 0.8 or 0.9, it can be a reason for concern. The correlation matrix, provided in appendix 7, showed that four of the dependent variables was highly correlated with a value above 0.9, and five of the correlations was above 0.8.

Furthermore, since a few of the variables correlated, we examined the tolerance value and the variance inflation factor (VIF) to check if multicollinearity represent any threats to the analysis (Pallant 2010,158). Pallant (2010, 158), states that a value above 10 is a commonly cut-off point to determine presence of multicollinearity. Further, a tolerance below 0.10 also indicate multicollinearity. Since there are multiple dependent variables, they were tested with each other. Therefore, multiple VIF analysis was conducted to see if the VIF changed when the different dependent variables were used. The results were close to similar, and the VIF values in table 16 below is illustrated with the reliability as the dependent variable.

Dependent Variable	Independent Variable	Tolerance	VIF
Reliability	Assurance	0.174	5.763
	Stability	0.866	1.155
	Controllability	0.767	1.304
	Emotional Satisfaction	0.244	4.101
	Cognitive Satisfaction	0.081	12.383
	Behavioral Intention	0.107	9.354

Table 16: *Tolerance and VIF*

The only variable that shows multicollinearity is cognitive satisfaction. Further, behavioral intention is also very high. There is a threat of multicollinearity in these two constructs. To make sure that multicollinearity did not make us accept or reject hypothesis that should not be accepted or rejected, a simple ANOVA analysis was conducted and compared with the results of the MANOVA analysis.

Dependent variable	(I) Which manipulation	(J) Which manipulation	p-value ANOVA	p-value MANOVA
Cognitive Satisfaction	HI/Successful	SST/Successful	.024	.050
	HI/Unsuccessful	SST/Unsuccessful	.001	.002
Behavioral Intention	HI/Successful	SST/Successful	.011	.025
	HI/Unsuccessful	SST/Unsuccessful	.026	.037

Table 17: *The p-values in ANOVA and MANOVA*

As visible in table 17, the result was indifferent, and we did not see the representation of multicollinearity as a threat to our analysis.

Further, according to Hair et al. (2011) and Wong (2013), the VIF should be less than 5 and the tolerance level should be of 0.2 or higher, to conduct a SmartPLS analysis. It is visible that cognitive satisfaction, behavioral intention and assurance have multicollinearity, and could be a threat to the SmartPLS analysis. This can cause indicators to be non-significant (Hair et al., 2011), and will be taken into consideration when conducting analysis is SmartPLS.

4.4 Structural Equation Model: Examining relationships between the constructs

Using SmartPLS, we conducted a Partial Least Square-Structural Equation Model (PLS-SEM) to examine the cause and effect relations between the constructs (see, for example, Hair et al., 2011). The analysis is a replicate of existing studies, but with the extention of the relationship between service quality (assurance and reliability) and attribution theory (controllability and stability). The aim is to establish that the relationship found in pervious thoery are present in this data as well. The emperical model is presentd in figure 1.

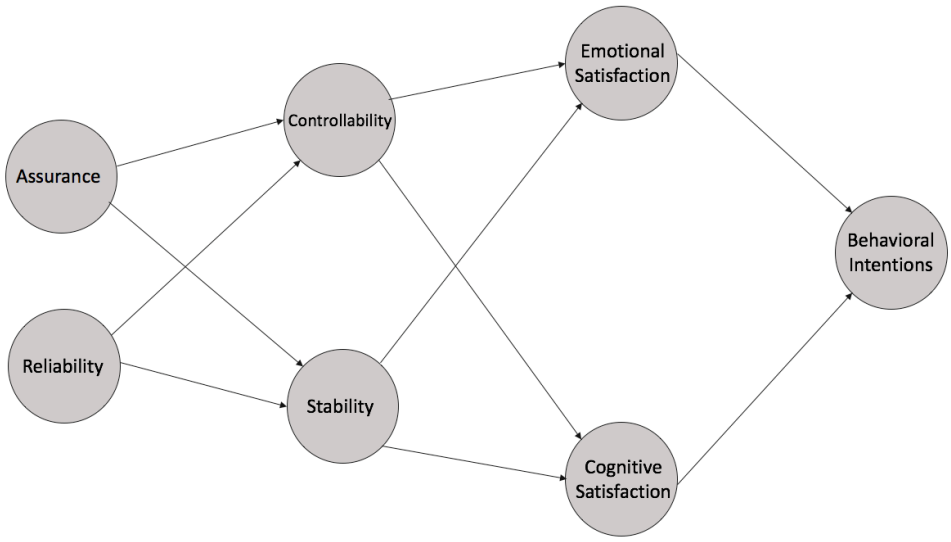


Figure 1. *Emperical Model*

4.2.1 Goodness of Fit

To establish goodness of fit, we examine the R^2 and Q^2. R^2 is used to determine the overall prediction power of the model of all the endogenous constructs. The endogenous variables contain at least one path leading to the variable (Wong, 2013). Q^2 assess the predictive validity of a large complex model and shows how well the data collected empirically can be reconstructed (Monecke & Leisch,

2012). As stated in Wong (2013), Q^2 values of 0.02, 0.15 and 0.35 indicate that the predictive relevance of the exogenous variables for the endogenous variable are respectively small, medium and large. The exogenous variables contain arrows leading away from the construct (Wong 2013).

	R^2	Q^2
Controllability	0.189	0.148
Stability	0.117	0.063
Emotional Satisfaction	0.261	0.185
Cognitive Satisfaction	0.297	0.247
Behavioral Intention	0.891	0.783

Table 18:

Looking at table 18, the latent variables emotional satisfaction and cognitive satisfaction explains 89.1% of the variance in the endogenous variable Behavioral Intention. Furthermore, the Q^2 shows that emotional- and cognitive satisfaction has a large predictive relevance for behavioral intentions. Furthermore, controllability and stability explain 26.1% of the variance in emotional satisfaction with a predictive relevance of 0.185, which is considered medium. In addition, 29.7% of the variance in cognitive satisfaction is explained with a medium predictive relevance. Also, the two service quality variables, assurance and reliability, have a very low explanation of controllability (18.9%) and stability (11.7%) with respectively medium and small predictive relevance from assurance and reliability. In marketing research, the R^2 value above 75% is considered substantial, and therefore behavioral intention is well explained by the satisfaction variables. On the other hand, the other endogenous variables have a weak explanation of variance (Hair et al., 2011).

4.2.2 Inner Model Path Coefficient Sizes and Significance

In the inner model, it is noticeable that the highest effect on behavioral intention is cognitive satisfaction (0.828), whereas emotional satisfaction only have an effect of 0.132. Both of these relationships are statistical significant as visible in table 19, with p-values<0.05. The path coefficients show that cognitive satisfaction has a higher effect on behavioral intention than the affective part of satisfaction.

Variable relationship	Path Coefficient	T-Statistics	P-value
Assurance→Controllability	0.183	1.084	0.279
Assurance→Stability	0.259	1.918	0.055
Reliability→Controllability	0.331	1.590	0.112
Reliability→Stability	0.011	0.061	0.952
Controllability→Emotional	0.429	7.401	0.000
Controllability→Cognitive	0.449	7.972	0.000
Stability→Emotional	0.257	4.693	0.000
Stability→Cognitive	0.285	5.218	0.000
Emotional→BI	0.132	2.479	0.013
Cognitive→BI	0.828	16.271	0.000

Table 19: *Variable relationship strength*

Furthermore, we can see in table 19 that controllability has a higher effect than stability on both emotional satisfaction and cognitive satisfaction, explaining that when the encounter is perceived as better controlled customer feel more satisfied than when they see the situation as stable. Lastly, assurance has a stronger effect on stability than reliability. On the other hand, reliability have a stronger effect on controllability than assurance. This shows that if a customer feels assured by the bank, it will have a higher effect on how stable the customer thinks the encounter is compared to reliability. As it is visible in table 19, all the standardized path coefficients from service quality to attribution theory are not statistically significant. The other hypothesized path relationships are statistically significant with a p-value<0.05 and t-value>1.96 (Wong et al. 2011).

4.3.3 Multi-group Analysis

We used a multi-group parameter to examine the differences between the groups on the basis of the manipulation used in the survey. This gave us the opportunity to see if the relationships are different in the various groups. In this analysis, we only included the most interesting findings.

Construct Relationship Strength within the Different Groups												
Paths	**HI Successful**			**SST Successful**			**HI Unsuccessful**			**SST Unsuccessful**		
	Beta	T-value	P-value	Beta	T-value	P-value	Beta	T-value	P-value	Beta	T-value	P-value
Controllability→Emotional	-0.146	1.136	0.258	0.403	4.877	0.000	0.124	0.657	0.506	0.481	4.097	0.000
Controllability→Cognitive	0.039	0.284	0.777	0.241	2.109	0.038	0.145	1.058	0.271	0.590	5.857	0.000
Stability→Emotional	0.435	5.185	0.000	0.606	7.674	0.000	-0.046	0.282	0.775	-0.079	0.519	0.609
Stability→Cognitive	0.474	4.755	0.000	0.665	6.615	0.000	0.054	0.350	0.721	-0.176	1.611	0.101
Emotional→BI	0.497	4.635	0.000	-0.060	1.106	0.267	0.035	0.317	0.748	0.068	0.738	0.469
Cognitive→BI	0.348	2.810	0.004	0.993	21.535	0.000	0.790	8.497	0.000	0.821	8.782	0.000

Table 20: *Construct Relationship Strength within the Different Groups*

Firstly, the multi-group analysis showed interesting finding when looking at the relationship between controllability and both of the satisfaction constructs. Table 20 shows that the beta coefficients only have a significant positive effect when the encounter is done with SST. Therefore, as expected, there is a significant difference between SST encounters and HI encounters.

	HI Successful – SST Successful		**HI Successful – HI Unsuccessful**	
	Beta Diff	P-value	Beta Diff	P-value
Stability→Emotional	0.170	0.930	0.482	0.003
Stability→Cognitive	0.191	0.913	0.421	0.008
Emotional→BI	0.558	0.000	0.462	0.003
Cognitive→BI	0.645	1.000	0.442	0.997

Table 21: *Multi-Group Differences*

Secondly, the relationship between stability and both emotional- and cognitive satisfaction has only a positive significant effect when the outcome of the encounter is successful. Furthermore, looking at table 21, an interesting finding is that stability has a significantly stronger positive effect on emotional- and cognitive satisfaction, when the successful encounter is done through SST compared to HI. This effect, is however, only significant at the 10% level.

Lastly, the most interesting results is the relationships between satisfaction and behavioral intention. As we can see in table 20, in a successful HI encounter, both emotional- and cognitive satisfaction have a significant positive effect on behavioral intention. In this encounter, emotional satisfaction has a significantly stronger effect than cognitive satisfaction has on behavioral intention. On the other hand, only cognitive satisfaction has a significant positive effect on behavioral intention when the encounter is done with SST, both successful and unsuccessful. It is understandable that emotional satisfaction is absent in a technology-based service where the human touch is not present. However, looking at the multi-group differences between successful and unsuccessful HI encounter in table 21, it is evident that there is a significant difference between the relationship of emotional satisfaction and behavioral intention. Additionally, in table 20, we see that emotional satisfaction does not have a significant effect on

behavioral intention, and that cognitive satisfaction has a strong significant effect on behavioral intention.

With these interesting findings, we will now look further into each construct. More precisely we will analyze how the various encounters affects each construct differently. This will be conducted using a MANOVA analysis.

4.5 MANOVA-analysis

Firstly, when examining the results of the MANOVA-analysis, we assess the statistically differences among the groups on a linear combination of the dependent variables (Pallant 2010, 294). The output shows four different statistics, Pillai's Trace, Wilks' Lambda, Hotelling's Trace and Roy's Largest Root. According to Pallant (2010, 294), the Wilks' Lambda is one of the most commonly reported statistics. If problems arise with the data, however, the Pialli's statistic is more robust. Thus, since the data violated the assumption of homogeneity of variance covariance, and because our group sizes are somewhat unequal, we used the Pialli's Trace statistic.

