



**Norges Handelshøyskole**

Bergen, Spring 2012

**Effects of Self-Service Technology on Brand Experience, Brand  
Attitude, and Intention to Use the Brand**

By

**Pinhuan Li**

**Veileder: Herbjørn Nysveen**

Master Thesis within the main profile of International Business

NORGES HANDELSHØYSKOLE

This thesis was written as a part of the Master program at Norwegian School of Economics. Neither the institution, the supervisor, nor the censors are responsible for neither the theories and methods used, nor results and conclusions drawn in this work, though the approval of this thesis.

## **Abstract**

The increasing popularity of adopting self-service technologies in every business field has attracted lots of attention and the emergence of self-service technology has also changed the traditional experience approach. Customer experience occurs whenever the customers interact with the company directly or indirectly. Previous studies have indicated that consumer interactions with the service personnel can greatly affect the service experience, however, little research has studied how the experience is affected when consumers interact with the technology.

To find out how the use of self-service technologies affects consumers' perceptions on brand experience, their attitudes toward the brand and intentions to use the brand, the author designed a process model to predict the relationships among the antecedents, brand experience and the behavioral intentions. To test these relationships, quasi experimental settings and surveys were used to investigate respondents' evaluations on two types of online services provided by Tryg. The results show that enjoyment is the key driver of brand experience in using the online service. In addition, ease of use, enjoyment, and self-efficacy can all significantly influence consumer's attitudes toward using the brand. Brand experience also positively affects brand attitude and both of them are strong indicators of intentions to use the brand. Finally, the moderating effects of types of services are also analyzed and some differences are found across the services.

The current study has mainly contributed to provide the theoretical understanding to link the relationship between the use of self-service technology and brand experience. Additionally, it also provides evidences to brand managers on how to improve the brand experience when consumers choose to use the technology-based self-services and how to adapt the self-service technology interfaces across different types of services to increase the chance for adoptions.

## **Preface**

This master thesis is one of a series of papers and reports published by the Center for Service Innovation (CSI). Centre for Service Innovation (CSI) is a coordinated effort by NHH to focus on the innovation challenges facing the service sector and involves 20 business and academic partners. It aims to increase the quality, efficiency and commercial success of service innovations and to enhance the innovation capabilities of its business and academic partners. CSI is funded through a significant eight year grant from the Research Council of Norway and has recently obtained status as a Centre for Research-based Innovation (SFI).

Working with this paper has been quite a demanding, challenging and enlightening process. During the period I was working on this topic, I have been through some difficult times and even thought about giving up on continuing this work. However, the support and encouragement from many people, especially my supervisor Herbjørn Nysveen, made me drop the idea of quitting and hold on to work with this topic.

Here, to embrace for the completion of this work, I would like to express my gratitude to my supervisor Herbjørn Nysveen, who inspired me to work on this topic and gave me support and advice to improve the work through the whole process. In addition, I would also like to thank all the friends around who have been supporting me and make me confident to finish this work. At last, I will also credit my lovely family, who are not close by me but give me full support anytime I need. This work cannot be finished in this way without these people, thank you very much, I love you all!

Bergen, June 19<sup>th</sup> 2012

.....

Pinhuan Li

## Table of Content

Abstract.....	2
Preface.....	3
Table of Content .....	4
List of Figures and Tables.....	6
Part I. Introduction .....	7
1. Introduction .....	7
1.1 Background of the study.....	7
1.2 Purpose of the study .....	9
1.3 Contributions of this study .....	9
1.4 Outline of the study .....	9
2. Tryg.....	11
2.1 Tryg’s online self-service .....	11
Part II. Literature Review .....	13
3. Self-service technologies (SSTs) .....	13
3.1 Definition of Self-service technologies .....	13
3.2 Types of SSTs.....	14
3.3 SST-related Characteristics .....	18
3.3.1 Antecedents of attitudes toward /intentions to use/usage of SSTs .....	18
3.3.2 Antecedents of Satisfaction with SSTs .....	24
3.3.3 Antecedents of loyalty to SSTs.....	26
3.3.4 Summary .....	27
4. Brand experience.....	29
4.1 The Experience Constructs.....	29
4.2 Customer experience vs. Brand experience.....	30
4.3 The Multidimensionality of Customer/Brand experience .....	31
4.4 The impacts of experience dimensions on consumer behavior .....	34
4.5 The theory of trying.....	35
5. Conceptual Model and Hypotheses.....	36
5.1 The effects of SST-related characteristics on Brand Experience .....	37
5.2 The relationships among brand experience, attitudes toward Tryg and intentions to use Tryg.....	40
5.3 Moderating effects.....	40
Part III Empirical study.....	42

6. Methodology .....	42
6.1 Design .....	42
6.2 Description of stimuli .....	42
6.3 Sample .....	43
6.4 Procedure .....	43
6.5 Measures .....	45
6.6 Descriptives .....	52
7. Results .....	55
7.1 Test of the core model (without the moderating effects).....	55
7.2 Test of the moderating effects .....	57
7.3 Other tests .....	60
Part IV Conclusion.....	62
8. Conclusion.....	62
8.1 Summary.....	62
8.2 Discussion.....	63
8.3 Managerial implications .....	65
8.4 Limitations and Further Research.....	65
REFERENCES .....	67
APPENDIX A.....	71
1. Transaction service .....	71
2. Information service.....	72
APPENDIX B .....	73

## List of Figures and Tables

Figure 1: <i>Categories and Examples of SSTs in Use</i> .....	14
Figure 2: <i>Conceptual model</i> .....	37
Table 1: <i>Literature overview on the independent variables which influence the three main dependent variables in different types of SSTs</i> .....	28
Table 2: <i>Summarization of the experience constructs and experiential dimensions</i> .....	33
Table 3: <i>First test result of measures of the six antecedents</i> .....	46
Table 4: <i>Final test result of measures of the six antecedents</i> .....	48
Table 5: <i>First test result of measures of brand experience</i> .....	51
Table 6: <i>Final test result of measures of brand experience</i> .....	51
Table 7: <i>Descriptive statistics on all the constructed variables</i> .....	53
Table 8: <i>Correlation Matrix of the variables</i> .....	54
Table 9: <i>The results of path estimates for structural model 1</i> .....	55
Table 10: <i>The results of path estimates for structural model 2</i> .....	56
Table 11: <i>The results of path estimates for structural model 3</i> .....	56
Table 12: <i>Path estimates result for structural model 4</i> .....	57
Table 13: <i>Mean value and F-value for the complexity of the two types of services</i> .....	58
Table 14: <i>The comparison results on the path estimates between the two types of services</i> .....	59

## **Part I. Introduction**

### **1. Introduction**

#### **1.1 Background of the study**

The rapid development of technology enables the service providers to take advantages of the high-technology in the service delivery process to improve the working efficiency and reduce the high labor costs. As the technology is becoming more user-friendly and consumers are becoming more familiar with how to use the technology, many service providers start to adopt the technology-based self-service options to allow the consumers to fulfill their service needs by themselves (Yen, 2005). As in our daily life, the use of ATMs, automated ticket selling kiosks and online services are typical examples of the widespread use of the self-service technology tools.

The emergence of the self-service technologies (SSTs) brings enormous benefits to both service providers and consumers. In addition, it has also transformed the service delivery approach from interactions between service personnel and consumers to interactions between consumers and technology (Verhoef et al., 2009). This transformation has remarkably changed consumers' perceptions on service experience, which can be greatly affected by the interactions with the service personnel (Broderick, 1999, cited in Grace & O'Cass, 2004). It has been indicated that salespeople can make the shopping experience more fun and enjoyable when they are always available to provide helpful service if needed (Jones, 1999).

Previous studies in the SST area mainly focused on investigating the outcomes toward SST in general and the factors which influence these outcomes (Nysveen & Pedersen, 2011). However, few have emphasized the impacts of using SSTs on behavioral intentions to use the service brands. In addition, the links between the use of SSTs and the behavioral intentions to use the service brands also lack theoretical understanding. To build the bridge between these two concepts, brand experience has been indicated as an appropriate intermediary.

Proposed by Nysveen & Pedersen (2011), the idea of investigating the impacts of SSTs on customer/brand experience in the future study is a very interesting topic and will significantly contribute to the existing SST literature. Concluded by much previous research, the impacts of customer/brand experience on consumer behavioral intentions have also been proven to be significant (Meyer & Schwager, 2007; Brakus et al., 2009). Stated by Meyer & Schwager (2007), customer satisfaction is “the culmination of a series of customer experiences and occurs when the gap between customers’ expectations and their subsequent experiences has been closed” (p.2). In addition, brand experience is proven to have a positive influence on customer satisfaction and loyalty (Brakus et al., 2009). Furthermore, the outcome experience of using internet shopping will have a direct effect on attitude toward internet shopping, which further positively influence consumer’s intentions to use internet for shopping (Bobbitt & Dabholkar, 2001).

The importance of developing enjoyable experience to create economic value has also been emphasized nowadays (Pine II & Gilmore, 1999). As stated in Pine II & Gilmore’s (1999) study – “as goods and services become commoditized, the customer experience that companies create will matter most” (p.97) –, customer experience is emphasized as the main approach for the companies to attract customers and make profits. According to a report published by RightNow Technologies Inc., the consumer electronics industry in the North American region could increase revenue by \$16.5 billion in 2010 if their aim was to provide superior customer experience (Customer Experience Report North America, 2010).

The increasingly significant role the experience plays in the market economy attracts a lot of attention among both the researchers and practitioners. However, existing studies on creating positive customer experience so far have always been relevant with the involvement of the service personnel (Jones, 1999; Arnold et al., 2005). The studies concerning how the customer experience is influenced when consumers interact with the SSTs, which allow consumers to avoid personnel contact (Meuter et al., 2000), are quite scarce. Thus, studying the impacts of using SSTs on brand experience can also complement the scarce evidence to support the relationship between these two constructs.



## **1.2 Purpose of the study**

The purpose of this study is mainly to investigate the effects of using SSTs on brand experience, brand attitudes and the behavioral intentions to use the brand. It is also predicted that the types of services can be a moderator of the effects.

To achieve this purpose, the following research questions are proposed:

1. What are the effects of SST-related characteristics on brand experience, brand attitude and intention to use the brand?
2. How do different types of services moderate the effects described in question 1?

## **1.3 Contributions of this study**

The contributions of this study can be quite significant, both in theory and in practice. Theoretically, as mentioned above, this study will provide new theories on what factors influence brand experience and consumer attitudes toward using the brand, intentions to use the brand in using SSTs. In addition, this study investigates the impacts of brand experience on attitudes toward the brand and intentions to use the brand with assessing a service brand. Thus, the findings can complement the theory of brand experience concluded by Brakus et al. (2009), who investigated the impacts of brand experience on customer satisfaction and loyalty with assessing only the product brands to test the hypotheses. In practice, the findings of this study can hopefully guide the brand managers to improve the brand experience and consumer attitudes toward their brands, intentions to use the brands when consumers choose to use the SSTs. In addition, the findings on the potential moderating effects can tell the brand managers how to make adaptations to each type of the services to increase the adoption chances to use this type of service.

## **1.4 Outline of the study**

The use of SSTs spreads over a wide range of industries and the dimensions of SSTs to be emphasized in each industry may be different. In this study, however, the literature overview about SSTs will be presented in a general way, but the empirical study will focus more on the online insurance service sector. To uncover the answers for the research questions, the brand Tryg will be investigated in the empirical study.

The outline of this study can be summarized in four main parts. The first part is the introduction. The second part is the literature review on the studies about SSTs and brand experience. The third part concerns the methodology and analysis of the empirical study as well as the results. The fourth part is a brief summary of the study that discusses the research results and makes managerial implications. Additionally, limitations of the study will be concluded and direction of the future study will be proposed.