Multivariate Test

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Observed Power
Intercept	Pillai's Trace	.970	1047.277	7.000	227.000	.000	.970	1.000
	Wilks' Lambda	.030	1047.277	7.000	227.000	.000	.970	1.000
	Hotelling's Trace	32.295	1047.277	7.000	227.000	.000	.970	1.000
	Roy's Largest Root	32.295	1047.277	7.000	227.000	.000	.970	1.000
Manipulation	Pillai's Trace	.875	13.466	21.000	687.000	.000	.292	1.000
	Wilks' Lambda	.210	22.433	21.000	652.000	.000	.406	1.000
	Hotelling's Trace	3.366	36.169	21.000	677.000	.000	.529	1.000
	Roy's Largest Root	3.246	106.202	7.000	229.000	.000	.765	1.000

Table 22: *Multivariate Test*

The result shows that there is a significant difference among the groups with an F score (21. 687)=13.446 and p-value=0.000. Furthermore, as visible in table 22, the observed power of the main effect exceeds the desired level of 0.8 (Hair et al. 2013, 692). The results provided a significant result, showing that there is difference between the independent variables, thus the relation to each of the dependent variables can be investigated (Pallant 2010, 295). Since group differences will be examined across dependent measures, the post-hoc test will be used to test the dependent variable between all possible pairs of group differences (Hair 2010, 376). There a different post-hoc tests to choose from. Since the data set has unequal variance, the Game-Howell statistic, that give solutions to each hypothesis respectively, will be used.

4.6 Hypothesis Testing

Dependent variable	(I) Which manipulation	(J) Which manipulation	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Reliability	HI/Successful	SST/Successful	.6055*	.18385	.008	.1243	1.0867
	HI/Unsuccessful	SST/Unsuccessful	-.8125*	.17858	.000	-1.2782	-.3467
Assurance	HI/Successful	SST/Successful	.7495*	.21918	.005	.1752	1.3239
	HI/Unsuccessful	SST/Unsuccessful	-.6915*	.20915	.007	-1.2368	-.1461
Stability	HI/Unsuccessful	SST/Unsuccessful	-.5936	.23236	.057	-1.1993	.0122
Controllability	HI/Unsuccessful	SST/Unsuccessful	.2156	.28948	.879	-.5388	.9700
Emotional Satisfaction	HI/Successful	SST/Successful	.6367*	.20986	.016	.0875	1.1858
	HI/Unsuccessful	SST/Unsuccessful	-.0412	.19620	.997	-.5527	.4703
Cognitive Satisfaction	HI/Successful	SST/Successful	.5512	.21023	.050	-.0004	1.1028
	HI/Unsuccessful	SST/Unsuccessful	-.7072*	.18966	.002	-1.2044	-.2101
Behavioral Intention	HI/Successful	SST/Successful	.6678*	.23002	.025	.0628	1.2728
	HI/Unsuccessful	SST/Unsuccessful	-.5953*	.21717	.037	-1.1640	-.0266

Table 23: *Post Hoc: Games-Howell Statistics*

4.6.1 Hypothesis 1

The first hypothesis proposes that if a customer experience a successful HI service encounter, they will perceive a higher level for reliability from the bank than consumers using SST. On the other hand, when the service encounter is unsuccessful, the customers using HI will experience less reliability from the bank than customers using SST. When examining the post hoc comparison in table 23, we can see that in a successful HI encounter, the customer experiences significantly higher reliability from the bank, than customers using SST ($Mean_{HI}$=6.0259, $Mean_{SST}$=5.4104). However, when there is an unsuccessful encounter, the perceived level of reliability from the bank is significantly lower with HI, than with SST ($Mean_{HI}$=2.3172, $Mean_{SST}$=3.1296). Therefore, the results indicate that **H_1 (a) and (b) are supported.**

4.6.2 Hypothesis 2

The second hypothesis looks at the perceived level of assurance, and assumes that when there is a successful HI service encounter, the customer will perceive higher assurance from the bank, compared when there is a successful SST service encounter. Moreover, when there is an unsuccessful service encounter, the customers using a HI service encounter will perceive lower assurance, than if the encounter was done with SST. The results in table 23 shows that a successful HI service encounter gives significantly higher assurance to the customer, in comparison to a successful SST encounter ($Mean_{HI}$=5.8942, $Mean_{SST}$=5.1447). Contrary, the customers feel less assured with the bank when an unsuccessful

encounter occurs with HI, than with SST ($Mean_{HI}$=2.1542, $Mean_{SST}$=2.8457). Here, the results indicate that **H_2 (a) and (b) are supported**.

4.6.3 Hypothesis 3

This hypothesis states that when an unsuccessful service encounter occurs, customers will perceive it as more stable when it is done with HI, compared to if the encounter was done with SST. The results in table 23, shows that there is a mean difference with a p-value of 0.057 ($Mean_{HI}$=4.1194, $Mean_{SST}$=4.7130). Therefore, we cannot accept the hypothesis on a 5% level. Still, choosing a less strong alpha, we choose to accept the hypothesis at a 10% level. The findings indicate that an unsuccessful HI encounter is considered to be less stable than SST. Hence, **H_3 is supported.**

4.6.4 Hypothesis 4

The fourth hypothesis concentrate on whether or not a customer feel that the situation is more controlled when an unsuccessful encounter is done with SST, rather than with HI. The means shows that customers in both encounters, HI and SST, felt that there was a low control of the situation ($Mean_{HI}$=2.8889, $Mean_{SST}$=3.1045). The findings in table 23, however, show that there is no significant difference between the two encounters and the control of the situation. Therefore, the null-hypothesis is kept. **Consequently, H_4 is not supported.**

4.6.5 Hypothesis 5

Hypothesis five suggests that a customer will be more cognitive satisfied when an encounter is successful, and less cognitive satisfied when an encounter is unsuccessful when using HI, compared to SST. For this hypothesis, the results from post hoc comparison (see table 23), shows that when customers experienced a successful HI encounter, they were significantly more cognitive satisfied than with SST ($Mean_{HI}$=5.6786, $Mean_{SST}$=5.1274). Similarly, when customers experienced an unsuccessful encounter, the service done by HI was significantly less cognitive satisfied than customers using SST ($Mean_{HI}$=1.8993, $Mean_{SST}$=2.6065). Therefore, **H_6 (a) and (b) are supported.**

4.6.6 Hypothesis 6

Hypothesis six propose that a customer will be more emotional satisfied when an encounter is successful, and less emotional satisfied when an encounter is unsuccessful when using HI, compared to SST. When the encounter is successful, the emotional satisfaction is significantly higher with HI than with SST ($Mean_{HI}$=5.4857, $Mean_{SST}$=4.8491). On the other hand, when the encounter is unsuccessful, the mean is slightly lower in a HI encounter, than in the SST encounter, but there are no significant differences ($Mean_{HI}$=2.5403, $Mean_{SST}$=2.5815). Consequently, **H_5 (a) is supported and (b) is not supported.**

4.6.7 Hypothesis 7

Hypothesis seven propose that when a customer experiencing a successful service encounter with HI, it will have a lager positive effect on behavioral intention, compared to a SST encounter. Opposite, when a customer experiences an unsuccessful encounter with HI, it will have a larger negative effect on behavioral intentions than with a SST encounter. As visible in table 23, when the encounter is successful, HI have a significantly larger positive effect on behavioral intention, than SST ($Mean_{HI}$=5.8942, $Mean_{SST}$=5.2264). Furthermore, when the unsuccessful encounter occurs with HI, there is a significantly larger negative effect on behavioral intentions, than when the encounter is done through SST ($Mean_{HI}$=2.1393, $Mean_{SST}$=2.7346). Summarizing, **H_7 is supported.**

4.6.8 Summary of Hypotheses

Hypothesis	Dependent Variable	Supported/Not supported
H_1: Customers involved in a credence service encounter, that is either experienced as (a) successful or (b) unsuccessful, will perceive a (a) higher or (b) lower level of reliability in a human interaction encounter, than in a self-service technology encounter.	Reliability	(a) Support (b) Support
H_2: Customers involved in a credence service encounter, that is either experienced as (a) successful or (b) unsuccessful, will perceive a (a) higher or (b) lower level of assurance in a human interaction encounter, than in a self-service technology encounter.	Assurance	(a) Supported (b) Supported
H_3: Customers that experience an unsuccessful service encounter with self-service technology will perceive it as more stable, compared to if the encounter was done with human interaction.	Stability	Supported
H_4: When an unsuccessful service encounter occurs, customers feel that they are more in control of the situation when they use self-service technology, compared to human interaction.	Controllability	Not supported
H_5: When a (a) successful or (b) unsuccessful encounter is experienced with HI, there will be a (a) higher cognitive satisfaction of the experienced service or (b) lower cognitive satisfaction than when using SST.	Cognitive Satisfaction	(a) Supported (b) Supported
H_6: When a (a) successful or (b) unsuccessful encounter is experienced with HI, there will be a (a) higher emotional satisfaction or (b) lower dissatisfaction than when using SST encounters.	Emotional Satisfaction	(a) Supported (b) Not supported
H_7: Customers involved in a credence service encounter, that is either experienced as (a) successful or (b) unsuccessful, will perceive a (a) higher or (b) lower level of behavioral intention in a human interaction encounter, than in a self-service technology encounter.	Behavioral Intention	(a) Supported (b) Supported

Table 24: *Summary of hypotheses*

5. Discussion

The main purpose of this study was to examine the effect of how customers evaluate humans compared to machines in a service counters, either successful or unsuccessful, in order to see if customers respond to these encounters in the same way. More specifically, how customers evaluate a service person compared to technology in a credence based service encounter in a bank. A credence based service encounter was used because it was assumed to have a larger effect on how the encounter would be evaluated, compared to a more traditional encounter, such as a service encounter in a grocery store.

Prior research has looked into how SST affects customers, both negatively and positively, but there are contradicting findings. We wanted to contribute to the field of SST by including a deeper insight to the aspect of man versus machine. We included different theories that have been broadly studied before, both separately, and some of them collectively.

The digitalization is getting much attention. Especially how it will affect traditionally service encounters within different business sectors has gained increased focus. One of the most interesting aspects of digitalization, according to us, is that services where customers usually have been dependent on a service person (such as financial advice), is becoming more digitalized. We assumed that customers would evaluate SST as valuable, but be more reliant on HI in these types of services. Nevertheless, how valuable a customer considered SST compared to HI and what differentiated SST and HI, would be very interesting to investigate. Therefore, we studied how customers evaluated the exact same credence based service, either HI or SST, under successful or unsuccessful conditions.

We acquired a comprehensive understanding of up-to-date research that have studied customer reaction toward SST, and attained knowledge of how customers were affected by less interaction with service personnel. Building on different findings, we found that technology can weaken social connections and affect customer loyalty negatively, and that the personal, emotional connection is important to create memorable experiences. Previous research also claimed that customer evaluate humans more positively under successful conditions, and more negatively under unsuccessful conditions, compared to technology/machines. Moreover, research has proposed that service quality positively influences customer satisfaction, and that removing the human touch could have an effect on behavioral intentions. Based on this, we wanted to examine if it would affect the service quality and satisfaction as well. Further, previous research found that SST satisfaction and SST service quality were influencing factors on the outcome of SST behavioral intentions. Knowing that the established relationship between the three constructs also are present in a SST service encounter, as the construct have been proven many times in HI, it is not certain that service quality, satisfaction, and behavioral intention is experienced and evaluated correspondingly between

HI and SST. Therefore, we found it interesting to examine if there was a change in service quality, emotional- and cognitive satisfaction and behavioral intention, as well as how the customers attributed their perception of stability and controllability in credence based service encounters. By choosing a credence service as the main service purpose to examine, we managed to capture the true evaluation of the event based on the participants' attribution of responsibility. We assumed, consistent with previous theory, that the participants would assign success to their own abilities and efforts, but blame failure to external factors.

The general findings in this study shows that in successful credence based service encounters, customers evaluate HI more positive than SST. Contrary, the overall interesting aspect of this study is that in unsuccessful encounters, costumers evaluate HI as more negative than SST. We hypothesized seven assumptions where five of the hypothesis had two sections including different assumptions of both successful and unsuccessful. Five of the hypothesis were supported, while one of the hypothesis were partly supported (the successful part of the hypothesis was supported, and the unsuccessful was not supported). Lastly, only one of the hypothesis was not supported.

In the first hypothesis, the construct of service quality let us understand how customers perceived the credence service based on the dimensions of *assurance* (trust that the service was done accurate, felt safe about the supervision, trust that the service was tailored to their needs) and *reliability* (good quality, done correctly, information was reliable). The results showed that in both dimensions, when the encounter was successful, the customers perceived a higher level of *assurance* and *reliability* with HI compared to SST. As pervious research claims, reliability has been found to represent SST, and that was also visible in our research. Zhu et al. (2002) argued that the reliability dimension has a direct positive effect on perceived service quality and customer satisfaction by electronic banking systems. Our findings were consistent with the findings of Dabholkar and Bagozzi (2002) where they found that HI was perceived as more reliable than SST. This does not come as a surprise because customers that interact with a service person in a credence service encounter will feel more confident in the expertise given, than if the expertise given was generated through a machine. This will also be accounted for in assurance, where a customer trusted that the service

was done more accurate and felt safer about how the supervision went in SST compared to HI. SSTs can be technically accurate, but cannot provide the same level of assurance that a human can. According prior research, removing the personal touch of expertise will make it hard for customers to perceive assurance in a credence based service, and this is consistent with our findings.

Extended, we also considered the unsuccessful aspect of service quality. When customer is left with little information in a situation where the bank is supposed to be the expert, the customers will perceive less *reliability* and *assurance* with HI, than SST. A customer expect that a service person will be the expert, and give them the supervision and guidance they need. The customer will put more expectations into that one person, than when relaying on SST. In credence service, such as financial guidance to get mortgage, the service advisor is supposed to be the expert and determine the customer need (Wolinsky, 1995). Therefore, when a customer is left uncertain and with little information after guidance from an expert, they will be less likely to rely on the service person and see the service encounter as something that not was done accurate and not personalized, compared to SST. According to prior research, the personal interaction is critical to establish, because a personal and memorable connection is considered crucial to create memorable experiences. Therefore, the negative experience of an unsuccessful service encounter with HI will be evaluated more negatively than SST. Moreover, researchers have found that humans evaluate humans in more extreme manners, both positive and negative, compared to SST.

The third and fourth hypothesis included attribution theory. Here, the third hypothesis was statistically supported and the fourth was not. Our aim with these two hypotheses, was to understand if customers attributed the perceived *stability* and *controllability* differently between HI and SST in an unsuccessful credence encounter, where they were left with little information, and uncertain of the outcome of the service. In the third hypothesis, including dimension of perceived stability, we expected that customers will experience an unsuccessful credence service encounter more stable with SST than HI. The result showed that perceived *stability* between HI and SST in an unsuccessful encounter are significantly different. This indicate that customers perceive an unsuccessful service encounter with SST as something that are more likely to happen again in the future,

compared to HI. This is consistent with the findings of Rebertson et al., (2012), where they claimed that SST is more likely to change due to technological challenges or errors on the web page. Similar to prior findings, a service failure might lead to customers finding the event as more stable, indicating that it will happen again in the future. This could be understandable since the customer in a credence service encounter are more reliable on professional expertise, and as the failure occur, the customer will feel that the expertise given will keep occurring.

The fourth hypothesis, *controllability*, was downsized to focus on the perceived control that customers experienced in the situation they were put in. There was statistically no difference between an unsuccessful HI encounter, and an unsuccessful SST encounter. We expected that customer would feel more in control with an SST encounter than HI encounter. This is based on previous findings, where researcher claim that the perceived control of an SST is the degree a customer believes they have the ability to understand and use SST. According to Bateson (1985), perceived control over a service situation is a key motive for customers to prefer self-service over a service person in service encounters. Therefore, we assumed that customer experiencing an unsuccessful encounter would perceive more control in the situation they were more involved in, with SST, that in a HI encounter where they not are involved in the same degree. On the contrary, when applying for a mortgage, which is a credence based service, customer may want to relay more on the expertise of a bank. Therefore, customers might feel less in control during an unsuccessful service encounter by SST, because they are more dependent on an expert to determine their needs (Wolinsky, 1995). Other reasons could be that lack of knowledge and information increase the importance of expertise (Hsieh et al. (2005) and that people tend to not claim personal responsibility for failures (Shepperd et al., 2008). Hence, during an unsuccessful SST encounter, customers might feel that the service is out of their control, and will therefore not statistically differ from an unsuccessful service encounter with HI.

An additional analysis to how stability and controllability affects the relation of cognitive and emotional satisfaction, shows that stability have a high positive effect in both HI and SST successful encounters, while they have no effect in the unsuccessful encounter. Logically, it showed that the control a customer felt in a

situation relational to the cognitive and emotional satisfaction, was only present in the SST encounters. Consequent, we can draw that the more a customer will have a feeling of control, the more satisfied they will be, opposite to an unsuccessful SST encounter.

One of the main finding in this paper, is the significantly differences between HI and SST in *emotional*- and *cognitive satisfaction*, which approved hypothesis five and six. As we expected, both *emotional*- and *cognitive satisfaction* was higher with HI than SST in the successful credence encounters, and lower with HI than SST in the unsuccessful credence encounters. Similarly, Lin and Hsieh (2011), found comparable relations of service quality, satisfaction and behavioral intentions in the financial market, which is visible in our research as well. On the contrary, Lin and Hsieh (2011) did not include whether satisfaction would be different between SST and HI. Our findings show that the human touch is important in order to gain a higher satisfaction, both emotionally and cognitive. According to different researcher, the higher the focus is on emotional satisfaction, the higher mental stage of feelings (Bagozzi, et al., 1999; Mano & Oliver 1993; Kunz et al., 2010). Our findings, where a customer is feeling more satisfied or less satisfied in the HI encounter is consistent with the findings of Liljander and Strandvik (1995). They found that customers who develops a positive emotional response towards the individual service employee, and established a stronger relationship to the service or organization, will be more satisfied. Therefore, customer satisfaction will be more affected when a human is involved. Further, as the human touch has a greater impact on satisfaction, it is also consistent with the aspect of credence based services. Zeithaml (1981) findings states that credence based services is highly professional and associated with higher degree of unpredictability, and that customer need more information to reduce risk. Customer are more dependent on expert opinion in credence based services, and the human touch will further be more important and impact the customer more than SST.

In order to see the relation between *emotional satisfaction, cognitive satisfaction* and *behavioral intention*, an additional analysis was done. As we expected, satisfaction have an effect on *behavioral intentions*. This consistent with previous studies (Ladhari, 2009; Zeithaml et al., 1996;). Still, examining the differences

between *cognitive*- and *emotional satisfaction*, the successful encounters showed that in SST, it was only *cognitive satisfaction* that had an effect on *behavioral intention*. This is understandable, as personal interaction can enhance the emotional, physical or intellectual experience (Pine and Gilmore, 1998), while the *emotional satisfaction* will be lower in SST because the personal interaction is not present at the same level. Therefore, as we expected, the *emotional satisfaction* has a higher effect on *behavioral intention* than the *cognitive satisfaction*. Still, *cognitive satisfaction* has a significantly positive effect as well.

On the contrary, in unsuccessful encounters, only the judgmental aspect of *cognitive satisfaction* had an effect on *behavioral intention*, in both HI and SST. *Emotional satisfaction* had barely no effect on *behavioral intentions*. The reason for this can be based on the findings from Kunz et al., (2010), where customers evaluates the service by the actual experience and judge the experience based on their expectations. This rational and judgmental part of a customer's evaluation of the event can be explained by how they use expectations to judge the situations, and not the emotional part of the cognitive satisfaction. This can give reasons to believe that expectations are valuable for a customer to decide if he or she want to speak negatively about the encounter to friends and family or not come back at a later point, when the encounter is unsuccessful.

Lastly, another interesting finding was that *behavioral intention* was higher in a successful encounter by HI, and lower in an unsuccessful encounter, compared to an encounter done by SST. This approved our last hypothesis. Evidence from previous research have shown that there is a positive relation between service quality and word of mouth (Berry & Parasuraman 1993). Further, Yu and Dean (2001) found a relationship between satisfaction and behavior intentions. As discussed about satisfaction above, the human touch, and especially in credence service, affect satisfaction more and with the relationship between satisfaction and behavioral intention, the discussion will apply here as well. Findings from Liljander and Strandvik (1995) states that the emotional response for the service employee establish a stronger satisfaction. They also found that it established a stronger intention of behavior. We expected behavioral intentions to change accordingly to satisfaction and service quality. As customer satisfaction has gained much attention because of its potential influence on consumer behavioral

intention (Cronin, Brady, & Hult, 2000), it is consistent that the human touch also affect behavioral intention in a credence service encounter as it did in satisfaction. Although some of the hypothesized effect were not supported in this study, we developed a thorough understanding of the current state of research involving SST and HI in service encounters. Concluding, each of the hypothesis that was supported also compliments the findings of person sensitivity bias from Moon and Conlon (2002). Service quality, satisfaction and behavioral intentions supported their theory that claims HI is evaluated in more extreme manners. Customers evaluated humans more positively when things went right, and evaluated the HI more negatively when it went wrong in all three of these constructs (Moon & Conlon, 2002). Finally, we found that there are changes in perceived *service quality, stability, emotional satisfaction, cognitive satisfaction* and *behavioral intentions* between HI and SST. However, *controllability* did not have any significant difference in the different encounter, but we could still see how they effected satisfaction differently in the various encounters.

5.1 Managerial implications

Based on the findings of this study we can draw some managerial implications. This research has important relevance for managers, because a deeper understanding of customers' expectations in a service encounter is valuable for companies to increase the overall satisfaction. This is important in order to create a picture of how managers can be able to maintain loyal customers that will talk positively about the company and service to friends and family. Especially when launching new products or new services, such as SST, and thereby generate sustainable business growth. According to the interviews we had with the directors at Sopasteria and Finans Norge, online distribution of financial services will make it easier for customers to determine the best choice for themselves, because they can find the company that suits their needs the best more easily than before. They also believed that the most important task for different banks today is to truly understand their customers' needs and desires online. Moreover, the most important focus should be simplification, transparency and efficiency in order to deliver value to their customers. We assume that other directors in financial companies share their views on how digitalization will affect their company and customers.

Customer participation in service encounters have increased in the same tempo as technological advances. However, the differences in customers' perception when comparing HI and SST represent an aspect that managers should be more aware of. Moreover, since we have focused on both successful and unsuccessful encounters, managers are able to understand how both types affect the customers in an encounter, whether it is with HI or SST. Consequently, using research based on man versus machine when creating new service interactions, like SST, can reward managers with valuable advantage. According to Deloitte and Heads! (2016), banks will experience a 40-45% change towards a more technology based service delivery within two years. As customer expectations for banks continue to rise, banks will be required to create a more valuable online experience that is more customer driven, potentially changing the role of service providers. This rise the importance for how managers will be able to create satisfied and loyal customers online, and how the customers can benefit from SST by crating aspects of personal interaction.

The findings in this study shows that customer perception of service quality, cognitive- and emotional satisfaction, and behavioral intentions are stronger in a successful encounter done by a service person, then a machine. This indicates that managers need to maintain the human touch in credence based service encounters in order to keep satisfied and loyal customers. Moreover, they should try to increase the perception of personal interaction in SST. Further, customers' perception of emotional satisfaction, cognitive satisfaction, and behavioral intentions are stronger when they are involved with SST in an unsuccessful encounter, than with a service person. This specifies an important aspect of technology that managers need to take into consideration, because having SST available for customers can decrease the negative overall perception of the company. The human touch is considered the most important factor to generate highest satisfaction when successful, but SST can be explained as a factor that are able to decrease the dissatisfaction when an unsuccessful event occurs. Hence, we recommend managers to keep improving SST, because it can help them to maintain loyal customers, even when the credence based service is unsuccessful. Managers should recognize the importance of customer engagement as internet is considered an innovative and fast-moving tool for co-creating values between companies and customers.

Our findings indicate that there are significantly differences in satisfaction between HI and SST in service encounters. Customers are more satisfied with HI, compared to SST in successful service encounters and less satisfied with HI, compared to SST in unsuccessful service encounters. The most important aspect managers can draw from this, is that the human touch still is very important, but technology does not necessary decrease the perception of the company in the same way as HI, when unsuccessful. We recommend managers to keep the human touch within the most important credence based services they offer and simultaneously improve SST. By doing so, companies would be able to keep up with the fast-moving technology, but also be able to make satisfied and loyal customers. These findings can also be used within other business sectors that offer credence based services, such as legal and medical advice and medical guidance.