## **2. Tryg**

The earliest history of TrygVesta dated back to the Danish insurance company Kjøbenhavns Brand, which was founded by Royal Decree after the Copenhagen fire in 1728. After a long period of development, Tryg has now become the second largest general insurer in the Nordic region with offices located in Denmark, Norway, Sweden and Finland. One of the main goals for Tryg is to become the leading peace-of-mind provider in the Nordic region. Their insurances include workers' compensation, motor, building, contents, transport, house, personal accident and health care. They mainly offer insurances through own sales and service channels and also through business partners. Their business philosophy is to provide a safety net, and their task is to contribute to safeguard both human and material values. Their brand values focus on meeting customers with respect, openness and trust, to show initiative, share knowledge and take responsibility, to deliver solutions based on quality and simplicity, and to create sustainable results. (<http://www.tryg.com/en/home/index.html>)

Tryg's current business development strategies mainly focus on the following aspects: profitable insurance business, loyal customers, efficient value creation, and attractive workplace. Among these strategies, the way Tryg tries to keep the customers loyal to the brand is to create customer satisfaction, take social responsibility, and enhance customer experience. To survive in the highly competitive market and remain the leading player, Tryg considers innovation as a strategic tool for growth. The people in Tryg take innovation process as a learning process, attempting to create new customer experiences and business areas. (<http://www.tryg.com/en/home/index.html>)

### **2.1 Tryg's online self-service**

For a long time, TrygVesta has put self-service as one of the main four strategic schemes. In 2007, Tryg established a Nordic e-business centre to emphasize their commitments to the online service area. In June 2008, TrygVesta's customers in Norway were able to report their claims online and this function was received favorably by customers. As stated by Tryg, online self-service options allow customers to deal with their insurance matters at their own pace and whenever it suits them best. In addition, Tryg also thinks

that the insurance company will significantly rely on online self-service in the near future. Until 2009, Tryg's self-service options include policy changes, service, advice, claims handling and purchase of insurances. At the start of 2010, Tryg introduced a new procedure for obtaining customer e-mail addresses and acceptances to be able to better tailor their communication with the individual customer, thereby creating a more personal and relevant customer experience. Until now, all Tryg customers have a full range of self-service options for changing their insurances or reporting and handling a claim. (<http://www.tryg.com/en/home/index.html>)

## **Part II. Literature Review**

### **3. Self-service technologies (SSTs)**

#### **3.1 Definition of Self-service technologies**

Concerning the issues related to Customer Relationship Management (CRM), one of the growing trends is the use of self-service. With the rapid development of high-technology and its more prevalent usage in the business field, the integration of technology in self-service and CRM is becoming more important and critical to provide customers superior service quality (Hsieh, 2005). The concept of technology-based self-service has thus emerged.

According to Meuter et al. (2000), self-service technologies (SSTs) are the technological interfaces which allow consumers to implement their desired services by themselves without involving the service personnel. Based on the report about self-service economy published by the Information Technology & Innovation Foundation (ITIF) in 2010, self-service technology is one of the major potential forces in the world economy to increase productivity and improve life quality in the future, especially for the countries which are facing the aging and high rate of retirement problems (Castro, Atkinson, & Ezell, 2010).

The adoption of SSTs in business brings benefits to both the service providers and consumers. For the service providers, deploying self-service technologies in the business operational process can help them reduce the labor costs by using less personnel resources and also increase the productivity and operational efficiency (Shamdasani et al., 2008). For the consumers, use of self-service technologies can be more convenient, time-saving and controllable on fulfilling the transactions. In addition, for some consumers, self-service technologies allow them to avoid the direct interactions with the service personnel and are perceived to be easy to use (Meuter et al., 2000). Self-service technologies can also be designed to be more user-friendly and accessible for the people with special requirements (Castro, Atkinson, & Ezell, 2010). Some of the commonly used SST tools in our daily life are ATMs, pay-at-the-pump gas stations, automated ticket selling machines, telephone banking, Internet-based service systems and e-learning. As

the development of high-technology is going forward at a fast pace, self-service technologies will also become more efficient and easier to be used and are expected to become more popular in the future.

### 3.2 Types of SSTs

To have a better overview on the conceptualization of SST options, a well-recognized way to categorize the types of SSTs in use concluded by Meuter et al. (2000) is presented below (see Figure 1).

		Interfaces			
		Telephone/Interactive Voice Response	Online/Internet-based	Interactive Kiosks	Video/CD
Purposes	Customer Service	Flight information/Bill checking	Package tracking/Account information	ATMs/Hotel checkout	
	Transactions	Telephone banking/prescription refills	Retail purchasing/Financial transactions	Pay at the pump/vending machine	
	Self-Help	Information telephone lines	Internet information search/Online learning	Tourist information	CD-based training

Figure 1: *Categories and Examples of SSTs in Use* (Source: Meuter et al., 2000)

In this figure, items in the column represent the four types of technological interfaces used in the self-service encounters and items in the row are the purposes of using the self-service technologies on what the customers can achieve. This figure has also been presented in their following study with the examples of the company lists in each box based on the companies' success in using the relative types of SSTs (Bitner et al., 2002).

According to their study, there are four main types of self-service technology interfaces, including telephone-based technologies and interactive voice response (IVR) systems, Internet-based interfaces, interactive free-standing Kiosks, and video/DVD/CD-based technologies (Meuter et al., 2000, p.52). Though the examples shown in the figure are clearly defined in each box, these technology tools are often used in conjunction to fulfill the customer needs in the real business situation (Meuter et al., 2000). For example, with the increasing popularity of Smartphone, customers can easily use the Smartphone to

access the internet to buy a plane ticket and check their flight information. In addition, several types of SST tools may be used at different points of the service delivery process (Bitner et al., 2002). For example, people nowadays usually book their flight tickets from the internet or call the travel agency and then go to the self-help kiosks in the airport to get the valid tickets with the reference number.

Another study conducted by Hsieh (2005) interpreted this figure with the opinion that different types of self-service technology interfaces are usually used with different purposes to fulfill unique needs. Companies use *telephone and IVR systems* as SST tools to allow the customers to take orders and ask for customer service information. The service companies, e.g. credit card companies and insurance companies, usually use this type of SSTs to answer the customers' inquiries. The *internet-based systems* make the service available at any time and simultaneous all over the world for the customers. Bank customers can use the online banking service to fulfill the transactions at anytime and in anywhere as long as they can reach the internet. The *interactive kiosks* allow the customers to perform the service faster and more convenient. Hotels and airports usually have the self-help kiosks for users to fulfill the service themselves. The *Video/CD* is generally just used for the self-training or educational purposes. Many companies usually use this form of SST tools to train their own employees or introduce the new products to the customers due to the cheap costs and convenience to combine with the other types of SST tools to reach a broad range of targets, e.g. to put a video on the internet to introduce the new products is the most common way.

This way to categorize the self-service technology interfaces (Meuter et al., 2000; Hsieh, 2005) is also consistent with the report published by ITIF, who claims that the application of self-service technology in use is through at least one of the following four channels: electronic kiosks, the Internet, mobile devices and the telephone (Castro, Atkinson, & Ezell, 2010). In this report, it updates the interface of Video/CD into the form of mobile devices, which is reasonable and also more updated with the technology status quo since more mobile data storage devices are applied into use to replace CDs, e.g. USB flash drive, MP3/MP4, etc.

The purposes of providing SSTs can be mainly categorized into three areas. The first is to use SSTs in the area of customer service to increase the efficiency and flexibility. Offering customer services, e.g. accounts checking, bill paying and flight checking, etc., is mostly assisted with the integration of SSTs currently to make sure that customers can fulfill their service needs whenever they want and wherever they are. Additionally, SSTs used in this area can certainly reduce the resource costs for the company. Some successful examples of making use of technologies in customer service include FedEx's internet-based package tracking and Cisco System's online troubleshooting. The second purpose is to enable customers to conduct transactions directly by themselves instead of dealing with the service personnel, e.g. purchasing products from Amazon. The last purpose listed in the figure is a broad concept called self-help or education, which means that the use of technologies enables the customers to learn the needed information, train themselves and provide service themselves, e.g. the online tourist guiding information or online cooking recipe. (Meuter et al., 2000)

Among the four types of SST interfaces, the internet-based system is becoming more popular under the current business environment. Since the online service will be used as the investigated SST context in the empirical study, here some detailed information about this system is presented below.

#### *Internet-based self-service system*

Internet as a rising technology tool for self-service is mainly used to run applications, share information and create contents. Internet enables the users to access the information online anytime and anywhere, and the information access is also becoming freer and much easier for ordinary people, who were not able to reach the desired information before or needed assistance from professionals. Many types of professions, including advisory agencies, travel agents and stock brokers, have realized the change of information access situation and shifted their business strategy roles from the sole information providers into more professional and convenient service providers offering the most efficient solutions to the customers. In addition, since almost everyone can be involved in sharing information through the internet in different ways, e.g. videos, words or pictures, etc., it is becoming possible for the users to get any information through the



internet by themselves, making their own roles in searching the information much bigger. At last, more and more companies have also realized the increasing importance of involving their customers to be part of the business operations and thus provide the online-based forums to allow the customers to actively participate in the business development decisions, e.g. new product design and service innovations. Some of the familiar examples of the internet-based self-service technology systems are online banking, Amazon/eBay, E-learning, online customer service, etc. (Castro, Atkinson, & Ezell, 2010)

*Retail E-Commerce.* To transform the real products into virtual products online, e-commerce, e.g. Amazon, eBay, allows the consumers to check the information about the products, the sellers, or any other available information and decide when and where they want to buy the products. Since the e-commerce business is increasing year by year and consumers can buy almost everything now online, more and more people are making use of this opportunity. Research shows that more than 85% of the online population has conducted e-commerce transactions on the internet. In many cases, e-commerce transactions can save a great fortune for the users, e.g. ordering flight tickets online a few months earlier is much cheaper than buying the tickets directly at the sales counter on the departure day (Castro, Atkinson, & Ezell, 2010)

*Online Customer service.* It is becoming more common now for the companies to provide online customer service options, ranging from the simple lists of frequently asked questions to advanced online applications, for the customers to solve the problems themselves. To make the online customer service options more interesting and user-friendly, some companies even try to create human-like automated agents, e.g. the interactive virtual agent-‘Anna’, created by IKEA, can answer questions from the customers on the website directly, even with some animated movements. Online customer service can also reduce a lot of costs for businesses; a remarkable example is Cisco, which saves over \$500 million every year by allowing 80% of its customer service cases to be handled through self-service options online. (Castro, Atkinson, & Ezell, 2010)

### 3.3 SST-related Characteristics

A recent study conducted by Nysveen and Pedersen (2011) has revealed that most of the existing studies on SSTs have focused on investigating the determinants of attitudes toward SSTs, intentions to use SSTs, and usage of SSTs (Bobbitt & Dabholkar, 2001; Dabholkar & Bagozzi, 2002; Dabholkar et al., 2003; Weijters et al., 2007). Some have also focused on finding out the antecedents of satisfaction with SSTs (Shamdasani et al., 2008; Meuter et al. 2000; Yen, 2005; Lin & Hsieh, 2006) and loyalty to the SSTs (Lin & Hsieh, 2006; Lin & Hsieh, 2007; Ho & Ko, 2008; Chen et al., 2009; Shamdasani et al., 2008; Zhao et al., 2008).

#### *3.3.1 Antecedents of attitudes toward /intentions to use/usage of SSTs*

As the usage of SSTs is becoming more and more popular, the question of what factors affect consumer's attitudes toward SSTs and further intentions to use SSTs has attracted a lot of attention. In order to answer this question, it is important to first understand users' acceptance process to use the technologies.