In sum, our results suggest that the human touch still are an important aspect of service, especially in credence services. Continuously, there are many benefits for companies by offering SST, and they should keep adopting newer innovation within technology that might appeal more to the safety, risk reducing security a customer search for in credence based services. By doing so, managers will be able to reduce costs by having less employees, maintain satisfied customer and create interesting SST that can bring the company toward sustainable business. We do not believe there is a question of *if* the customers are willing to use SST or not. They are, and they will be in a much larger scale in the future. The important questions are *how* you can create technology with a human touch that can give you satisfied and loyal customers. Companies that are moving their services online, or are already there, should be aware of the impact that can have on service quality, satisfaction and loyalty, and with this awareness find other solutions to create the satisfaction and loyalty they might lose.

6. Limitations and Future Research

With our research, there are some limitations to consider that highlight numerous worthy paths for future research.

6.1 Limitations

Although this research contributes to the self-service literature by comparing HI and SST in the same situation based on the different theories combined, a number of limitations exists in this research.

First, this study only examined one type of service within the finance sector and hence our study has limited generalizability. By including different types of services, it allows conclusions that are more generalizable. Moreover, this study included a bank that was imaginable for the customer, and not a specific bank with a brand, making the self-selection bias a possible limitation.

Second, the service of guidance for a mortgage in a bank could also give possible limitations to the study since some of the respondents may not have been in the situation of needing guidance for this type of service before. This lead to the concerns that, even though the service was explained by best effort, and as simple as possible in the scenario and questionnaire, each respondent might not completely understand and grasp every step of the service encounter.

Lastly, in order to see the differences in perceived control more clearly, we could have used a 7-point semantic scale. This could have been a better option to get a deeper insight into how customers perceived the control, either that the bank has more control, or themselves.

All in all, we consider this research important as we have provided a deeper understanding of how SST and HI differ in either a successful or unsuccessful credence based service encounter. However, there are new research areas within this topic that need further examination to get an underlying improved understanding of the differences. These are discussed in the next section.

6.2 Future Research

Based on this research, we have identified several possibilities for future research. We have identified interesting factors/tendencies of how customers evaluate SST compared to HI in service encounters, and future research should aim to address and test the hold of these effects in other contexts, such as other credence based service industries. The digitalization and technological advances have changed the traditional service interaction with customer and service personnel, and customer are required to participate in a larger extent. Additional research is needed to better understand how customers evaluate SST compared to HI in different service situations such as getting medical guidance from a doctor online, legal advice from a lawyer online, or insurance guidance online.

Using an experiment with pre- and post-test could give interesting findings as well. One should consider doing an experiment where the participant first got a survey they needed to answer about SST and HI, but where they would not understand that the survey had that in focus. Then, they should have done a real-life experiment where they would be observed using SST in a service encounter, in addition to a HI service encounter. A while after the experiment, the researchers could have done a post test in order to compare the pre- and post in addition to the questionnaire right after the service experiment procedure. An especially interesting aspect would be to include the choice of whether to use SST or HI and then look into the reasons for choosing the one or the other.

Previous research has found relationship between both HI and satisfaction, and SST and satisfaction. Future research should look even deeper into the construct to find more support. Including different theoretical perspectives would give researcher more to build on, and more to compare to prior studies. It would be interesting to investigate production and recovery in SST versus HI. By doing so, the researcher could look into how by customers respond to an unsuccessful credence based service encounter (comparing HI and SST), and investigate if and how customers should participate in the recovery process. It would also be interesting to compare customer complaints after the encounter, in order to see how the complaints varied in HI and SST. Another theoretical perspective could be previous experience with technology along with habit, and then examine how that would affect HI versus SST in credence based services. With increased

technology experience, the habit is assumed to have a larger impact on the intention to use technology based service in banks, but this has not, to our best knowledge, been investigated in a credence service scenario.

Including different bank brands would also be interesting. This would allow the researcher to investigate if the company would affect the evaluation of the credence based service encounter, both successful and unsuccessful. Additionally, to see if the loyalty towards the bank would differ in HI and SST.

Attribution theory should also be used in a larger scale in future research, where attribution should be studied in the perspective of credence based services versus other services not including credence (e.g. self-checkout in grocery stores and airports). By examine how customers attribute stability and controllability in a credence based service, where they are more dependent on the service person professional expertise, one could be able to find expectations in stability and control that would be comprehensive to prior theory on different service situations and service recovery. Finally, as this study was conducted in Norway, it would be interesting to establish if the same relationships hold true in an international context.

It is hard to say if HI will be completely absented in the service setting the future. It is also hard to say if companies will be able to create technology that are so advanced within a few years, that customers can use SST with an almost perfect human touch for credence based services. Although there are several directions for future research on the basis of this study, we believe our results and conclusions contribute to existent literature on SST versus HI.

7. References

Books

Bateson, J. E. (1985). Self-service consumer: An exploratory study. *Journal of retailing*.

Chishti, S., & Barberis, J. (2016). *The FINTECH Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries*. John Wiley & Sons.

Folkes, V. S. (1984). Consumer Reactions to Product Failure: An Attribution.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis: Global Perspective*

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data Analysis: Pearson New International Edition*

Hoffman, K. D., Bateson, J. E., Elliott, G., & Birch, D. (2006). Services Marketing: Concepts. *Strategies and Cases. 3rd edition, Ohio: Thomson South-Western*.

Janssens, W., De Pelsmacker, P., & Van Kenhove, P. (2008). *Marketing research with SPSS*. Pearson Education.

Mitchell, M. L., & Jolley, J. M. (2012). *Research design explained*. Cengage Learning.

Moskowitz, G. B. (2005). *Social cognition: Understanding self and others*. Guilford Press.

Myers, D.G. (2015). *Exploring Social Psychology*, 7th Edition. New York: McGraw Hill Education.

Oliver, R. L. (1997). *Satisfaction: A behavioral perspective on the consumer*. McGraw-Hill, New York, NY.

Oliver, R. L. (1997). *Satisfaction: A Beahvioral Perspective on the Consumer*. McGraw-Hill, New York, NY.

Oliver, R. L. (2014). *Satisfaction: A behavioral perspective on the consumer*. Routledge.

Pallant, J. (2013). *SPSS survival manual*. McGraw-Hill Education (UK).

Weiner, B. (1982). The emotional consequences of causal attributions. *Affect and cognition, 17*.

Pearson, S. (2016). *Building brands directly: creating business value from customer relationships. Springer.*

Taylor, S., & Asmundson, G. J. (2008*). Internal and external validity in clinical*

research. Handbook of research methods in abnormal and clinical psychology. Sage Publications, Los Angeles, 23-34.

Journal Articles

Anderson, C. R., & Zeithaml, C. P. (1984). Stage of the product life cycle, business strategy, and business performance. *Academy of Management journal*, *27*(1), 5-24.

Anderson, R. E., & Srinivasan, S. S. (2003). E-satisfaction and e-loyalty: A contingency framework. *Psychology & marketing*, *20*(2), 123-138.

Arnould, E. J., & Price, L. L. (1993). River magic: Extraordinary experience and the extended service encounter. *Journal of consumer Research*, *20*(1), 24-45.

Averill, J. R. (1973). Personal control over aversive stimuli and its relationship to stress. *Psychological bulletin*, *80*(4), 286.

Bagozzi, R. P., Gopinath, M., & Nyer, P. U. (1999). The role of emotions in marketing. *Journal of the academy of marketing science*, *27*(2), 184.

Barnes, S.J. & Vidgen, R. (2001). An evaluation of cyber-bookshops: the WebQual method. *International Journal of Electronic Commerce*, 6(1), 11-30.

Bei, L. T., & Chiao, Y. C. (2001). An integrated model for the effects of perceived product, perceived service quality, and perceived price fairness on consumer satisfaction and loyalty. *Journal of consumer satisfaction, dissatisfaction and complaining behavior*, *14*, 125.

Bendapudi, N., & Berry, L. L. (1997). Customers' motivations for maintaining relationships with service providers. *Journal of retailing*, *73*(1), 15-37.

Bendapudi, N., & Leone, R. P. (2003). Psychological implications of customer participation in co-production. *Journal of marketing*, *67*(1), 14-28.

Bigné, J. E., Mattila, A. S., & Andreu, L. (2008). The impact of experiential consumption cognitions and emotions on behavioral intentions. *Journal of Services Marketing*, *22*(4), 303-315.

Bitner, M. J. (1990). Evaluating service encounters: the effects of physical surroundings and employee responses. *the Journal of Marketing*, 69-82.

Bitner, M. J., (2001). Service and technology: opportunities and paradoxes. *Managing Service Quality: An International Journal*, *11*(6), 375-379.

Bitner, M. J., Booms, B. H., & Tetreault, M. S. (1990). The service encounter: diagnosing favorable and unfavorable incidents. *The Journal of Marketing*, 71-84.

Bitner, M. J., Brown, S. W., & Meuter, M. L. (2000). Technology infusion in service encounters. *Journal of the Academy of marketing Science*, *28*(1), 138-149.

Bitner, M. J., Ostrom, A. L., & Meuter, M. L. (2002). Implementing successful self-service technologies. *The Academy of Management Executive*, *16*(4), 96-108.

Bobbitt, L. M., & Dabholkar, P. A. (2001). Integrating attitudinal theories to understand and predict use of technology-based self-service: the internet as an illustration. *International Journal of Service Industry Management*, *12*(5), 423-450.

Bolton, R. N., & Drew, J. H. (1988). A model of perceived service value. Technical Note, 88-420.1. *Waltham, MA: GTE Laboratories*.

Bowen, D. E. (2016). The changing role of employees in service theory and practice: An interdisciplinary view. *Human Resource Management Review*, *26*(1), 4-13.

Breakwell, G. M., Fife-Schaw, C., Lee, T., & Spencer, J. (1986). Attitudes to new technology in relation to social beliefs and group memberships: A preliminary investigation. *Current Psychology*, *5*(1), 34-47.

Brush, T. H., & Artz, K. W. (1999). Toward a contingent resource-based theory: The impact of information asymmetry on the value of capabilities in veterinary medicine. *Strategic Management Journal*, 223-250.

Campbell, M. C. (2007). "Says who?!" How the source of price information and affect influence perceived price (un) fairness. *Journal of Marketing Research*, *44*(2), 261-271.

Campbell, W. K., & Sedikides, C. (1999). Self-threat magnifies the self-serving bias: A meta-analytic integration.

Cardozo, R. N. (1965). An experimental study of customer effort, expectation, and satisfaction. *Journal of marketing research*, 244-249.

Carr, C. L. (2002). A psychometric evaluation of the expectation, perceptions, and difference-scores generated by the IS-adapted SERVQUAL instrument. *Decision Sciences*, 33 (2), 281-96.

Cronin, J. J., Brady, M. K., & Hult, G. T. M. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of retailing*, *76*(2), 193-218.

Cronin, J.J. and Taylor, S. A. (1992). Measuring service quality: a re-examination and extension. *Journal of Marketing*, 56 (3), 55-68.

Cunningham, W. A., Preacher, K. J., & Banaji, M. R. (2001). Implicit attitude measures: Consistency, stability, and convergent validity. *Psychological science*, *12*(2), 163-170.

Curran, J. M., & Meuter, M. L. (2007). Encouraging existing customers to switch to self-service technologies: put a little fun in their lives. *Journal of Marketing Theory and Practice*, *15*(4), 283-298.

Dabholkar, P. A. (1994). Technology-based service delivery: a classification scheme for developing marketing strategies. *Advances in services marketing and management*, *3*(1), 241-271.

Dabholkar, P. A. (1996). Consumer evaluations of new technology-based self-service options: an investigation of alternative models of service quality. *International Journal of research in Marketing*, *13*(1), 29-51.

Dabholkar, P. A., & Bagozzi, R. P. (2002). An attitudinal model of technology-based self-service: moderating effects of consumer traits and situational factors. *Journal of the academy of marketing science*, *30*(3), 184-201.

Devaraj, S., Fan, M. and Kohli, R. (2002). Antecedents of B2C channel satisfaction and preference: validating e-commerce metrics. *Information Systems Research*, 13(3), 316-33.

Ding, X., Verma, R., & Iqbal, Z. (2007). Self-service technology and online financial service choice. *International Journal of Service Industry Management*, *18*(3), 246-268.

Dube, L., & Menon, K. (1998). Managing emotions. *Marketing Health Services*, *18*(3), 34.

Fitzsimmons, J. A. (2003). Is self-service the future of services?. *Managing Service Quality: An International Journal*, *13*(6), 443-444.

Folkes, V. S., Koletsky, S., & Graham, J. L. (1987). A field study of causal inferences and consumer reaction: the view from the airport. *Journal of consumer research*, *13*(4), 534-539.

Folkes, V. S. (1988). Recent attribution research in consumer behavior: A review and new directions. *Journal of consumer research*, *14*(4), 548-565.

Fornell, C. (1992). A national customer satisfaction barometer: The Swedish experience. *the Journal of Marketing*, 6-21.

Frey, C. B., & Osborne, M. (2015). *Technology at work: The future of innovation and employment*. Citi GPS.

Gaur, S. S., Herjanto, H., & Makkar, M. (2014). Review of emotions research in marketing, 2002–2013. *Journal of Retailing and Consumer Services*, *21*(6), 917-923.

Gracia, E., Bakker, A.B., Grau, R.M., 2011. Positive emotions: the connection between customer quality evaluations and loyalty. *Cornell Hosp. Q.* 52 (4), 458–465.

Gefen, D, & Ridings, C. M. (2002). Implementation team responsiveness and user evaluation of customer relationship management: A quasi-experimental design study of social exchange theory. *Journal of management information systems*, *19*(1), 47-69.

Gremler, D. D., & Gwinner, K. P. (2000). Customer-employee rapport in service relationships. *Journal of Service Research*, *3*(1), 82-104.

Grönroos, C. (1982). An applied service marketing theory. *European journal of marketing*, *16*(7), 30-41.

Grönroos, C. (1984). A service quality model and its marketing implications. *European Journal of marketing*, *18*(4), 36-44.

Grönroos, C. (2001). The perceived service quality concept–a mistake?. *Managing Service Quality: An International Journal*, *11*(3), 150-152.

Guiltinan, J. P. (1987). The price bundling of services: A normative framework. *The Journal of Marketing*, 74-85.

Gwinner, K. P., Bitner, M. J., Brown, S. W., & Kumar, A. (2005). Service customization through employee adaptiveness. *Journal of Service Research*, *8*(2), 131-148.

Gwinner, K. P., Gremler, D. D., & Bitner, M. J. (1998). Relational benefits in services industries: the customer's perspective. *Journal of the academy of marketing science*, *26*(2), 101-114.

Harris, K. E., Grewal, D., Mohr, L. A., & Bernhardt, K. L.(2006). Consumer responses to service recovery strategies: the moderating role of online versus offline environment. *Journal of Business Research*, *59*(4), 425-431.

Hartline, M. D., & Ferrell, O. C. (1996). The management of customer-contact service employees: an empirical investigation. *The Journal of Marketing*, 52-70.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, *19*(2), 139-152.

Heider, F. (1958). The naive analysis of action.

Heskett, J., Sasser, W. E., & Schlesinger, L. A. (1997). The Service Profit Chain: How Leading Companies Link Profit and Growth to Loyalty, Satisfaction, and Value

Ho, S. H., & Ko, Y. Y. (2008). Effects of self-service technology on customer value and customer readiness: The case of Internet banking. *Internet research*, *18*(4), 427-446.

Høst, V., & Knie-Andersen, M. (2004). Modeling customer satisfaction in mortgage credit companies. *International Journal of Bank Marketing*, *22*(1), 26-42.

Houliez, C. (2010). When non-store meets in-store: mobile communications technology, servicescapes, and the production of servicespace. *Journal of Customer Behaviour*, *9*(2), 201-220.

Hsieh, Y. C., Chiu, H. C., & Chiang, M. Y. (2005). Maintaining a committed online customer: a study across search-experience-credence products. *Journal of Retailing*, *81*(1), 75-82.

Huang, M. H., & Rust, R. T. (2011). Sustainability and consumption. *Journal of the Academy of Marketing Science*, *39*(1), 40-54.

Huang, M. H., & Rust, R. T. (2013). IT-related service: A multidisciplinary perspective. *Journal of Service Research*, *16*(3), 251-258.

Hui, M. K., & Toffoli, R. (2002). Perceived control and consumer attribution for the service encounter. *Journal of Applied Social Psychology*, *32*(9), 1825-1844.

Inderst, R., & Ottaviani, M. (2012). Financial advice. *Journal of Economic Literature*, *50*(2), 494-512.

Janda, S., Trocchia, P.J. and Gwinner, K.P. (2002). Customer perceptions of internet retail service quality. *International Journal of Service Industry Management*, 13 (5), 412-31.

Jani, D., & Han, H. (2015). Influence of environmental stimuli on hotel customer emotional loyalty response: Testing the moderating effect of the big five personality factors. *International Journal of Hospitality Management*, *44*, 48-57.

Jiang, J.J., Klein, G. and Carr, C.L. (2002). Measuring information system service quality: SERVQUAL from the other side. *MIS Quarterly*, 26 (2), 145-66.

Jiang, J. J., Klein, G., & Crampton, S. M. (2000). A note on SERVQUAL reliability and validity in information system service quality measurement. *Decision Sciences*, *31*(3), 725-744.

Johnson, D. S., Bardhi, F., & Dunn, D. T. (2008). Understanding how technology paradoxes affect customer satisfaction with self-service technology: The role of performance ambiguity and trust in technology. *Psychology & Marketing*, *25*(5), 416-443.

Jones, M. A., Reynolds, K. E., & Arnold, M. J. (2006). Hedonic and utilitarian shopping value: investigating differential effects on retail outcomes. *Journal of Business Research*, 59 (9), 974–981.

Kandampully, J., & Suhartanto, D. (2000). Customer loyalty in the hotel industry: the role of customer satisfaction and image. *International journal of contemporary hospitality management*, *12*(6), 346-351.

Kassin, S., Fein, S., & Markus, H. (2010). Actitudes. *Psicología Social*, 180-220.

Kaynama, S.A. and Black, C.L. (2000). A proposal to assess the service quality of online travel agencies: an exploratory study. *Journal of Professional Services Marketing*, 21(1), 63-88.

Khalid, H. M., & Helander, M. G. (2006). Customer emotional needs in product design. *Concurrent Engineering*, *14*(3), 197-206.

Kim, J. and Lee, J. (2002). Critical design factors for successful e-commerce systems. *Behaviour and Information Technology*, 21 (3), 185-9.

Kim, T., Kim, M. C., Moon, G., & Chang, K. (2014). Technology-based self-service and its impact on customer productivity. *Services Marketing Quarterly*, *35*(3), 255-269.

Kunz, W., Schmitt, B., & Meyer, A. (2010). How does perceived firm innovativeness affect the consumer?. *Journal of Business Research*, *64*(8), 816-822.

Kuo, Y.F. (2003). A study on service quality of virtual community web sites. *Total Quality Management*, 14(4), 461-73.

Ladhari, R. (2009). Service quality, emotional satisfaction, and behavioural intentions: A study in the hotel industry. *Managing Service Quality: An International Journal*, *19*(3), 308-331.

Lee, J., Lee, J., and Feick, L. (2001). The impact of switching costs on the customer satisfaction– loyalty link: Mobile phone service in France. *Journal of Services Marketing*, 15, 35–48.

Lee, J., & Allaway, A. (2002). Effects of personal control on adoption of self-service technology innovations. *Journal of Services marketing*, *16*(6), 553-572.

Liljander, V., & Strandvik, T. (1995). The nature of customer relationships in services. *Advances in services marketing and management*, *4*(141), 67.

Lin, J. S. C., & Hsieh, P. L. (2006). The role of technology readiness in customers' perception and adoption of self-service technologies. *International Journal of Service Industry Management*, *17*(5), 497-517.

Lin, J. S. C., & Hsieh, P. L. (2011). Assessing the self-service technology encounters: development and validation of SSTQUAL scale. *Journal of Retailing*, *87*(2), 194-206.

Liu, C., & Arnett, K.P. (2000), Exploring the factors associated with web site success in the context of electronic commerce, *Information and Management*, 38(1), 23-33.

LoBiondo-Wood, G., & Haber, J. (2014). Reliability and validity. G. LoBiondo-Wood & J. Haber. *Nursing research. Methods and critical appraisal for evidence based practice*, 289-309.

Mano, H., & Oliver, R. L. (1993). Assessing the dimensionality and structure of the consumption experience: evaluation, feeling, and satisfaction. *Journal of Consumer research*, *20*(3), 451-466.

Martensen, A., Gronholdt, L. and Kristensen, K. (2000). The drivers of customer satisfaction and loyalty: cross industry finding from Denmark. *Total Quality Management*, 11(4), 544-53.

Mattila, A. S., & Enz, C. A. (2002). The role of emotions in service encounters. *Journal of Service research*, *4*(4), 268-277.

McAuley, E., Duncan, T. E., & Russell, D. W. (1992). Measuring causal attributions: The revised causal dimension scale (CDSII). *Personality and Social Psychology Bulletin*, *18*(5), 566-573.

Meuter, M. L., Bitner, M. J., Ostrom, A. L., & Brown, S. W. (2005). Choosing among alternative service delivery modes: An investigation of customer trial of self-service technologies. *Journal of marketing*, *69*(2), 61-83.

Meuter, M. L., Ostrom, A. L., Bitner, M. J., & Roundtree, R. (2003). The influence of technology anxiety on consumer use and experiences with self-service technologies. *Journal of Business Research*, *56*(11), 899-906.

Meuter, M. L., Ostrom, A. L., Roundtree, R. I., & Bitner, M. J. (2000). Self-service technologies: understanding customer satisfaction with technology-based service encounters. *Journal of marketing*, *64*(3), 50-64.

Mittal, V., Huppertz, J. W., & Khare, A. (2008). Customer complaining: the role of tie strength and information control. *Journal of retailing*, *84*(2), 195-204.

Monecke, A., & Leisch, F. (2012). semPLS: Structural Equation Modeling Using Partial Least Squares. *Journal of Statistical Software,* 48(3), 3-32.

Moon, H., & Conlon, D. E. (2002). From acclaim to blame: evidence of a person sensitivity decision bias. *Journal of Applied Psychology*, *87*(1), 33.

Negash, S., Ryan, T. and Igbaria, M. (2003). Quality and effectiveness in web-based customer support systems. *Information and Management*, 40(8), 757-768

Norton, M. I., Mochon, D., & Ariely, D. (2011). The'IKEA effect': When labor leads to love.

Oghazi, P., Mostaghel, R., Hultman, M., & Parida, V. (2012). Antecedents of technology-based self-service acceptance: a proposed model. *Services Marketing Quarterly*, *33*(3), 195-210.

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of marketing research*, 460-469.

Oliver, R. L., Rust, R. T., & Varki, S. (1997). Customer delight: foundations, findings, and managerial insight. *Journal of retailing*, *73*(3), 311-336.

Oliver, R. L., Rust, R. T., & Varki, S. (1997) Customer delight: foundations, findings, and managerial insight. *Journal of retailing*, *73*(3), 311-336

Parasuraman, A. and Grewal, D. (2000). The impact of technology on the quality-value-loyalty chain: a research agenda. *Journal of the Academy of Marketing Science*, 28(1), 168-74.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). Servqual: A multiple-item scale for measuring consumer perc. *Journal of retailing*, *64*(1), 12.

Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1993). More on improving service quality measurement. *Journal of retailing*, *69*(1), 140-147.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1994). Reassessment of expectations as a comparison standard in measuring service quality: implications for further research. *the Journal of Marketing*, 111-124.

Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). ES-QUAL: A multiple-item scale for assessing electronic service quality. *Journal of service research*, *7*(3), 213-233.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *the Journal of Marketing*, 41-50.

Pine, B. J., & Gilmore, J. H. (1998). Welcome to the experience economy. *Harvard business review*, *76*, 97-105.

Pullman, M. E., & Gross, M. A. (2004). Ability of experience design elements to elicit emotions and loyalty behaviors. *Decision sciences*, *35*(3), 551-578.

Reichheld, F. F. (1993). Loyalty-based management. *Harvard business review*, *71*(2), 64-73.

Reichheld, F. F., & Sasser Jr, W. E. (1989). Zero defections: Quality comes to services. *Harvard business review*, *68*(5), 105-111.

Reichheld, F. F., & Teal, T. (1996). The Loyalty Effect: The Hidden Force Behind Growth, Profits, and Lasting Value

Robertson, N., & Shaw, R. N. (2009). Predicting the likelihood of voiced complaints in the self-service technology context. *Journal of Service Research*, *12*(1), 100-116.