#### *The relationship among attitudes, intentions, and actual behavior*

In the early literatures about attitude, it was accepted that behavior was guided by social attitudes. However, several researchers later found out that attitudes failed to predict the actual behavior and they believed that this was because attitude was measured in a single, evaluative dimension. In order to understand the influence of attitudes on behavior, attitude was thus defined as "a complex, multidimensional construct comprised of cognitive, affective, and conative components" (Ajzen & Fishbein, 2005, p. 177). Some researchers also suggested that the conative or behavioral components of attitudes should be assessed to predict the actual behavior, rather than the affective component as it was done in the early studies. However, an early work conducted by Thurstone indicated that even using the tripartite approach to define attitudes might not explain the inconsistent relationship between attitude and actual usage. (Ajzen & Fishbein, 2005)

To link the relationship between attitude and behavior, a lot of researchers have proposed that intentions to perform a behavior, instead of attitude, should be the direct cognitive

determinant of actual behavioral performance (Ajzen & Fishbein, 2005). To specify the relationship among these three concepts, the theory of reasoned action was proposed by Fishbein & Ajzen (Ajzen & Fishbein, 2005). From their perspectives, attitudes are a person's feelings, in a positive or negative way, toward performing a desired behavior, while intentions are the motivational factors influencing the behavior and thus reflect to what extent a person tries to make an effort to perform the behavior (Fishbein & Ajzen, 1975, cited in Davis et al., 1989). According to this theory, people's actual behavior is determined by their behavioral intentions to perform the behavior, which is in turn jointly determined by their attitudes and subjective norms concerning the behavior in question. In addition, their attitudes toward the behavior depend on their beliefs and evaluations. However, this theory failed to explain the behaviors over which people have incomplete volitional control. To complement this limitation, the theory of planned behavior, proposed by Ajzen (1991) based on the theory of reasoned action, suggested that behaviors depend jointly on behavioral intentions and perceived behavioral control, whereas the behavioral control is also a determinant of the behavioral intentions (Ajzen, 1991).

Adapted from the theory of reasoned action (TRA), the technology acceptance model (TAM), introduced by Davis to explain user acceptance of information systems, indicated that consumers' actual system usage is determined by their behavioral intentions to use the system, which is in turn determined by their attitudes toward using the system and perceived usefulness of using the system (Davis et al., 1989). In the field of SST studies, the relationship among these three constructs has also been confirmed (Bobbitt & Dabholkar, 2001; Dabholkar & Bagozzi, 2002; Weijters et al., 2007).

#### *Antecedents of attitudes toward/intentions to use/ usage of SSTs*

According to technology acceptance model, perceived usefulness and perceived ease of use have been identified as important determinants of consumer attitudes toward using computer technology (Davis et al., 1989). Besides these two extrinsic motivations to use the computer technology, a third construct, enjoyment, is later added on as an intrinsic motivation for employees to use computers in the workplace for specific word processing and graphics programs (Davis et al., 1992, cited in Childers et al., 2001). Regarding the

high relevance between these three factors and consumer attitudes toward computer technology usage, it can be predicted that they would also have great impacts on influencing consumer attitudes toward the use of SSTs.

In addition, when studying about consumer's evaluations on new technology-based self-service options, Dabholkar (1996) developed an attribute-based model (ABM), which identified five attributes of SST options, including speed of delivery, ease of use, reliability, enjoyment and expected control. Based on the past studies and the qualitative research, these five attributes are considered as important factors for customers in evaluating and deciding to use technology-based self-service options (Dabholkar, 1996).

Among these five attributes indicated by Dabholkar (1996), the attribute of speed of delivery can be considered as part of the benefits customers associate with using the SST options, and thus can be integrated into the attribute of perceived usefulness (Weijters et al., 2007). Additionally, a more comprehensive study on the consumer control factors influencing their intentions to use selected self-service technologies pointed out that the control-related consumer characteristics may also help explain the SST usage decisions. Among these characteristics, self-efficacy and technology anxiety are especially relevant with the self-control abilities in using technologies (Oyedele & Simpson, 2007).

Concluded from the analysis above, seven factors (perceived ease of use, perceived usefulness, enjoyment, reliability, control, self-efficacy, and technology anxiety) have been identified to have potential impacts on consumer's attitudes toward SSTs, intentions to use SSTs. In the following context, the impact of each of these seven attributes on consumer's attitudes toward SSTs, intentions to use SSTs will be briefly interpreted.

#### *Perceived Ease of Use (EOU)*

Perceived ease of use (EOU) is defined as the degree to which the potential users perceive the use of target technology or system to be effortless (Davis et al., 1989). When customers try to make decisions between alternative service delivery options, the efforts needed in using the certain service delivery option are considered as an important factor (Langeard et al., 1981, cited in Dabholkar, 1996). Some potential users may be concerned about the efforts required to use the SST option and the complexity of its delivery process

because they do not want to put too much efforts in trying a new service option, nor do they expect to be perceived as stupid if it is too hard for them to use. These two factors characterized in the use of SSTs can be integrated as one of the primary characteristics of SST, 'ease of use'. It has been tested that under the condition of high waiting time where control group is used, ease of use is identified as an important determinant of expected service quality of using SSTs, which further has a positive effect on consumers' intentions to use the SST option (Dabholkar, 1996).

Additionally, it is convincingly shown that the easier the use of technology is, the more positive attitudes the users will have toward the technology. In fact, ease of use has been proven to have a direct positive impact on attitudes toward using self-order kiosks in the fast-food restaurant (Dabholkar & Bagozzi, 2002), online retail shopping (Childers et al., 2001), and self-scanning option in retailing stores (Dabholkar et al., 2003; Weijters et al., 2007).

#### *Perceived usefulness*

Being identified as a primary determinant of behavioral intentions to use the technology, perceived usefulness refers to consumer perceptions on the probability of using a certain application system to improve the job performance (Davis et al., 1989). However, when discussing the relevance between perceived usefulness and the use of SSTs, Dabholkar & Bagozzi (2002) argued that 'usefulness' is not related with the use of technology-based self-service, "in which consumers only participate but do not own" (p. 186). Instead, they proposed another construct 'performance', which represents the reliability and accuracy of the SST perceived by the consumer, to replace 'usefulness' in the use of SST. The suggested 'performance' construct, used also as 'reliability' in some other studies (Dabholkar et al., 2003; Weijters et al., 2007), had been proven to have a positive effect on influencing consumer attitudes toward using SSTs.

By expressing partial disagreement with this argument, Weijters et al. (2007) thought that both the dimensions of reliability/performance and the perceived usefulness could have great impacts on consumer attitudes toward using the SSTs. Under their assumption, it is suggested that perceived usefulness can be defined as "the benefits consumers associate

with using SSTs” and consumers choose to use SSTs because of the potential value the technology can offer (Weijters et al., 2007, p.5). In their study, perceived usefulness have been identified as a major determinant to positively influence consumer attitudes toward using SSTs, which is in line with the result demonstrated in Childers et al.’s (2001) study. In addition, Weijters et al. (2007) also concluded that it is necessary and significant for the future research to take account of the impacts of perceived usefulness associated by users with the use of technology on their attitudes toward using SSTs.

### *Enjoyment*

The literature overview reveals that previous studies do not just focus on the utilitarian benefits of using SSTs, represented by the dimension of perceived usefulness, they have also investigated a lot on the hedonic benefits of using SSTs, which focus mainly on the enjoyment aspect (Dabholkar, 1996; Childers et al., 2001; Dabholkar & Bagozzi, 2002; Dabholkar et al., 2003; Weijters et al, 2007). Enjoyment refers to the intrinsic value provided by using the technology, apart from the expected extrinsic performance consequences (Davis et al., 1989). Research on the use of computer technology finds that fun is considered as an important determinant in influencing consumer decisions (Davis et al., 1992, cited in Dabholkar, 1996). Regarding the use of SSTs, based on the qualitative investigation, consumers would be more likely to use the SST option if it functions in an enjoyable way. Enjoyment has also been proven to positively influence service quality in using the SST options, which further directly and positively influences customer intentions to use such options (Dabholkar, 1996). Studies on consumer’s motivations to use SSTs in general (Dabholkar & Bagozzi, 2002), online retail shopping (Childers et al., 2001), and self-scanning option in retailing (Dabholkar et al., 2003; Weijters et al, 2007) have also demonstrated that enjoyment is an important determinant on attitudes toward using these options.

### *Reliability*

According to Weijters et al. (2007), the reliability associated with using the SST can be defined as “the consistency and accuracy of the SSTs” (p.5). Studies on computer technology indicate that performance/dependability of the options is an important

dimension to attract customers to use the technology (Davis et al., 1992, cited in Dabholkar, 1996). Customers may view the reliability of the technology-based service delivery options as an important consideration when deciding to use such options because of the performance risk, which indicates that these options may not function well or stably (Dabholkar, 1996). This has been proven to be true in a qualitative research conducted by Meuter et al. (2000), who concluded that ‘technology failure’ is the largest number of incidents causing customer dissatisfaction with the use of technology-based service encounters. In terms of using SSTs, reliability has been identified as an important determinant on consumer attitudes toward SSTs and intentions to use SSTs in the context of using touch-screen to order in a fast food restaurant (Dabholkar, 1996; Dabholkar & Bagozzi, 2002), and the use of self-scanning option in retail stores (Dabholkar et al., 2003; Weijters et al., 2007).

#### *Perceived Control*

According to Dabholkar (1996), expected control is defined as “the amount of control a customer expects to have over the process or outcome of a service encounter” (p. 35). It has been proposed that the value of the service offered to the customers can be enhanced by their increasing perceived control over the process (Bateson & Hui, 1987, cited in Dabholkar, 1996). Meuter et al. (2000) also identified that consumers view the control-related factors, ‘when I want’ and ‘where I want’, as important considerations for a satisfactory experience with the use of SSTs. Researches on intentions to use self-order kiosks (Dabholkar, 1996), self-scanning option (Dabholkar et al., 2003) and self-check-out machines (Oyedele & Simpson, 2007) have identified that control is an important determinant on consumer’s intentions to use the SST options.

#### *Self-efficacy*

Self-efficacy represents the degree to which people think about their capabilities to achieve the goals and their perceptions to fail the tasks (Bandura, 1994, cited in Oyedele & Simpson, 2007). This indicates that people with low level of self-efficacy tend to have the feelings that they would fail the tasks in case of using a new SST option, and thus be more likely to avoid to use such an option. In contrast, people with high level of self-

efficacy will believe in their capabilities to succeed in implementing the tasks, and thus be more likely to choose the SST option over the personnel service option because of its higher degree of control and other benefits (Oyedele & Simpson, 2007; Meuter et al., 2000). As a matter of fact, studies on self-efficacy in using the SST options indicate that self-efficacy plays a significant role for customers in choosing to use the SSTs in an unfamiliar situation, e.g. self-check-out option in a hotel for students (Oyedele & Simpson, 2007) and novice consumers to use the online stock investment (Beuningen et al., 2009).

### *Technology Anxiety*

Technology anxiety is conceptualized as the level of anxiety experienced by people when they decide to use the technological tools, e.g. computer technology (Igarria & Parasuraman, 1989, cited in Oyedele & Simpson, 2007). It is assumed that high level of technology anxiety, caused by the perceptions of being incapable of or lack of confidence in successfully completing the tasks with the use of the technology, may lead customers to avoid using such technology (Oyedele & Simpson, 2007). Study about the impact of technology anxiety on the actual usage of SST reveals that technology anxiety is a better predictor of SST usage than demographic characteristics and negatively influences the usage of SST options and the experience of using a SST option (Meuter et al., 2003). In addition, technology anxiety has also been found out to have direct impacts on SST trail, though the effects are mediated by consumer readiness (Meuter et al., 2005). Being tested in different contexts, technology anxiety has been proven to be a consistent predictor on intentions to use SST and poses a significantly negative impact on consumer's intentions to use the SSTs (Oyedele & Simpson, 2007).

### *3.3.2 Antecedents of Satisfaction with SSTs*

Based on the literature overview, the search for the determinants of consumer satisfaction with SSTs has not been studied widely. By asking respondents to describe one of their satisfactory or dissatisfactory experiences with the SSTs, Meuter et al. (2000) identified three main groups of incidents leading consumers to be satisfactory with the use of SSTs. These incidents include 'solve immediate needs', 'better than the service personnel' and



'did its job or reliable'. In this study, the authors pointed out that the advantages of using SSTs for the users over the service personnel option are its 'ease of use', 'no personal contact', 'time-saving', 'convenience', and 'cost-saving'. Among these determinants on satisfaction with SSTs, 'ease of use', 'solve immediate needs and time-saving or efficiency', 'convenience' and 'reliability or performance' have further been tested to have positive effects on users satisfaction with SSTs (Yen, 2005). In addition, it has also been analyzed that the perceived control over internet-based SSTs and perceived usefulness can also positively affect users satisfaction with SSTs (Yen, 2005; Chen et al., 2009)

Furthermore, according to Lin and Hiseh (2006), perceived service quality is a significant predictor for consumers to evaluate the service on customer satisfaction, intention to purchase and firm performance. They also proved that perceived service quality of SST has a significantly positive impact on users' satisfaction with SSTs. This effect was further supported by Shamdasani et al. (2008), who tested this relationship in the self-service internet banking context. Interestingly, Shamdasani et al. (2008) also found out that the indirect effect of service quality through perceived value is even larger than its direct effect on customer satisfaction, which implies the significant influence of perceived value on customer satisfaction. And unexpectedly, the study also revealed the significant and positive impact of enjoyment on customer satisfaction (Shamdasani et al., 2008).

Last but not least, several studies have also investigated the impact of technology readiness on users' satisfaction with SSTs. Technology readiness refers to consumer's tendency to use new technologies to achieve goals (Parasuraman, 2000). Technology readiness generally consists of four elements, which are optimism and innovativeness as the two drivers, discomfort and insecurity as the two inhibitors (Yen, 2005). According to Yen (2005), not all users are equally prepared to adopt the new technologies. Lin and Hsieh (2006) also point out that individual psychographic characteristics, such as technology readiness, can influence people's willingness to adopt SSTs. People with different technology readiness characteristics act differently when using the SSTs and their satisfaction with the use of SSTs may also differ. It has been studied that technology

readiness has a positive influence on customer satisfaction with using SSTs without considering the mediating impact of service quality (Lin & Hsieh, 2007). Later on, Chen et al. (2009) specify that the influence of technology readiness on customer satisfaction with SSTs depends on its four elements. Their results show that optimism has a more positive impact than innovativeness on satisfaction with SSTs, but discomfort and insecurity are not identified to have negative impacts on satisfaction with SSTs.

### *3.3.3 Antecedents of loyalty to SSTs*

According to Hoyer & MacInnis (2010), brand loyalty is defined as consumer's decisions to buy the same brand repeatedly based on their overall evaluations, which lead them to believe that this brand can better satisfy their needs than the others. Similarly, customer loyalty to SSTs can be defined as their behavioral intentions to continue to use SSTs because of its perceived advantages over the other service delivery options. It is stated that brand-loyal consumers form the solid base of a company's profitability (Hoyer & MacInnis, 2010), thus it can be predicted that creating customer loyalty to SSTs can help customers create favorable associations toward service providers and bring great profitability for the service providers. Additionally, customer loyalty to use the company's SST service can also create positive word of mouth and allow price premium charge for the service providers (Lin & Hsieh, 2007). Therefore, it has significant value to investigate the determinants of customers' loyalty with SSTs.

The service marketing literature review indicates that quality, value and satisfaction are the three central service encounter constructs which drive purchase behavior. Besides the interrelationship between each of these three constructs, the direct and indirect positive impacts of each construct on behavioral intentions had also been tested and confirmed (Cronin et al., 2000). Among these three attributes, customer satisfaction had been studied the most and shown to be the dominant driving force of behavioral intentions to continue to use SSTs in general (Lin & Hsieh, 2006; Lin & Hsieh, 2007; Chen et al., 2009), internet banking (Shamdasani et al., 2008), and the self-checkout machines in a library (Zhao et al., 2008).

### 3.3.4 Summary

To make the picture more clear on the dependent and independent variables relevant with the usage of SSTs, a chart below (Table 1) will be made to summarize the information collected above.

References	Dependent variables	Attitudes toward/intentions to/ usage of SSTs	Satisfaction with SSTs	Loyalty to SSTs
	Types of SSTs			
Dabholkar (1996); Dabholkar & Bagozzi (2002)	Touch screen for ordering in a fast-food restaurant	Ease of use, reliability/performance, enjoyment, control		
Dabholkar et al. (2003); Weijters et al. (2007)	Self-scanning option in the retail stores	Ease of use, usefulness, reliability, fun, control		
Childers et al. (2001)	Online shopping and online grocery ordering	Usefulness, ease of use, enjoyment		
Ho & Ko (2008)	Internet banking	Ease of use, usefulness, cost saved, self-control		
Oyedele & Simpson (2007)	Automated check-out option in library, shopping and hotel	Control, self-efficacy, technology anxiety		
Meuter et al. (2003)	Various SST tools used in Travel, Daily use, Internet and Limited use	Technology Anxiety		
Meuter et al. (2005)	IVR telephone system and internet-based SST			
Beuningen et al. (2009)	Online stock investment	Self-efficacy		

Yen (2005)	Internet SST (ISST)		Efficiency, Ease of use, performance, control, and convenience	
Zhao et al. (2008)	Self-checkout machines in a library			Post-training self-efficacy, technology anxiety, ease of use
Shamdasani et al. (2008)	Internet banking		Service quality, perceived value, and enjoyment	Service quality, satisfaction, perceived value, and ease of use
Chen et al. (2009)	Various SSTs (e-ticketing, kiosks, ATM, internet/mobile banking/investment)		Perceived usefulness, perceived ease of use, technology readiness	Satisfaction, Technology readiness (Optimism)

**Table 1:** Literature overview on the independent variables which influence the three main dependent variables in different types of SSTs

From this table, we can see that most of the studies use the internet-based system or the interactive kiosk system as the SST tools in the investigation, indicating the popularity and significance of using these two types of SSTs in both real life and academic research.

Summarized from the factors influencing the dependent variables, seven attributes - ‘ease of use, usefulness, enjoyment, control, reliability, self-efficacy, and technology anxiety’ - have been concluded as the main factors which have significant impacts on attitudes toward SSTs, intentions to use SSTs, and usage of SSTs. Among them, the first five attributes have also been identified to have significant impacts on satisfaction with SSTs, which can greatly strengthen users’ loyalty to SSTs. In addition, ‘service quality’, ‘perceived value’, and ‘technology readiness’ are proven to be significant determinants of both satisfaction with SSTs and loyalty to SSTs.

## **4. Brand experience**

### **4.1 The Experience Constructs**

The concept of customer experience was first revealed in the mid-1980s when a new experiential approach of consumer behavior theory was proposed to challenge the dominant consumer behavior literature which considered customers as rational decision makers (Holbrook & Hirschman, 1982, cited in Gentile et al., 2007). As the competition in the global market is becoming increasingly fierce and the way to use the traditional strategy, e.g. lower the price or differentiate the products/service, to sustain long-term competitive advantages is becoming more and more difficult, creating extraordinary customer experience is attracting more attention among the marketers and is considered to be a crucial element in achieving the long-term goal of sustaining competitive advantages (Gentile et al., 2007). Additionally, an IBM report stated that creating superior customer experience is also believed to be a critical strategy adopted by companies in creating customer loyalty to brands, channels and services (Verhoef et al., 2009). Thus, the evaluation of the quality of customer experience can be significant. However, according to a survey conducted by Bain & Company on the customers of 362 companies, only 8% of the customers think of their experience as 'superior', yet 80% of the companies believe that they have always provided 'superior' experiences. The huge gap between the different judgements from the perspective of the customers and from that of the companies attracts more attention to investigate on the insights of customer experience (Meyer & Schwager, 2007).

It has been identified that customer experience is a concept in a continuous range from the experiences created by the customers themselves to the experiences greatly developed by the company, passing through the experiences co-created by the customers and the company (Caru & Cova, 2007, cited in Gentile et al., 2007). Customer experience in a good way can create value to both the customers and the company. Since it is becoming more important to integrate the customers in the value creation chain, the way companies create customer experience contributes to the value creation is transferring from managing to offer memorable experience to customers to enabling the customers to co-create their own unique experience with the company (Gentile et al., 2007). Additionally,

customer experience is not just unidimensional on feelings, but instead is seen as a multidimensional structure consisting of different fundamental constructs, including *sensorial, emotional, cognitive, pragmatic, lifestyle and relational*. And a good customer experience should involve a consumer at different levels consistently (Gentile et al., 2007).

The experience constructs can be defined into different terms depending on the contexts the customers are exposed to, e.g. product experience if the customers interact with the products (Hoch, 2002, cited in Brakus et al., 2009). The other terms concluded in Skard et al.'s (2011, p.2) study include customer experience, consumer experience, shopping experience, service experience, consumption experience and brand experience. As mentioned in their study, some of these terms are often used interchangeably and most of these experience constructs can be integrated into the concept of customer experience as long as the interaction occurs between the customers and the company. However, the interactions between the non-customers and the company/brand need to be incorporated into another experiential construct term, brand experience. Discussed also in Skard et al.'s (2011) study, the differences between brand experience and customer experience is worthy to be interpreted.

#### **4.2 Customer experience vs. Brand experience**

According to Meyer and Schwager (2007), customer experience is “the internal and subjective response customers have towards any direct (e.g. purchase or use of the products or services) or indirect contacts (e.g. advertisements, word of mouth from others) with a company.” (p. 118) By comparison, brand experience is ‘the subjective, internal consumer responses (sensations, emotions, and cognitions) and behavior responses evoked by brand-related stimuli which are part of a brand’s design and identity, packaging, communication, and environments’ (Brakus et al., 2009). Compared with the definitions of these two concepts, it can be seen that customer experience includes every interaction between the customers and the companies, in the other way, brand experience happens whenever consumers interact with brand-related stimuli and it can be both customers and non-customers of the company. In addition, since almost every company marks itself with a brand to differentiate itself nowadays. From this point of view, it can

be concluded that brand experience is seen as a concept covering a wider range of interactions that comprise the customer experience, in other words, customer experience is a subset of the brand experience.

This conclusion can be supported in some way by Ghose's (2009) study, which defined customer experience as "the user's interpretation of his/her total interaction with the brand". This definition of customer experience directly indicates that a customer experience is at the same time also a brand experience. Additionally, it is mentioned in Skard et al.'s (2011, p. 2) study that Zarantonello & Schmitt (2010) argued that "brand experience spans across all the different contexts in which the concept of experience has been investigated". Skard et al. (2011) agreed with this argument and also thought that brand experience could be considered as the umbrella term for all the context-specific experience terms and include both the customer experience and the experience between a non-customer and the company.

Though brand experience is considered as a broader experience concept than customer experience, in the theoretical review part of this study, both the terms of customer experience and brand experience will be used since customer experience is still the most common term used in the marketing literature and the theory of customer experience can also be applied into the case of brand experience.

### **4.3 The Multidimensionality of Customer/Brand experience**

In order to create a satisfactory experience for the consumer, it is important to first understand that experience is fundamentally a multidimensional concept and the company should make sure that the consumer is involved in the interactions holistically and consistently at different levels (Gentile et al., 2007).