Robertson, N., McQuilken, L., & Kandampully, J. (2012). Consumer complaints and recovery through guaranteeing self-service technology. *Journal of Consumer Behaviour*, *11*(1), 21-30.

Rook, D. W., & Gardner, M. P. (1993). In the mood: Impulse buying's affective antecedents. *Research in consumer behavior*, *6*(7), 1-28.

Rothwell, P. M. (2005). External validity of randomised controlled trials:"to whom do the results of this trial apply?". *The Lancet*, *365*(9453), 82-93.

Russell, D. (1982). The Causal Dimension Scale: A measure of how individuals perceive causes. *Journal of Personality and social Psychology*, *42*(6), 1137.

Rust, R.T. and Zahorik, A. (1993). Customer satisfaction, customer retention, and market share. *Journal of Retailing*, 69(2), 193-215.

Santos, J. (2003), E-service quality: a model of virtual service quality dimensions. *Management Service Quality*, 13(3), 233-46.

Sears, D. O. (1983). The person-positivity bias. *Journal of Personality and Social Psychology*, *44*(2), 233.

Selnes, F., & Hansen, H. (2001). The potential hazard of self-service in developing customer loyalty. *Journal of Service Research*, *4*(2), 79-90.

Shepperd, J., Malone, W., & Sweeny, K. (2008). Exploring causes of the self-serving bias. *Social and Personality Psychology Compass*, *2*(2), 895-908.

Smith, A. K., Bolton, R. N., & Wagner, J. (1999). A model of customer satisfaction with service encounters involving failure and recovery. *Journal of marketing research*, 356-372.

Solomon, M. R., Surprenant, C., Czepiel, J. A., & Gutman, E. G. (1985). A role theory perspective on dyadic interactions: the service encounter. *The Journal of Marketing*, 99-111.

Suh, B. & Han, I. (2002). Effect of Trust on Customer Acceptance of Internet Banking. *Electronic Commerce Research and Applications*, 1, 247-263.

Surprenant, C. F., & Solomon, M. R. (1987). Predictability and personalization in the service encounter. *The Journal of Marketing*, 86-96.

Taylor, S. A., & Baker, T. L. (1994). An assessment of the relationship between service quality and customer satisfaction in the formation of consumers' purchase intentions. *Journal of retailing*, *70*(2), 163-178.

Taylor, S. A., & Hunter, G. L. (2002). The impact of loyalty with e-CRM software and e-services. *International Journal of Service Industry Management*, *13*(5), 452-474.

van Dyke, T.P., Prybutok, V.R. and Kappelman, L.A. (1999). Cautions on the use of the SERVQUAL measure to assess the quality of information systems services. *Decision Sciences*, 30(3), 877-91.

Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology.

Weijters, B., Rangarajan, D., Falk, T., & Schillewaert, N. (2007). Determinants and outcomes of customers' use of self-service technology in a retail setting. *Journal of Service Research*, *10*(1), 3-21.

Weiner, A. M. (2000). Femtosecond pulse shaping using spatial light modulators. *Review of scientific instruments*, *71*(5), 1929-1960.

Weiner, B. (1986). An attributional theory of achievement motivation and emotion. In *An attributional theory of motivation and emotion* (pp. 159-190). Springer US.

White, A., Breazeale, M., & Collier, J. E. (2012). The effects of perceived fairness on customer responses to retailer SST push policies. *Journal of Retailing*, *88*(2), 250-261.

Wilson, A., Zeithaml, V. A., Bitner, M. J., & Gremler, D. D. (2012). *Services marketing: Integrating customer focus across the firm*. McGraw Hill.

Wirtz, J., & Mattila, A. S. (2004). Consumer responses to compensation, speed of recovery and apology after a service failure. *International Journal of service industry management*, *15*(2), 150-166.

Wirtz, J., & Bateson, J. E. (1999). Consumer satisfaction with services: integrating the environment perspective in services marketing into the traditional disconfirmation paradigm. *Journal of Business research*, *44*(1), 55-66.

Wolfinbarger, M., & Gilly, M. C. (2003). eTailQ: dimensionalizing, measuring and predicting etail quality. *Journal of retailing*, *79*(3), 183-198.

Wolinsky, A. (1995). Competition in markets for credence goods. *Journal of Institutional and Theoretical Economics (JITE)/Zeitschrift für die gesamte Staatswissenschaft*, 117-131.

Wong, A. (2004). The role of emotional satisfaction in service encounters.

Managing Service Quality: An International Journal, *14*(5), 365-376.

Wong, K. K. K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin*, *24*(1), 1-32.

Yang, Z. (2001). „Consumer perceptions of service quality in internet-based electronic commerce" Proceedings of the 30th EMAC Conference, Bergen: 8-11.

Yang, Z., & Peterson, R. T. (2004). Customer perceived value, satisfaction, and loyalty: The role of switching costs. *Psychology & Marketing*, *21*(10), 799-822.

Yen, H. R. (2005). An attribute-based model of quality satisfaction for internet self-service technology. *The Service Industries Journal*, *25*(5), 641-659.

Yen, H. J. R, & Gwinner, K. P. (2003). Internet retail customer loyalty: the mediating role of relational benefits. *International Journal of Service Industry Management*, *14*(5), 483-500.

Yu, Y. T., & Dean, A. (2001). The contribution of emotional satisfaction to consumer loyalty. *International journal of service industry management*, *12*(3), 234-250.

Zeithaml, V. A. (1981). How Consumer Evaluation Process Differ Between Goods and Services

Zeithaml, V. A., & Gilly, M. C. (1987). Characteristics affecting the acceptance of retailing technologies: A comparison of elderly and nonelderly consumers. *Journal of retailing*.

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *The Journal of marketing*, 2-22.

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *the Journal of Marketing*, 31-46.

Zhu, F. X., Wymer, W., & Chen, I. (2002). IT-based services and service quality in consumer banking. *International Journal of Service Industry Management*, *13*(1), 69-90.

Zomerdijk, L. G., & Voss, C. A. (2010). Service design for experience-centric services. *Journal of Service Research*, *13*(1), 67-82.

Websites

Accenture. (2017a). Banking Technology Vision. Retrieved 4th of April 2017 from https://www.accenture.com/t20170322T205838__w__/us-en/_acnmedia/PDF-47/Accenture-Banking-Technology-Vision-2017.pdf#zoom=50

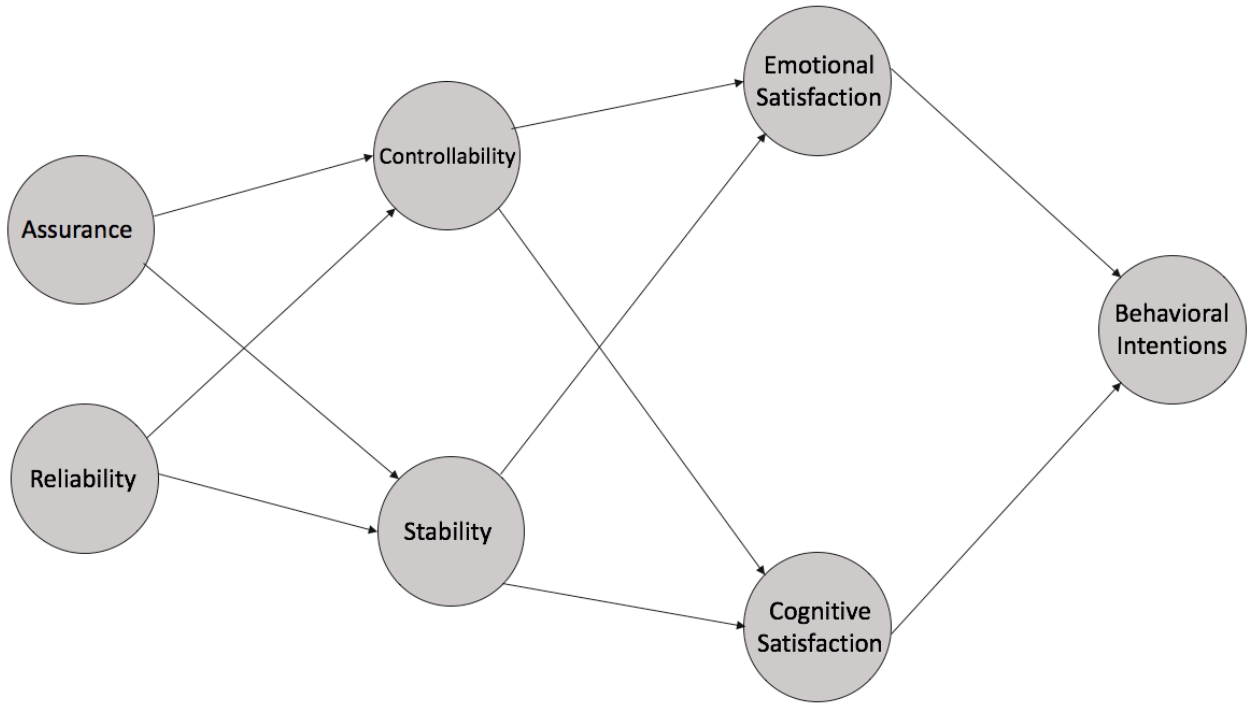
Accenture (2017b). How can banks meet customers demand? Retrived 4th of April 2017 from https://www.accenture.com/t20170125T114252__w__/us-en/_acnmedia/Accenture/next-gen-3/DandM-Global-Research-Study/Accenture-Banking-Global-Distribution-Marketing-Consumer-Study.pdf

Deloitte and Heads! (2016). Survival through digital leadership. Retrieved 4th of April 2017 from https://www2.deloitte.com/content/dam/Deloitte/de/Documents/technology/Survival%20through%20Digital%20Leadership_safe.pdf

Deloitte and WEF (2015). The future of financial services. Retrieved 2nd of April 2017 from http://www3.weforum.org/docs/WEF_The_future__of_financial_services.pdf

8. Appendices

8.1 Appendix 1: *Framework*



8.2 Appendix 2: *Scenarios*

Scenario Norwegian

Hei!

Vi går nå vårt siste år av en master i strategisk markedsføringsledelse ved handelshøyskolen BI. I den forbindelse jobber vi med vår masteroppgave, og trenger deltagere til vår spørreundersøkelse. Vi setter stor pris på at du tar deg tid til å hjelpe oss med å svare på disse.

Spørreundersøkelsen vil ta rundt 7 minutter. Den er anonym, og det finnes ingen gale svar, så svar så godt du kan.

Du vil på neste side få en tekst. Ta deg gjerne god tid til å lese denne før du svarer på spørsmålene.

Tusen takk!

Scenario HI

Tenk deg at du er i denne situasjonen:

Du har bestemt deg for å kjøpe bolig og trenger derfor et lån i banken. Du trenger informasjon i forhold til hvor mye lån du kan få, din nedbetalingstid og renter. Du oppsøker en kundebehandler i banken din for å få veiledning.

(Successful HI service encounter)

Du kommer til banken din der kundebehandleren raskt tar deg imot med et smil. Du setter deg ned og gir en beskrivelse av din situasjon og ditt ønske om lån til bolig. Kundebehandleren er effektiv med utregningene, og går deretter gjennom beregningene som er gjort basert på din situasjon med egenkapital, gjeld, nedbetalingstid og renter. Kundebehandleren gir deg flere alternativer og sørger for at du får en god informasjon over hvilke muligheter du har i forbindelse med ditt kjøp av bolig. Du går fra banken med god oversikt over hvilke alternativer du har med tanke på nedbetalingstid og hvor mye du eventuelt må betale hver måned.

(eller)

(unsuccessful HI service encounter)

Du kommer til banken der du må vente på kundebehandleren din. Når vedkommende er ledig, setter du og kundebehandleren dere ned. Du gir en beskrivelse av din situasjon og ditt ønske om lån til bolig. Kundebehandleren bruker mye tid på utregningene, og du får lite informasjon om hvordan beregningene er gjort basert på din situasjon med egenkapital, gjeld, nedbetalingstid og renter. Kundebehandleren gir deg til slutt ett alternativ, og forsøker å overtale deg til å gå med på dette uten å informere om hvilke andre muligheter du har i forbindelse med ditt kjøp av bolig. Du går fra banken med dårlig oversikt over hvilke alternativer du har med tanke på nedbetalingstid og hvor mye du eventuelt må betale hver måned.

Scenario SST

Tenk deg at du er i denne situasjonen:

Du har bestemt deg for å kjøpe bolig og trenger derfor et lån i banken. Basert på dette trenger du informasjon i forhold til hvor mye lån du kan få, din nedbetalingstid og renter. Du bruker nettsiden til din bank som har en boliglånskalkulator for å få veiledning.

(Successful SST service encounter)

På bankens nettside finner du raskt en boliglånskalkulator som kan hjelpe deg med å regne ut hva du kan få i boliglån. Du legger inn informasjon om deg selv og ditt ønskede beløp for boliglån. Boliglånskalkulatoren bruker kort tid på beregningene, og du får god oversikt om hvordan beregningene er gjort basert på din situasjon med egenkapital, nedbetalingstid og renter. Boliglånskalkulatoren gir deg til slutt flere alternativer, og du får også informasjon om hvilke andre muligheter du har i forbindelse med ditt kjøp av bolig. Du forlater nettsiden med god oversikt over hvilke alternativer du har med tanke på nedbetalingstid og hvor mye du eventuelt må betale hver måned.

(eller)

(unsuccessful SST service encounter)

På bankens nettside må du lete en stund etter boliglånskalkulatoren som kan hjelpe deg med å regne ut hva du kan få i boliglån. Du legger inn informasjonen om deg selv og ditt ønskede beløp for boliglån. Boliglånskalkulatoren bruker lang tid på beregningene, og du får lite

oversikt om hvordan beregningene er gjort basert på din situasjon med egenkapital, nedbetalingstid og renter. Boliglånskalkulatoren gir deg til slutt ett alternativ, og du får lite informasjon om hvilke andre muligheter du har i forbindelse med ditt kjøp av bolig. Du forlater derfor nettsiden med dårlig oversikt over hvilke alternativer du har med tanke på nedbetalingstid og hvor mye du eventuelt må betale hver måned.

Scenario translated to English

Hello!

We are two students that are at our final year of a Master in Strategic Marketing Management at BI, Norwegian Business School. We are now writing our master's thesis, and we need participants for our survey.

We appreciate you taking the time to help us answer these. The survey will take around 7 minutes. It is anonymous and there are no wrong answers. You will get a text on the next page. Please use time to read this carefully before answering the questions.
Thank you!
Ina and Adina

Scenario HI

Imagine that you are in this situation:
You have decided to buy a new house, and therefore you need a mortgage in the bank. You need information about the amount of loan you can get, your repayment period, and interest. You are looking for a service person at your bank in order to get guidance.

(Successful HI service encounter)

You enter your bank where the service person quickly welcomes you with a smile. You sit down with the service manager and give a description of your situation and your desire for a mortgage. The service manager is efficient with the calculations, and then goes through the calculations with you, made based on your own equity, debt, repayment and interest rates. The service manager gives you more options and ensures that you get thorough information about what opportunities you have for a mortgage. You walk away from the bank with a good overview of what options you have in terms of repayment time and how much you may pay each month.

(Or)

(Unsuccessful HI service encounter)

You enter your bank where you have to wait for your service manager. When the person is available, you sit down to talk. You provide a description of your situation and your desire for a mortgage. The service manager uses a lot of time on the calculations and you get little information about how the calculations are based on your equity, debt, repayment and interest rates. The service manager finally gives you an option, and persuades you to agree to this option without informing you about what other options you for a mortgage. You walk away from the bank with a poor overview of what options you have in terms of repayment time and how much you may pay each month.

Scenario SST

Imagine that you are in this situation:
You have decided to buy a new house, and therefore you need a mortgage in the bank. You need information about the amount of loan you can get, your repayment period, and interest. You use your banks website that has a mortgage calculator in order to get guidance.

(Successful SST service encounter)

On the bank's website, you quickly find a mortgage calculator that can help you figure out how much money you can loan. You enter information about yourself and your desired amount of mortgage. The mortgage calculator uses a short amount of time to calculate the numbers and you get a good overview of how your calculations are based on your equity, repayment and interest rates. At the end, the mortgage calculator gives you more choices, and you get information about what other opportunities you have. You leave the website with a good overview of what options you have in terms of repayment time and how much you may pay each month.

(Or)

(Unsuccessful SST service encounter)

On the bank's website, you have to look for a little while in order to find the the mortgage calculator that can help you figure out what you can get in mortgage. You enter information about yourself and your desired amount of mortgage. The mortgage calculator uses a long amount of time to calculate the numbers, and you get little information of how your calculations are based on your equity, repayment and interest rates. The mortgage calculator finally gives you an option and you get little information about what other opportunities you have. You therefore leave the website with a poor overview of what options you have in terms of repayment and how much you may pay each month.

8.3 Appendix 3: *Questionnaire*

Questionnaire: Norwegian Version

Basert på historien, vær vennlig å ta stilling til følgende utsagn:

1. Jeg har tillit til at banktjenesten gikk ordentlig for seg.

Helt uenig	Uenig	Litt uenig	Verken enig eller uenig	Litt enig	Enig	Helt enig

2. Jeg føler meg trygg på veiledningen jeg fikk underveis i denne tjenesten.

Helt uenig	Uenig	Litt uenig	Verken enig eller uenig	Litt enig	Enig	Helt enig

3. Jeg føler jeg kan stole på at denne banktjenesten ble tilpasset mine behov.

			Verken enig eller			
Helt uenig	Uenig	Litt uenig	uenig	Litt enig	Enig	Helt enig

4. Jeg føler kvaliteten på denne veiledningen var god.

			Verken enig eller			
Helt uenig	Uenig	Litt uenig	uenig	Litt enig	Enig	Helt enig

5. Jeg føler denne banktjenesten ble utført riktig.

			Verken enig eller			
Helt uenig	Uenig	Litt uenig	uenig	Litt enig	Enig	Helt enig

6. Jeg føler at informasjonen jeg fikk under denne veiledningen var pålitelig.

			Verken enig eller			
Helt uenig	Uenig	Litt uenig	uenig	Litt enig	Enig	Helt enig

7. Denne banktjenesten ble utført innen forventet tid.

			Verken enig eller			
Helt uenig	Uenig	Litt uenig	uenig	Litt enig	Enig	Helt enig

8. Hvis jeg benytter meg av samme banktjeneste igjen i fremtiden, vil utfallet sannsynligvis bli det samme.

			Verken enig eller			
Helt uenig	Uenig	Litt uenig	uenig	Litt enig	Enig	Helt enig

9. Hvis jeg bytter meg av samme banktjeneste igjen i fremtiden, vil veiledningen sannsynligvis forandre seg.

			Verken enig eller			
Helt uenig	Uenig	Litt uenig	uenig	Litt enig	Enig	Helt enig

10. Hvis jeg benytter meg av samme banktjeneste igjen i fremtiden, vil jeg sannsynligvis oppleve tjenesten på samme måte.

			Verken enig eller			
Helt uenig	Uenig	Litt uenig	uenig	Litt enig	Enig	Helt enig

11. Utfallet av denne banktjenesten er utenfor min kontroll.

Helt uenig	Uenig	Litt uenig	Verken enig eller uenig	Litt enig	Enig	Helt enig

12. Utfallet av denne banktjenesten er utenfor bankens kontroll.

Helt uenig	Uenig	Litt uenig	Verken enig eller uenig	Litt enig	Enig	Helt enig

13. Jeg er ansvarlige for utfallet av denne banktjenesten.

Helt uenig	Uenig	Litt uenig	Verken enig eller uenig	Litt enig	Enig	Helt enig

14. Banken er ansvarlige for utfallet av denne banktjenesten.

Helt uenig	Uenig	Litt uenig	Verken enig eller uenig	Litt enig	Enig	Helt enig

15. Utfallet av denne banktjenesten var tilfeldig og ikke påvirket av meg.

Helt uenig	Uenig	Litt uenig	Verken enig eller uenig	Litt enig	Enig	Helt enig

16. Utfallet av denne banktjenesten var tilfeldig og ikke påvirket av banken.

Helt uenig	Uenig	Litt uenig	Verken enig eller uenig	Litt enig	Enig	Helt enig

17. Denne tjenesteleveransen er noe banken er ansvarlig forkontroll.

Helt uenig	Uenig	Litt uenig	Verken enig eller uenig	Litt enig	Enig	Helt enig

18. Denne tjenesteleveransen er noe jeg er ansvarlig for.

Helt uenig	Uenig	Litt uenig	Verken enig eller uenig	Litt enig	Enig	Helt enig

19. På bakgrunn av hvordan banktjenesten er beskrevet i historien, vil jeg som kunde ved bruk av denne banktjenesten føle meg:

1	2	3	4	5	6	7
Likegyldig						**Engasjert**

Kjede meg	**Bli inspirert**
Sikker	**Usikker**
Skuffet	**Positivt overrasket**
Sint	**Glad**

20. Hvor fornøyd eller misfornøyd er du med denne banktjenesten?

Svært misfornøyd	Misfornøyd	Litt misfornøyd	Verken misfornøyd eller fornøyd	Litt fornøyd	Fornøyd	Svært fornøyd

21. I hvilken grad innfrir denne banktjenesten til dine forventninger?

I svært liten grad	I liten grad	Nokså liten grad	Nøytral	Nokså stor grad	I stor grad	I svært stor grad

22. Tenk deg en ideell banktjeneste med kunderådgivning. Med bakgrunn i historien, hvor langt fra eller hvor nært synes du utfallet av banktjenesten er i forhold til idealet?

Svært fjernt	Fjernt	Litt fjernt	Verken fjernt eller nært	Litt nært	Nært	Svært nært

23. Hvor attraktiv eller lite attraktiv opplever du at denne banktjenesten er sammenlignet med andre måter å få boliglånsveiledning på?

Svært uattraktivt	Uattraktivt	Nokså uattraktivt	Verken uattraktivt eller attraktivt	Nokså attraktivt	Attraktivt	Svært attraktivt

24(a) HI: Hvor attraktiv eller lite attraktiv opplever du at denne banktjenesten er sammenlignet med å få veiledning på banken din sin nettside ved å bruke en boliglånkalkulator"?

Svært uattraktivt	Uattraktivt	Nokså uattraktivt	Verken uattraktivt eller attraktivt	Nokså attraktivt	Attraktivt	Svært attraktivt

24 (b) SST: Hvor attraktiv eller lite attraktiv opplever du at denne banktjenesten er sammenlignet med å dra i banken din og få veiledning av en kunderådgiver?

Svært uattraktivt	Uattraktivt	Nokså uattraktivt	Verken uattraktivt eller attraktivt	Nokså attraktivt	Attraktivt	Svært attraktivt

25. Hvor sannsynlig eller usannsynlig er det at du vil anbefale denne banktjenesten dersom noen spør deg om råd?

Helt usannsynlig	Usannsynlig	Litt usannsynlig	Verken usannsynlig eller sannsynlig	Litt sannsynlig	Sannsynlig	Helt sannsynlig

26. Hvor sannsynlig eller usannsynlig er det at du vil omtale denne banktjenesten positivt til andre?

Helt usannsynlig	Usannsynlig	Litt usannsynlig	Verken usannsynlig eller sannsynlig	Litt sannsynlig	Sannsynlig	Helt sannsynlig

27. Hvor sannsynlig eller usannsynlig er det at du ville brukt denne banktjenesten dersom du hadde hatt behov for denne type tjeneste igjen.