When the experiential aspects of consumption was first proposed by Holbrook & Hirschman (1982), they emphasized a few neglected consumption phenomena, including "various playful leisure activities, sensory pleasures, daydreamers, esthetic enjoyment, and emotional responses" (p. 132), and stated the importance of the experiential aspects of consumption, including consumer fantasies, feelings and fun. The proposition of the experiential aspects of consumption then brought a broad discussion on the role of

experience and its underlying dimensions in the later studies. Compared with commodities, goods and services, which are external to the customers and homogeneous to every customer, experience is internally unique to an individual due to his/her different engagement with the experience on an emotional, physical, intellectual, or even spiritual level (Pine II & Gilmore, 1999). This interpretation of experience in general indicates the multidimensionality of experience and also implies its important role to make every experience inherently personal and exclusive. In addition, a modular conceptualization of customer experience proposed by Schmitt identified five components of experience, which are sense, feel, think, act and relate (Gentile et al., 2007). Fornerino et al. also identified five distinct dimensions of consumption experience, including sensorial, affective, behavioral, social and cognitive (Gentile et al., 2007). Summarizing from these studies, Gentile et al. (2007) assumed six dimensions of customer experience, among which five components correspond with the dimensions used in the previous studies: sensorial (sense), emotional (feel), cognitive (think), lifestyle (act), and relational (relate). The sixth dimension, the pragmatic component, takes into account of the missing human-objects interaction. In addition, Verhoef et al. (2009) also concluded that the holistic conceptualization of customer experience should involve the customer's cognitive, affective, emotional, social and physical responses to the retailer.

In the study about brand experience and its impacts, Brakus et al. (2009) emphasized that it is important to first identify the underlying dimensions of brand experience. Drawing from the previous studies on experiential marketing and management in different areas, they first proposed five experience dimensions, which are sensory, affective, intellectual, behavioral, and social. However, in the following empirical study on the scale development among the student respondents, they found out that the items for social dimension include strong emotional aspects and can thus be incorporated into the affective dimension. At last, in the conclusion with scale development, they finalized a 12-item brand experience scale for the four dimensions of brand experience: sensory, affective, behavioral and intellectual (Brakus et al., 2009), which respectively correspond with four of the six dimensions proposed in Gentile et al.'s (2007) study: sensorial, emotional, lifestyle and cognitive. These four brand experience dimensions had also been



used in another study to categorize consumers into different experiential types and predict their consuming behavior (Zarantonello & Schmitt, 2010).

Concerning the multidimensionality of experience, it is also important to emphasize that the correspondence between the stimulus and the experience dimensions is not in a one-to-one relation. This indicates that a certain type of stimulus would not just trigger only one relative experience dimension, it would also activate the other dimensions simultaneously. (Brakus et al., 2009)

Based on the information above, table 2 was made to summarize the experience constructs and the relative dimensions used in the previous studies.

Experience Construct	Dimensions	Reference
Consumption Experience	Sensory, Emotional	Holbrook & Hirschman (1982)
Experience	Emotional, Physical, Intellectual, and Spiritual	Pine II & Gilmore (1999)
Customer Experience	Sensory, Affective, Cognitive, Physical, and Social	Schmitt (1999)
Consumption Experience	Sensorial, Affective, Behavioral, Social and Cognitive	Fornerino et al. (2006)
Customer Experience	Sensorial, Emotional, Cognitive, Pragmatic, Lifestyle, and Relational	Gentile et al. (2007)
Customer Experience	Cognitive, Affective, Emotional, Social, and Physical	Verhoef et al. (2009)
Brand Experience	Sensory, Affective, Intellectual, and Behavioral	Brakus et al. (2009)
Brand Experience	Sensory, Affective, Intellectual, and Behavioral	Zarantonello & Schmitt (2010)

**Table 2:** *Summarization of the experience constructs and experiential dimensions*

#### **4.4 The impacts of experience dimensions on behavioral intentions**

Based on the information concluded in table 2, we can see that most of the studies considered customer/brand experience as a holistic construct consisting of multiple dimensions. However, when measuring the impacts of the experience constructs on behavioral intentions, none of the studies validates the impact of the individual dimension.

The most relevant study concerning this topic is the one conducted by Brakus et al. (2009), whose research model proposed the effect of each individual brand experience dimension on brand personality, satisfaction and loyalty. However, in the empirical study, they still only validated the impacts of brand experience as a holistic concept on brand personality, brand satisfaction and brand loyalty rather than the impacts of each individual dimension, and the results showed positive effects on all the relationships. Since their conceptualization of brand experience and empirical study showed that experiences provide value and generate positive outcomes, they assumed that experiences are inherently positive.

Later on, when investigating the impacts of brand/customer experience in the service organizations, Skard et al. (2011) discussed about the multidimensional scales of brand experience and the assumption that experiences inherently are positive. In order to check whether this assumption is true in the service contexts, they further tested the model designed by Brakus et al. (2009) and also investigated the impacts of each individual dimension of brand experience. In the empirical study, they used the service brands to test the experience scales and added one additional experience dimension, the relational dimension, due to its high relevance with the use of service brands. In contrast with the findings concluded in Brakus et al.'s (2009) study, the results in Skard et al.'s (2011) study show a negative effect of brand experience on brand satisfaction, which indicates that strong brand experience in service contexts may also be negative. To further explain this negative effect, they test the impacts of the individual dimensions of brand experience on the outcome constructs. The results reveal that the affective and intellectual dimensions of brand experience have negative effects on brand satisfaction. Consequently, they suggest that the experience dimensions should be investigated

separately when researchers want to interpret the effects of brand experience on customer satisfaction and loyalty.

#### **4.5 The theory of trying**

The theory of trying was built on the theories of goal pursuit and planned behavior to predict how the behavioral outcomes influence attitudes toward trying to achieve a goal (Bagozzi & Warshaw, 1990). Bagozzi & Warshaw (1990) suggest that people form multidimensional attitudes toward goals other than unidimensional attitudes toward actions. This theory provides evidence to explain the impact of past trying on future trying over the roles of attitude and social norm in the determination of behavioral intention. Further studies even found an additional direct impact of past trying on future trying over the effect of intention alone (Bagozzi & Warshaw, 1990).

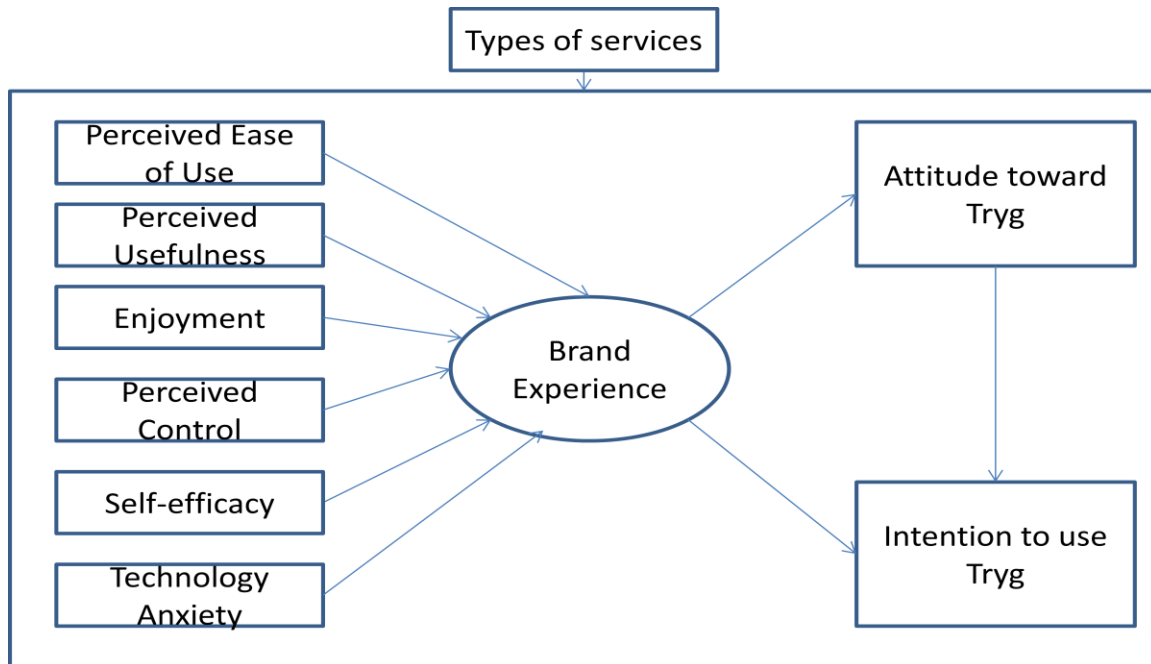
With the investigation on the internet shopping, Dabholkar & Bagozzi (2002) propose that “the outcomes experienced from achieving goals related to internet shopping will have a direct effect on attitude toward internet shopping” (p. 436). In addition, according to Wang et al. (2012), compared with SST characteristics and other individual differences, past SST experience influence attitudes toward SST and behavioral usage of SST in a more complex manner.

## **5. Conceptual Model and Hypotheses**

The purpose of this study is mainly to investigate the effects of SSTs on brand experience, brand attitudes and the intentions to use the brand. It is predicted that the use of SSTs may change people's perceptions on brand experience compared with the situation when they interact with the service personnel. It is also expected that brand experience will have a direct impact on brand attitudes and intentions to use the brand based on the theory of trying. Thus, brand experience in this study can be seen as a mediating factor in the relationship between the effects of SSTs on brand attitudes and intentions to use the brand. To make the model easier to read, brand experience will be used as an aggregated construct instead of being divided into individual dimensions in the model.

As concluded in section 3.3.1, seven SST-related characteristics have been identified as key drivers to affect attitudes toward SSTs, intentions to use SSTs. Since in this study, the investigated SST is provided by Tryg, it is also expected that these seven factors will have direct impacts on attitudes toward Tryg and intentions to use Tryg. However, based on the discussions on the difference between perceived usefulness and reliability by Weijters et al. (2007), one can also say that reliability is one of the benefits to use the SSTs. Under this logic, reliability can then be seen as one aspect of perceived usefulness. In this study, this logic is applied and only the variable of perceived usefulness is chosen to be tested in the model. In conclusion, the following six factors are finally identified as the independent variables in the model: perceived ease of use, perceived usefulness, enjoyment, perceived control, self-efficacy, and technology anxiety.

With the consideration of the moderating effects of the types of services, the conceptual model used in this study can be proposed as below in Figure 2,



**Figure 2: Conceptual model**

The following hypotheses will be made based on this conceptual model,

### **5.1 The effects of SST-related characteristics on Brand Experience**

#### *Perceived ease of use*

As concluded in the literature overview, the positive impact of perceived ease of use on attitudes toward SSTs, intentions to use SSTs and satisfaction with SSTs indicates that the easier it is to use the SST option, the more positive feelings and stronger behavioral intentions the consumer will have toward using such option. Since the SST option is usually provided by a certain brand, the direct or indirect interactions between the consumer and the SST option offered by the brand will create a unique brand experience to the consumer. As stated in section 4.3, brand experience is a multidimensional construct including all the sensory, emotional, cognitive, and behavioral responses (Brakus et al., 2009). The positive feelings and strong behavioral intentions evoked by interacting with an SST option which is perceived as easy to use will make the brand experience positive. Thus, the following hypothesis can be assumed:

Hypothesis 1: Perceived ease of use positively influences brand experience

### *Perceived usefulness*

The definition of perceived usefulness given by Weijters et al. (2007) indicates that users get more potential value from using the SSTs perceived as more useful, and consequently consumers are more willing to use these SSTs. The additional value provided by the useful SSTs offered by a brand will certainly create more positive feelings toward the brand and enhance consumers' stronger behavioral intentions to use the brand, thus the brand experience evoked by interacting with the SSTs because of this characteristics will also be positive. Thus, the next assumption will be made as follows,

Hypothesis 2: Perceived usefulness positively influences brand experience

### *Enjoyment*

According to Holbrook and Hirschman (1982), a very important perspective in consumer consumption behavior is their experiential view on fantasies, feelings and fun involved in the process. Thus, the fun aspects of the activities in which consumers are involved are significant to their evaluations toward the experience. Concerning the use of SSTs, as stated in section 3.3.1, enjoyment is identified as a significant determinant on consumer's decisions to use such options and has been proven to pose a positive impact on consumer attitudes toward using such options. Based on these arguments, the brand experience will be perceived as more positive if the SST options are perceived as more enjoyable. Thus, the following hypothesis can be suggested,