Helt usannsynlig	Usannsynlig	Litt usannsynlig	Verken usannsynlig eller sannsynlig	Litt sannsynlig	Sannsynlig	Helt sannsynlig

28. Alder?

- <24
- 24-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70+

29. Kjønn?

- Mann
- Kvinne
- Annet

30. Sivilstatus?

- Singel
- Samboer
- Gift
- I et forhold

31. Inntekt?

- <100 000
- 100 000-199 000
- 200 000-299 000
- 300 000- 399 000
- 400 000- 499 000
- 500 000+

32. Høyeste fullført utdanning?

- Grunnskole
- Videregående skole
- Bachelor
- Master
- Doktorgrad

33. Arbeidsstatus?

- Fulltidsstudent
- Deltidsstudent
- Fulltidsjobb
- Deltidsjobb
- Arbeidsledig
- Annet

Questionnaire: English Version

Based on the story, please consider the following statements:

1. I trust that this bank service was done accurate.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

2. I feel safe about the super vision I got during the service.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

3. I trust that this bank service was tailored to my needs.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

4. The quality of this supervision was good.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

5. I feel that this supervision was done correctly.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

6. The information I got under this supervision was reliable.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

7. This supervision was accomplished within the expected time.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

8. If I use the same banking service again in the future, the outcome will probably be the same

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

9. If I use the same banking service again in the future, the outcome will probably change.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

10. If I use the same banking service again in the future, I will probably experience the service the same.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

11. The outcome of this banking service is beyond my control.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

12. The outcome of this banking service is beyond the control of the bank.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

13. I am responsible for the outcome of this bank service.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

14. The bank is responsible for the outcome of this bank service.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

15. The outcome of this banking service was random and not affected by me.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

16. The outcome of this banking service was random and not affected by the bank.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

17. This service delivery is something that the bank is responsible for.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

18. This service delivery is something that I am responsibility for.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

Based on how the banking service is described in the history, I will as a customer, using this banking service, feel:

1	2	3	4	5	6	7	
Indifferent							**Engaged**
Bored							**Inspired**
Certain							**Uncertain**

Disappointed **Angry**						**Positively surprised** **Happy**

20. How satisfied or dissatisfied are you with this banking service (1=very satisfied, 7= very dissatisfied)

Extremely satisfied	Moderately satisfied	Slightly satisfied	Neither satisfied nor dissatisfied	Slightly dissatisfied	Moderately dissatisfied	Extremely dissatisfied

21. In what extent does this banking service meet your expectations

Not extent at all	Very small extent	Small extent	Moderate extent	Fairly great extent	A great extent	A very great extent

22. Imagine an ideal banking service with customer advice. Based on the story, how far from or how close do you think the outcome of the banking service is in relation to the ideal? (1= very distant, 7= very close)

Very distant from ideal	Not close to the ideal	Slightly close to the ideal	Neither close or far from ideal	Extremely close to the ideal	Very close to the ideal	Extremely close to the ideal

23. How attractive or unattractive do you find that this banking service is, compared to other ways to get mortgage advice?

Very unattractive	Moderately unattractive	Somewhat unattractive	Neither attractive or unattractive	Somewhat attractive	Moderately attractive	Very attractive

24(a) HI: How attractive or unattractive do you find that this banking service is, compared to getting guidance on your bank's website using a mortgage calculator?

Very unattractive	Moderately unattractive	Somewhat unattractive	Neither attractive or unattractive	Somewhat attractive	Moderately attractive	Very attractive

24 (b) SST: How attractive or unattractive do you feel that this banker is, compared to going to your bank and getting guidance from a customer advisor?

Very unattractive	Moderately unattractive	Somewhat unattractive	Neither attractive or unattractive	Somewhat attractive	Moderately attractive	Very attractive

25. How likely or unlikely is it that you would recommend this banking service if someone ask you for advice?

Extremely unlikely	Moderately unlikely	Slightly unlikely	Neither likely nor unlikely	Slightly likely	Moderately likely	Extremely likely

26. How likely or unlikely is it that you would refer to this bank service as positive to others?

Extremely unlikely	Moderately unlikely	Slightly unlikely	Neither likely nor unlikely	Slightly likely	Moderately likely	Extremely likely

27. How likely or unlikely it is that you would use this banking service again if

you were in need for this type of service in the future?

Extremely unlikely	Moderately unlikely	Slightly unlikely	Neither likely nor unlikely	Slightly likely	Moderately likely	Extremely likely

28. Age?

- <24
- 24-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70+

29. Gender?

- Male
- Female
- Other

30. Relationship status?

- Single
- In a relationship
- Partner living together
- Married

31. Income?

- <100 000
- 100 000-199 000
- 200 000-299 000
- 300 000- 399 000
- 400 000- 499 000
- 500 000+

32. Highest completed education?

- Less than high school
- High school graduate
- Bachelor graduate
- Master graduate
- Doctorate

33. Employment status/Student?

- Student part time
- Student full time
- Unemployed
- Employed part time
- Employed full time
- Other

8.4 Appendix 4: *Pretest questions*

Pretest 1: Norwegian

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

1. Jeg synes at utfallet av denne banktjenesten gikk som forventet.

Helt uenig	Uenig	Litt uenig	Verken enig eller uenig	Litt enig	Enig	Helt enig

2. Jeg synes at utfallet av banktjenesten er bedre enn forventet.

Helt uenig	Uenig	Litt uenig	Verken enig eller uenig	Litt enig	Enig	Helt enig

3. Jeg synes at utfallet av banktjenesten er verre enn forventet.

Helt uenig	Uenig	Litt uenig	Verken enig eller uenig	Litt enig	Enig	Helt enig

4. Jeg har ingen problemer med å se meg selv i situasjonen som er beskrevet.

Helt uenig	Uenig	Litt uenig	Verken enig eller uenig	Litt enig	Enig	Helt enig

Har du andre tilbakemeldinger på historien eller spørsmålene? Eller noen anbefalinger å komme med?

Pretest 1: English

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

1. I think the outcome of this banking service went as expected.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

2. I think the outcome of this banking service went better as expected.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

3. I think the outcome of the banking service is worse than expected.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

4. I have no trouble seeing myself in the situation described.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

Do you have other feedback on the story or questions? Or any recommendations to come with?

Pretest 2: Norwegian

1. Basert på historien, i hvilken grad opplevde du at du som kunde bidro til resultatet av denne banktjenesten? Liten grad=1, Stor grad= 7.

I svært liten grad	I liten grad	Nokså liten grad	Nøytral	Nokså stor grad	I stor grad	I svært stor grad

2. Hvem mener du har størst ansvar for utfallet av denne banktjenesten?
1= Mest meg selv, 7= Mest banken

1-Mest meg selv	2	3	4	5	6	7-Mest banken
○	○	○	○	○	○	○

Har du andre tilbakemeldinger på historien eller spørsmålene? Eller noen anbefalinger å komme med?

Pretest 2: English Version

1. Based on history, to what extent did you experience that you as a customer contributed to the outcome of this banking service? Small degree = 1, High degree = 7.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

2. Who do you think is the most responsible for the outcome of this banking service?
1 = Most myself, 7 = Most bank

Mostly Me	2	3	4	5	6	Mostly the bank
○	○	○	○	○	○	○

Do you have other feedback on the story or questions? Or any recommendations to come with?

8.5 Appendix 5: *Descriptive*

	Mean	Std. Deviation	Skewness		Kurtosis	
			Statistic	Std. Error	Statistic	Std. Error
Assurance_1	4.24	2.317	-.006	.158	-1.674	.315
Assurance_2	3.92	2.139	-.045	.158	-1.519	.315
Assurance_3	3.76	1.706	-.485	.158	-.720	.315
BI_1	3.84	2.001	-.209	.158	-1.347	.315
BI_2	3.94	2.014	-.283	.158	-1.344	.315
BI_3	4.11	2.101	-.034	.158	-1.505	.315
CognitiveSat_1	3.79	2.102	.056	.158	-1.482	.315
CognitiveSat_2	3.61	1.677	-.425	.158	-.737	.315
CognitiveSat_3	3.90	1.555	-.022	.158	-.678	.315
CognitiveSat_4	3.84	1.388	-.273	.158	-.659	.315
ControllabilityME_1	3.55	1.910	.126	.158	-1.158	.315
ControllabilityME_2	4.08	1.958	-.073	.158	-1.185	.315
ControllabilityME_3	3.78	1.804	.055	.158	-1.017	.315
ControllabilityME_4	4.36	1.769	-.355	.158	-.953	.315
ControllabilityBank_1	5.20	1.546	-.711	.158	-.240	.315
ControllabilityBank_2	5.27	1.544	-.802	.158	-.067	.315
ControllabilityBank_3	5.20	1.482	-.857	.158	.329	.315
ControllabilityBank_4	5.62	1.318	-1.334	.158	2.073	.315
Emotion_1	4.04	1.935	-.177	.158	-1.126	.315
Emotion_2	3.84	1.895	.046	.158	-1.150	.315
Emotion_3	3.77	2.120	.098	.158	-1.427	.315
Emotion_4	3.59	1.965	.152	.158	-1.192	.315
Emotion_5	4.00	1.892	-.006	.158	-1.011	.315
Reliability_1	3.92	2.136	.093	.158	-1.585	.315
Reliability_2	3.93	2.044	.136	.158	-1.400	.315
Reliability_3	4.66	2.039	-.037	.158	-1.405	.315
Reliability_4	4.19	1.964	.125	.158	-1.423	.315
Stability_1	4.57	2.080	.016	.158	-1.517	.315
Stability_2	4.13	2.014	.012	.158	-1.489	.315
Stability_3	4.82	2.081	-.116	.158	-1.511	.315

8.6 Appendix 6: *Kolmogorov-Smirnov and Shapiro-Wilks*

Test of Normality							
	Manipulation	**Kolmogorov-Smirnov**			**Shapiro-Wilk**		
		Statistic	df	Sig.	Statistic	df	Sig.
Reliability	SST/Unsuccessful	,093	54	,200*	,985	54	,732
	SST/Successful	,135	53	,017	,934	53	,006
	HI/Successful	,206	66	,000	,866	66	,000
	HI/Unsuccessful	,110	67	,041	,929	67	,001
Assurance	SST/Unsuccessful	,113	54	,082	,955	54	,042
	SST/Successful	,138	53	,013	,942	53	,012
	HI/Successful	,255	66	,000	,829	66	,000
	HI/Unsuccessful	,196	67	,000	,857	67	,000
Stability	SST/Unsuccessful	,141	54	,009	,963	54	,098
	SST/Successful	,178	53	,000	,929	53	,004
	HI/Successful	,142	66	,002	,958	66	,024
	HI/Unsuccessful	,134	67	,005	,970	67	,107
Controllability	SST/Unsuccessful	,139	54	,011	,909	54	,001
	SST/Successful	,102	53	,200*	,964	53	,112
	HI/Successful	,116	66	,028	,959	66	,029
	HI/Unsuccessful	,151	67	,001	,921	67	,000
Emotional Satisfaction	SST/Unsuccessful	,105	54	,200*	,956	54	,046
	SST/Successful	,124	53	,040	,944	53	,015
	HI/Successful	,104	66	,074	,947	66	,007
	HI/Unsuccessful	,123	67	,013	,938	67	,002
Cognitive Satisfaction	SST/Unsuccessful	,189	54	,000	,899	54	,000
	SST/Successful	,130	53	,025	,932	53	,005
	HI/Successful	,121	66	,017	,956	66	,019
	HI/Unsuccessful	,133	67	,005	,904	67	,000
Behavioral Intention	SST/Unsuccessful	,189	54	,000	,902	54	,000
	SST/Successful	,184	53	,000	,886	53	,000
	HI/Successful	,248	66	,000	,844	66	,000
	HI/Unsuccessful	,173	67	,000	,912	67	,000

8.7 Appendix 7: *Correlation Matrix*

Correlations								
		Reliability	Assurance	Stability	Controllability	Emotions	Cognitive	BI
RELIABILITY	Pearson Correlation	1	,928**	,314**	,430**	,820**	,902**	,876**
	Sig. (2-tailed)		,000	,000	,000	,000	,000	,000
	N	240	240	240	240	240	240	240
ASSURANCE	Pearson Correlation	,928**	1	,339**	,423**	,818**	,900**	,873**
	Sig. (2-tailed)	,000		,000	,000	,000	,000	,000
	N	240	240	240	240	240	240	240
STABILITY	Pearson Correlation	,314**	,339**	1	,051	,276**	,308**	,269**
	Sig. (2-tailed)	,000	,000		,431	,000	,000	,000
	N	240	240	240	240	240	240	240
CONTROLLME	Pearson Correlation	,430**	,423**	,051	1	,439**	,464**	,434**
	Sig. (2-tailed)	,000	,000	,431		,000	,000	,000
	N	240	240	240	240	240	240	240
EMOTIONS	Pearson Correlation	,820**	,818**	,276**	,439**	1	,858**	,841**
	Sig. (2-tailed)	,000	,000	,000	,000		,000	,000
	N	240	240	240	240	240	240	240
COGNITIVE	Pearson Correlation	,902**	,900**	,308**	,464**	,858**	1	,941**
	Sig. (2-tailed)	,000	,000	,000	,000	,000		,000
	N	240	240	240	240	240	240	240
BI	Pearson Correlation	,876**	,873**	,269**	,434**	,841**	,941**	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	
	N	240	240	240	240	240	240	240