Hypothesis 3: Perceived enjoyment positively influences brand experience

### *Perceived Control*

It has been suggested that the feelings of expected control can make people's interactions with others more comfortable (Schutz, 1966, cited in Hui & Bateson, 1991) and in the environmental psychology field, it has also been shown that the expected control in the environment can give people confidence to feel and behave more positively (Proshansky et al., 1974, cited in Hui & Bateson, 1991). Based on these arguments, Hui & Bateson (1991) have also tested their own assumptions that in the service encounter, perceived control on the interactions with the service personnel positively influences emotional, and

further, behavioral responses to the encounter. It can be assumed that this conclusion can also be applied to the situation when consumers interact with the technology, that is, the use of SSTs under a brand. Therefore, the assumption below can be made,

Hypothesis 4: Perceived control positively influences brand experience

#### *Self-efficacy*

It has been shown that people with high self-efficacy are willing to put more efforts to discover the potential value of the new service options and take advantages of the maximum service benefits (Beuningen et al., 2009). In addition, it has also been stated above that people with higher self-efficacy will have more intentions to use the SST options in an unfamiliar situation because of the benefits of using the SST options (Oyedele & Simpson, 2007). Under these arguments, it can be predicted that higher self-efficacy can also bring better brand experience to the consumers. Thus, the following hypothesis will be suggested:

Hypothesis 5: Self-efficacy has a positive influence on brand experience

#### *Technology anxiety*

As stated in section 3.3.1, high level of technology anxiety can make people reluctant to try to use SSTs and pose a negative impact on influencing consumer intentions to use the SSTs (Oyedele & Simpson, 2007). Additionally, high technology anxiety will not only hinder people from actually using the SST options, but also make their experience of using the SST options worse (Meuter et al., 2003). People's reluctant intentions to use the SSTs and the negative feelings generated by using SSTs because of their technology anxiety will also make their experience with the brand unfavorable. Thus, the following hypothesis can be assumed:

Hypothesis 6: Technology Anxiety negatively influences brand experience

## **5.2 The relationships among brand experience, attitudes toward Tryg and intentions to use Tryg**

According to the theory of trying, the consequences of a behavior can influence attitudes toward trying to achieve a goal (Bagozzi & Warshaw, 1990). Based on this theory, Bobbitt & Dabholkar (2001) proposed that experiences in achieving goals relevant to internet shopping directly influence people's attitude toward internet shopping. In addition, when Zarantonello & Schmitt (2010) investigated the moderating effects of experiential types on the relationships between brand attitude and purchase intention, the results indicated that "experiential appeals may directly activate goal-directed or impulsive behaviour" (p.539). That is, favorable brand experience can improve consumers' attitudes toward the brand and increase their intentions to use the brand without further comparison with other brands. Wang et al. (2012) have also concluded that the past experience with SSTs can greatly influence their attitudes toward using the SSTs and actual usage of the SSTs.

It is proposed in the theory of reasoned action and planned behavior that attitudes influence actual behavior through behavioral intentions (Ajzen, 1991). This positive impact of attitudes on intentions has been supported by almost every other study investigating the relationship between these two constructs (Bobbitt & Dabholkar, 2001; Dabholkar & Bagozzi, 2002; Weijters et al., 2007; Zarantonello & Schmitt, 2010).

Based on these arguments, three hypotheses below can be assumed,

Hypothesis 7: Brand experience positively affects consumer's attitudes toward Tryg

Hypothesis 8: Brand experience positively affects consumer's intentions to use Tryg

Hypothesis 9: Consumers' attitudes toward Tryg positively affect their intentions to use Tryg

## **5.3 Moderating effects**

It is predicted that the strength of all the effects presumed in Hypotheses 1-9 may differ across different types of services with the use of SSTs, therefore, the types of services are



considered as the moderator in this study. Presented in figure 1, three types of services can be categorized based on the purposes of offering the SSTs. In this study, the online/internet-based interface was used as the investigated type of SST, meanwhile, the transaction service (transactions purpose) and information service (self-help purpose) were chosen to be tested on their moderating roles. Interpreted by Meuter et al. (2000), the transaction services provided by SSTs allow customers to make orders and purchases without direct contacts with the service personnel, while the information services provided by SSTs mainly enable customers to find the needed information and learn by themselves. Compared with these two types of services, it is assumed that the process to implement the transaction service is a little more complicated than the process to conduct the information service since more procedures and requirements seem to be needed to conduct the transaction service. Based on this argument, it can be predicted that perceived ease of use and self-efficacy are more important for customers to implement the transaction service than the information service. On the other hand, consumers may expect the process to be more enjoyable when they use the information service to get their desired information and educate themselves. These two examples partly illustrate the moderating roles of the types of services and thus can lead to the following proposition:

Proposition 1: Types of services can moderate the effects proposed in the hypotheses 1-9

## Part III Empirical study

### 6. Methodology

#### 6.1 Design

The purpose of this study is mainly to find out the impacts of using SSTs on brand experience and the behavioral intentions, which has not been studied much in the previous studies. In addition, a new model has been developed to identify the possible antecedents and outcomes of brand experience in using the SSTs, and hypotheses have been assumed to predict the relationships between these variables and brand experience. In a case like this, Saunders et al. (2009) suggest that the exploratory design method be used. In this research, a quantitative study was conducted by using quasi experiments and surveys to assess the case brand – Tryg. The surveys are categorized into two types based on the two types of services they intend to investigate. Generally, the survey consists of two parts. The first part describes briefly the company and the relative type of service. The second part, which is the same in all the surveys, includes the questions assessing respondents' evaluations on all the variables (See **Appendix B**). Finally, the study was conducted on April 18, 2012 in Bergen, Norway by the author.

#### 6.2 Description of stimuli

Referring to the descriptions of the two types of services provided by Tryg in **Appendix A**, we can see that the *transaction service* provided by Tryg enables customers to place orders, check their insurance status information, and make changes to their insurance services, while the purpose of using the *information service* offered by Tryg online is mainly for the consumers to learn how to protect their personal properties from theft. Compared with these two types of services based on the descriptions, it is assumed that the process to use the *transaction service* requires more computer skills and more involvement from the customers themselves, e.g. it needs a client ID to log in or the users need to register with their personal identity number and an e-mail address, and the users need to know how to accept usage of cookies to register themselves. Thus, it depends largely on the customers whether this service can be implemented successfully or not. On

the other hand, the procedures involved in conducting the *information service* seem to be much simpler. The information included in this service is provided by Tryg, all the users need to do is to click on the red crosses and information will appear to tell them how to make their properties safer. Thus, it is the service providers' full responsibility to make sure that the information is useful and correct, the customers neither need any specific skills nor use so much effort to implement this service.

### **6.3 Sample**

Students at Norwegian School of Economics (NHH) were chosen as the respondents and a representative sample frame of students at NHH is applied in this study. The sample respondents were drawn from the cafeteria at NHH, where students usually have break to eat or relax. Since cafeteria is a place for all the students to go at any time, it is assumed that the students sitting in the cafeteria are representative for the sampling frame and the sample respondents' characteristics correspond to the characteristics of the sampling frame. According to the statistics on the composition of students at NHH in 2010, there are totally 3162 students studying at NHH, of which 426 (13.5%) are international students and 2736 (86.5%) are norwegian students. On average, 43% of students are female in the bachelor level and 37% in the master level. Most of the students are between 19-25 years old.

In total, 150 questionnaires, divided evenly into two based on the two types of services, were printed out to collect the data for the analysis. The surveys were only handed out to the respondents who agreed to answer, thus almost every selected respondent finished the survey except one who did not have enough time to finish due to her class. At the end of the selection, 142 respondents answered the surveys and 141 of them are valid. Among these valid samples, 74 are for the transaction service, and 67 are for the information service.

### **6.4 Procedure**

In order to reduce the probability that respondents might answer the surveys carelessly, the students observed in the relaxing status were mainly chosen as the targets to answer the surveys. To measure the moderating effects of the types of services, both two kinds of

surveys were handed out evenly and randomly to reduce the bias of the preference on one type of service.

Before answering the survey, the respondents were told to read the description about Tryg and the service first (Refer to **Appendix A**). Then they just followed the instructions to answer the questions afterwards based on the information they obtained from the description (Refer to **Appendix B**). The first category of questions are the items to measure the variables of the six antecedants, which sequentially are perceived ease of use (1,2,3), perceived usefulness (1,2,3), enjoyment (1,2,3), control (1,2,3), self-efficacy (1,2,3), and technology anxiety (1,2,3). All of these 18 items were developed from the relevant items used in the previous studies. Following these 18 items, an additional item was added to measure the complexity of the service described, which will be used to check if my assumption about different types of services with different complexity levels is supported (see section 5.4). The next group of questions were to measure the brand experience with Tryg based on the description text. The brand experience was measured on its four dimensions concluded by Brakus et al. (2009) and the items were also developed from the 12-item brand experience scales concluded in their study. In addition, one more item was added after the 12 items to measure the knowledge level of the respondents on Tryg. To measure the respondent's attitudes toward Tryg and intentions to use Tryg, three items were developed based on the findings from previous studies. Among them, 2 items were used for the measurement of attitudes (1,2) and 1 for intentions. At last, one more question was designed to ask if respondents had any previous experience with Tryg before. In this survey, all the items were measured on a 5-point Likert scale (1= "disagree", and 5= "agree") except that the last question asking respondent's previous experience with Tryg would be measured with the nominal scale (Refer to **Appendix B**). It is estimated that it takes about 10 minutes and does not require any previous knowledge about Tryg to answer the survey.

After respondents finished the surveys, I collected the surveys and showed my appreciation for their participation. Due to the limitations on my own financial situation, there are unfortunately no other rewards for the participants.

## 6.5 Measures

To analyze the collected data to measure the relationships assumed in the earlier discussions based on the model and the literature review, the factor analysis technique is used in this study. According to Hair et al. (2010, p. 94), factor analysis is mainly used to investigate the underlying relationships among two or more variables in the analysis, which matches with the purpose of this study. Thus the factor analysis process suggested by Hair et al. (2010) is applied in this study to conduct the analysis.

According to the factor analysis decision process, there are six main stages involved to conduct the factor analysis, and an additional stage (stage 7) may also have to be included if the factor analysis results will be used in other multivariate techniques (Hair et al. 2010). Specifically, the first stage of the process is to define the research problem in the study. The second stage of the process is to design the factor analysis, which is to identify what variables will be investigated and how, in addition to define the sample size. The third stage is to make the assumptions in the factor analysis to predict the correlations among the variables. The main mission in stage 4 is to extract the desired number of factors. Then the next stage is to interpret these factors and the following sixth stage is to confirm the validation of factor analysis. Stage seven is an additional stage to select surrogate variables or create summated scales for further analysis (Hair et al., 2010). Based on what I have done so far in this study, it can be seen that the first three stages have been finished in the previous sections in the study, thus this section will start from stage 4.

To extract the desired number of factors in this study, Hair et al. (2010) state in their book that there are five main criteria currently applied to decide the number of qualified factors. These five criteria are listed as follows: 1) latent root criterion, which qualifies the factors whose eigenvalues are greater than 1; 2) A priori criterion, which is used to extract a certain number of factors already decided by the reserachers based on their own hypotheses or previous studies; 3) Percentage of variance criterion, used to extract the number of factors which can explain a certain cumulative percentage of total variance, e.g. 95% in the natural sciences and 60% in the social science; 4) Scree test criterion, used to extract ‘the optimum number of factors before the amount of unique variance

begins to dominate the common variance structure’ (p.110); 5) Heterogeneity of the respondents, implying that additional factors can be extracted when high heterogeneity appears among the subgroups of a sample. (Hair et al., 2010)

Firstly, the six antecedents of brand experience were investigated. The items measuring each antecedent can refer to **Appendix B**. Since the number of antecedents has already been decided in the conceptual model, the second criteria mentioned above-‘A priori criterion’— was applied to choose the definite number of factors. However, the other criteria were applied as well to check if the number of factors to be extracted was appropriate for analysis.

To validate the items used to measure the antecedents, the method of the principal component analysis with direct oblimin rotation and ‘A priori criterion’ was applied here. The results were presented in Table 3,

Items	Factors						Communality
	Ease of Use	Usefulness	Enjoyment	Control	Self-efficacy	Technology anxiety	
EoU1	.837						.682
EoU2	.557						.539
EoU3	.645						.673
Usefulness1		.817					.773
Usefulness2		.883					.840
Usefulness3		.666					.588
Enjoyment1			.902				.871
Enjoyment2			.959				.909
Enjoyment3			.942				.857
Control1				.889			.870
Control2				.934			.889
Control3				.901			.843
self-efficacy1					.542		.511
self-efficacy2					.854		.802
self-efficacy3					.828		.714
technology anxiety1						.844	.750
technology anxiety2						.789	.704
Technology anxiety3						.868	.790
Eigenvalues	.918	1.177	2.842	3.297	3.959	1.412	

**Table 3:** First test result of measures of the six antecedents; Principal Component, Direct Oblimin Rotation; The detailed description of each item can refer to Appendix B; the absolute values of coefficients below 0.4 are not revealed in the table

From this table, we can see that if the latent root criterion were applied with eigenvalues greater than 1, five of the six factors will be retained. For the sixth factor, its eigenvalue (0.918) almost reaches 1, thus it could also be considered to be retained (Hair et al., 2010, p. 134). In addition, the scree plot test revealed that ten factors could be extracted. The total variance explained by these six factors was 75.58%. Thus, the decision to extract six factors in this study is reasonable and appropriate.

After the number of factors to extract is decided, the next step is to interpret these factors by judging the significance of factor loadings, representing the strength of the relationships between the variables/factors. Even though all the items describing the factors are taken from the previous studies, it is still important and necessary to test whether the items can appropriately explain the factors in this study before they will be used for further analysis. According to Hair et al. (2010), as a rule of thumb, the absolute factor loading values which are greater than 0.50 are generally considered to be practically significant. However, in this study, it is decided to choose the absolute factor loading values which are greater than 0.6 to make sure that the chosen items are more correlated with the factors and can better interpret the factors. In addition, as it can be seen from Table 4, most of the factor loadings are greater than 0.6, making this decision feasible to be implemented. The factor model is then respecified. In the first round of respecification of the factor model, the items of 'EoU2' and 'Self-efficacy1' are eliminated since their loading values are smaller than 0.6. After these two items were removed, the same analysis was run again and the results showed that the item of 'EoU3' had a loading value lower than 0.6. Removing this item, I ran one more analysis and the result showed that no item had a loading value lower than 0.6. The final results were then presented in table 4.

Items	Factor						Communality
	Ease of Use	Usefulness	Enjoyment	Control	Self-efficacy	Technology anxiety	
EoU1	.955						.945
Usefulness1		.813					.770
Usefulness2		.881					.848
Usefulness3		.677					.665
Enjoyment1			.902				.874
Enjoyment2			.954				.909
Enjoyment3			.936				.863
Control1				.898			.873
Control2				.945			.895
Control3				.917			.845
self-efficacy2					.820		.788
self-efficacy3					.910		.848
technology anxiety1						.856	.751
technology anxiety2						.791	.705
Technology anxiety3						.899	.809
Eigenvalues	.883	1.304	2.842	3.297	3.959	1.412	

**Table 4:** Final test result of measures of the six antecedants; Principal Component, Direct Oblimin Rotation; Each detailed item description can refer to Appendix B; the absolute values of coefficients below 0.4 are not revealed in the table

Based on the final results in Table 4, we can see that all of the chosen items have an absolute factor loading value greater than 0.60, indicating that more than 36% of the variance is accounted for by the single factor. In addition, none of the items has a cross-loading (coefficients below 0.4 are suppressed), nor with a communality value less than 0.50 (Hair et al., 2010, p.119). Thus, these items presented in Table 4 were chosen to be retained in this study for further analysis.

Since all the items are taken from the previous studies, it is reasonable to assume that all the chosen items are also valid in this study. Since the chosen items will be further analysed for their correlations with the brand experience construct, the number of items should be reduced and incorporated into new aggregated variables (Hair et al., 2010, p. 123). Based on the results shown in table 4, it can be seen that under almost all the factor dimensions, there is more than one high factor loading and the values are quite close. This makes the way to select the item with the highest factor loading as the aggregated variable incomplete for interpreting the meanings of all the other items under the same factor dimension. Thus, the method of creating summated scales is applied in this study,



the purpose of which is to make a smaller set of variables to represent the original set of items.

According to Hair et al. (2010), a summated scale is defined as “a composite value for a set of variables calculated by such simple procedures as taking the average of the variables in the scale” (p.142). In this study, six factors have been identified to be analyzed to investigate their influences on the brand experience construct, thus six composite variables should be created to replace the original 15 items (see table 4). In this way, each respondent will have six new variables and these six new variables should have the average value of all the items under the same factor dimension. The dimensionality of each scale is supported by the interpretation of each factor and the next step is to assess the reliability and validity of the new scales ( Hair et al., 2010, p.142).

The Cronbach’s alpha is the most widely used way to measure the reliability of the summated scales (Hair et al., 2010). The reliability analysis for all the new summated scales shows that the Cronbach’s alpha values for each summated scale respectively are, 0.764 for scale ‘Usefulness’, 0.926 for scale ‘Enjoyment’, 0.922 for scale ‘Control’, 0.756 for scale ‘Self-efficacy’ and 0.829 for scale ‘Technology Anxiety’. The scale of ‘Ease of Use’ is mono-operationalized. The Cronbach’s alpha values are all over 0.7, indicating the level of internal consistency among the items in the new summated scales are high (Hair et al., 2010, p.125).

The validity of the new scales is primarily measured in two forms, convergent and discriminant validity. Convergent validity assesses “the degree to which two measures of the same concept are correlated” (Hair et al., 2010, p. 126). High loading value of the item on one factor (usually higher than 0.6) indicate the scale is measuring its intended concept (Hair et al., 2010). Each item of these constructs in this study is selected only if its significant loading value on one factor is higher than 0.6, indicating the convergent validity is satisfactory.

Discriminant validity is the “degree to which two conceptually similar concepts are distinct” (Hair et al., 2010, p. 126). None of the items has significant loadings on more than one factor, indicating the difference between the significant loading ( $>0.6$ ) of the

item on one factor and its loadings on other factors ( $<0.4$ ) is more than 0.2, thus the discriminant validity is satisfactory, too.

The next construct to be measured is brand experience and it will be measured by four experiential dimensions with 12-item scale developed from the findings concluded by Brakus et al. (2009). All of the items measuring the brand experience dimensions are available in **Appendix B**.

To validate the items used in this study to measure the brand experience construct, a factor analysis was conducted in the method of principal component analysis with direct oblimin rotation and the 'Latent root criterion'. The results presented in table 5 revealed three factors with eigenvalues greater than 1. The three factors explained 62.5% of the variance. From table 5, we can see that the 3 sensory items and 3 affective items with significant loadings loaded together on the first factor, the 3 intellectual items and 1 of the behavioral items with relatively lower loadings loaded on the second factor, and 2 of the behavioral items with the highest loadings loaded on the third factor.

This result is quite similar with what has been found in Brakus et al.'s (2009, p.58) study, complying with the fact that all the items are developed from their study. The only difference is the third behavior item, which in this study is 'Tryg seems to be action oriented', has the significant factor loading under the intellectual dimension. The explanation to this could be because english is not the first language of most of the respondents and it is hard to think the brand 'Tryg' as action oriented, causing confusions among the respondents to understand this item.

However, by conducting the confirmatory factor analyses, Brakus et al. (2009) later revealed that the best model to fit their data is the four-factor model with correlated factors, which are sensory, affective, behavioral and intellectual. In this study, I have decided to also analyze the data with a four-factor model. I then re-conducted the analysis with a specification to extract four factors, and the results were shown in table 6,

Pattern Matrix <sup>a</sup>			
	Component		
	Sensory/ Affective	Intellectual	Behavioral
Sensory 1	,739		
Sensory 2	,848		
Sensory 3	,843		
Affective 1	,863		
Affective 2	,724		
Affective 3	,587		
Behavior 1			-,889
Behavior 2			-,883
Behavior 3		,590	
Intellectual 1		,441	
Intellectual 2		,869	
Intellectual 3		,774	
Eigenvalue	4,239	1,999	1,264

**Table 5:** First test result of measures of brand experience; Principal component, Direct oblimin rotation, latent root criterion; Absolute values of coefficients below 0.4 are not revealed in the table

Pattern Matrix <sup>a</sup>				
	Component			
	Sensory	Affective	Behavioral	Intellectual
Sensory 1	,827			
Sensory 2	,912			
Sensory 3	,872			
Affective 1	,756			
Affective 2	,469	-,471		
Affective 3		-,682		
Behavior 1			-,917	
Behavior 2			-,906	
Behavior 3				,601
Intellectual 1		,653		
Intellectual 2				,869
Intellectual 3				,805
Eigenvalue	4,239	0,979	1,264	1,999

**Table 6:** Final test result of measures of brand experience; Principal component, Direct oblimin rotation, A priori criterion; the absolute values of coefficients below 0.4 are not revealed in the table

From table 6, we can see that the four-factor scales in this study do not give a better result on interpreting the affective, behavioral and intellectual dimensions based on the collected data, it is suggested to use the scale as a whole to incorporate the overall meaning of brand experience, which can be viewed as indicating “the overall degree to which a brand evokes experiences in the sense of a single higher-order factor” (Brakus et al., 2009, p.63).

Since the brand experience scale will further be analyzed to investigate its correlations with other constructs, a summated scale substituted as the overall brand experience scale will be created to replace the original 12 items. The internal consistency of the composite scale is quite satisfactory with a Cronbach’s alpha value of 0.818.

The next construct to be evaluated is consumers’ attitudes toward Tryg, which is measured by two items developed based on the findings from Dabholkar & Bagozzi’s (2002) study (See **Appendix B**). A factor analysis (principal component, direct oblimin rotation) was conducted on these two items, the results show that only one factor is extracted with an eigenvalue of 1.632 and both items are loaded on this factor, which explains 81.6% of variance. To use this construct in the further analysis, a summated scale substituted for consumers’ attitudes is created to replace the original two items. The Cronbach’s alpha is 0.773.

The only one item measuring the construct of intention is also developed from the related item proposed by Dabholkar & Bagozzi (2002) (See **Appendix B**). The construct of intention in this study will be represented only by this item.

## **6.6 Descriptive**

After all the variables have been constructed, a descriptive statistics (data include max and min value, mean value, and standard deviation) on these variables is given below in table 7 to give an overview on the respondents’ general evaluations on these variables.

Descriptive Statistics					
Variables	N	Minimum	Maximum	Mean	Std. Deviation
Ease of use	141	3,00	5,00	4,2624	,68291
Usefulness	141	1,33	5,00	3,5390	,86617
Enjoyment	141	1,00	4,33	2,4314	,89489
Control	141	1,00	5,00	3,8038	,91813
Self-efficacy	141	2,00	5,00	4,2092	,73717
Technology anxiety	141	1,00	5,00	2,0532	,94896
Brand Experience	141	1,08	3,92	2,6070	,56772
Attitude	140	2,00	5,00	3,5500	,56358
Intention	135	1,00	5,00	2,9185	,97775

**Table 7:** Descriptive statistics on all the constructed variables (1=disagree, 5= agree)

From this table, we can see that respondents scored high values (Mean>4) on the variables of ‘ease of use’ and ‘self-efficacy’, indicating that they generally think the two online services provided by Tryg is easy to use and also they are confident with their own abilities to operate with these online services. On the other hand, the scores given on the variables of ‘enjoyment’ and ‘technology anxiety’ are relatively low (Mean<2.5), implying that respondents on average do not think the online services provided by Tryg are enjoyable and they are not anxious about using these online services. The standard deviation value explains that the lower the value is, the more the data are close to the mean value; otherwise, the higher it is, the wider range the data are dispersed from the mean value (Standard Deviation).

A correlation matrix is also presented below in table 8,

Correlations									
	1	2	3	4	5	6	7	8	9
1. Ease of use	1								
2. Usefulness	,162	1							
3. Enjoyment	-,007	,142	1						
4. Control	,212*	,458**	-,076	1					
5. Self-efficacy	,259**	,111	,104	,103	1				
6. Technology anxiety	-,115	-,039	,086	,028	-,367**	1			
7. Brand Experience	-,070	,035	,253**	-,001	-,087	,188*	1		
8. Attitude	,245**	,267**	,373**	,188*	,257**	-,020	,268**	1	
9. Intention	,043	,195*	,088	,213*	,001	-,002	,273**	,470**	1
*. Correlation is significant at the 0.05 level (2-tailed).									
**. Correlation is significant at the 0.01 level (2-tailed).									

**Table 8:** *Correlation Matrix of the variables*

From the correlation matrix, it can be seen that except for the correlations with technology anxiety, most of the other correlations between two variables are positive, which complies with most of the proposed hypotheses. Among all the correlations between any two variables, only 16 out of 36 have significant impacts and none of the correlation values is above 0.5, indicating the discriminant validity between the constructs is quite low. Except technology anxiety, all the other variables have a significant and positive correlation with attitude. However, technology anxiety is only significantly and negatively correlated with self-efficacy.

## 7. Results

### 7.1 Test of the core model (without the moderating effects)

The main purpose of this study is to identify the antecedents and outcomes of brand experience in using SSTs, and to investigate the relationships among these variables. Based on the main conceptual model, without considering the moderating effects, four structural models were tested. The first model is to evaluate the correlations between the six antecedents and the brand experience construct, the second is to assess the correlations between the six antecedents and the brand attitude construct, the third is to test the impacts of the six antecedents together with the brand experience construct on the brand attitude construct, the last model is to analyse the aggregate effects of the six antecedents, brand experience and brand attitude on intention to use the brand.

To test these four models, multiple regression tests were run in the SPSS program. For the first model, the six antecedents were placed as independent variables and the brand experience construct was set as the dependent variable. After the test was run, the results were shown in the table chart below,

Dependent variable	Independent variables	Adjusted R <sup>2</sup>	F	p -value	Standardized coefficients $\beta$	p- value
		0.056	2.393*	0.031		
Brand experience	Ease of use				-0,045	0,607
	Usefulness				0,007	0,940
	Enjoyment				0,247**	0,005
	Control				0,025	0,790
	Self-efficacy				-0,052	0,573
	Technology anxiety				0,142	0.116

**Notes:** Significance of path coefficients: \* $p < 0.05$ , \*\* $p < 0.01$

**Table 9:** *The results of path estimates for structural model 1*

From table 9, we can see that the predictive power of the six antecedents on brand experience is moderate ( $R^2=0.056$ ) but significant ( $F=2.393$ ,  $p < 0.05$ ) (Kinneer & Gray, 2009, p.441). In this model, only enjoyment shows a significant and positive impact on brand experience ( $\beta=0.247$ ,  $p < 0.01$ ), supporting H3.

To test the second model, the six antecedents were placed as independent variables, and attitude toward the brand was set as dependent variable. After the linear regression analysis was run, the results were presented as below,

Dependent variable	Independent variables	Adjusted R <sup>2</sup>	F	p -value	Standardized coefficients $\beta$	p- value
		0,230	7,917**	0,000		
Attitude	Ease of use				0,165*	0,039
	Usefulness				0,126	0,146
	Enjoyment				0,344**	0,000
	Control				0,103	0,236
	Self-efficacy				0,165*	0,050
	Technology anxiety				0,030	0,713
<b>Notes:</b> Significance of path coefficients: * $p < 0.05$ , ** $p < 0.01$						

**Table 10:** *The results of path estimates for structural model 2*

From table 10, we can see that the predictive power of the six antecedents on attitude is large ( $R^2=0.230$ ) and significant ( $F=7.917$ ,  $p < 0.01$ ). In this model, three factors, ‘ease of use’, ‘enjoyment’, and ‘self-efficacy’, show significant and positive impacts on brand attitude ( $\beta_{\text{eou}}=0.165$ ,  $p < 0.05$ ;  $\beta_e=0.344$ ,  $p < 0.01$ ;  $\beta_s=0.165$ ,  $p < 0.05$ ).

The third model is similar to the second one, only in this model, the brand experience was aggregated into the independent variables together with the six antecedents. After the linear regression analysis was run, the results were shown as below,

Dependent variable	Independent variables	Adjusted R <sup>2</sup>	F	p -value	Standardized coefficients $\beta$	p- value
		0,271	8,368**	0,000		
Attitude	Ease of use				0,172*	0,027
	Usefulness				0,129	0,125
	Enjoyment				0,287**	0,000
	Control				0,096	0,258
	Self-efficacy				0,179*	0,030
	Technology anxiety				-0,004	0,965
	Brand experience				0,222**	0,004
<b>Notes:</b> Significance of path coefficients: * $p < 0.05$ , ** $p < 0.01$						

**Table 11:** *The results of path estimates for structural model 3*



From table 11, it can be seen that the predictive power of the six antecedents together with brand experience on attitude ( $R^2=0.271$ ,  $F=8.368$ ,  $p<0.01$ ) is larger than the predictive power shown in the second model ( $R^2=0.230$ ,  $F=7.917$ ,  $p<0.01$ ). In this model, besides the three SST-related factors – ‘ease of use’, ‘enjoyment’, and ‘self-efficacy’- have significant and positive impacts on attitude ( $\beta_{\text{eou}}=0.172$ ,  $p<0.05$ ;  $\beta_e=0.287$ ,  $p<0.01$ ;  $\beta_s=0.179$ ,  $p<0.05$ ), ‘brand experience’ is also proven to have a significant and positive impact on attitude ( $\beta_{\text{be}}=0.222$ ,  $p<0.01$ ), supporting H7.

To test the last model, all the six antecedents, brand experience and brand attitude were considered as the independent variables and intention to use the brand was the dependent variable. After the linear regression analysis, the results were displayed as below,

Dependent variable	Independent variables	Adjusted $R^2$	F	$p$ -value	Standardized coefficients $\beta$	$p$ -value
		0,246	6,249**	0,000		
Intention	Ease of use				-0,055	0,498
	Usefulness				0,004	0,962
	Enjoyment				-0,106	0,213
	Control				0,140	0,119
	Self-efficacy				-0,141	0,107
	Technology anxiety				-0,073	0,383
	Brand experience				0,175*	0,035
Attitude				0,481**	0,000	

**Notes:** Significance of path coefficients: \* $p<0.05$ , \*\* $p<0.01$

**Table 12:** Path estimates result for structural model 4

From table 12, it can be seen that the predictive power of all the six antecedents, brand experience and brand attitude on intention to use the brand is large ( $R^2=0.246$ ) and significant ( $F=6.249$ ,  $p<0.01$ ). In this model, only ‘brand experience’ and ‘brand attitude’ show significant and positive impacts on intention to use the brand ( $\beta_{\text{be}}=0.175$ ,  $p<0.05$ ;  $\beta_{\text{ba}}=0.481$ ,  $p<0.01$ ), supporting H8 and H9.

## 7.2 Test of the moderating effects

When the moderating effects are proposed, it is assumed that complexity was the main differentiating characteristic between the two services and the different complexity level

makes the impacts of some variables different under these two types of services. Based on this assumption, it could be seen that I have manipulated complexity through the two stimuli, in which transaction service is assumed to be more complex than information service. In this study, the data to measure the complexity of these two types of services have also been collected. By calculating the mean value for the complexity of these two types of services respectively and the F-value between the two groups, the results were shown in the table below,

Complexity					
	N	Mean	Std. Deviation	F	Sig. ( $p$ )
Transaction service	74	2,09	1,023		
Informaiton service	67	2,03	1,015		
Total	141	2,06	1,016		
Between Groups				0,142	0,707
<b>Notes:</b> '1'=disagree, '5'=agree					

**Table 13:** Mean value and F-value for the complexity of the two types of services

From table 13, we see that on average the respondents think the complexity of these two types of services is on the similar level and they also do not think it is a difficult mission to implement either of these two types of services. In addition, the F-value for the complexity between these two types of services shows no significant differences ( $F=0.142$ ,  $p=0.707$ ), indicating that the manipulation test on the complexity between these two types of services has no difference among the respondents.

Even though the manipulation test on the complexity shows no difference between the transaction service and the information service, the moderating effect is still tested to see whether the strength of the relationship between two variables is different across these two types of services.

In order to do this, first I split all the data into two based on the type of service they belong to, either the transaction service or the information service. For each of these two types of services, all of the four structural models proposed above were analyzed with the linear regression tests in the same way again. Afterwards, the results were compared between these two types of services to see whether there were any differences on the

impacts of the independent variables on the dependent variables. A table summarizing the results by comparing the two types of services on all the four models was shown below (the results presented in table 14 considered only the significant impacts, and since the tests on the second model and the third model showed similar results on the variables which have significant impacts on attitude, I decided to only demonstrate the results from the test on the third model),

Dependent variable	Independent variables	Information service		Transaction service	
		Standardized coefficients $\beta$	$p$ - value	Standardized coefficients $\beta$	$p$ - value
Brand experience	Control	0,393**	0,002	-0,145	0,360
Attitude	Ease of Use	0,333**	0,003	-0,023	0,853
	Usefulness	0,021	0,846	0,277*	0,032
	Enjoyment	0,336**	0,002	0,150	0,220
	Self-efficacy	0,240*	0,049	0,751	0,455
	Brand experience	0,113	0,324	0,247*	0,029
Intention	Brand experience	0,016	0,892	0,256*	0,032
	Attitude	0,496**	0,001	0,390	0,003

**Notes:** Significance of path coefficients: \* $p < 0.05$ , \*\* $p < 0.01$ ; the comparison results only display the significant impacts

**Table 14:** The comparison results on the path estimates between the two types of services

From this table, we can see that when consumers use the information service, control has a more significant impact on brand experience ( $\beta_c=0.393$ ,  $p < 0.01$ ), ease of use, enjoyment and self-efficacy have larger impacts on their attitudes toward Tryg ( $\beta_{eou}=0.333$ ,  $p < 0.01$ ;  $\beta_e=0.336$ ,  $p < 0.01$ ;  $\beta_s=0.240$ ,  $p < 0.05$ ), than when they use the transaction service. On the other hand, usefulness and brand experience appear to be more important for consumers when they use the transaction service than when they use the information service ( $\beta_u=0.277$ ,  $p < 0.05$ ;  $\beta_b=0.247$ ,  $p < 0.05$ ). In addition, brand experience also has a more significant effect on intention to use Tryg when they use the transaction service ( $\beta_b=0.352$ ,  $p < 0.01$ ). The relationship between attitude and intention is not affected much by the types of services since attitude significantly affects intention under both of these two types of services.

Concluded from this table, it can be seen that the relationship between two variables shows quite different results under the transaction service and the information service, indicating the moderating effects of the types of services do exist. Considered that the complexity test did not show any significant differences between these two types of services, it is speculated that other differences between these two types of services cause the results presented in table 14 and this will be further discussed.

### **7.3 Other tests**

It has been indicated by Verhoef et al. (2009) that current customer experience can be affected by past customer experience. In this study, as stated earlier, the survey includes a question asking respondents if they heard about Tryg before. The answers to this question would be able to differentiate the respondents who had previous experience from those who did not, and further to investigate whether their previous experience influenced the overall results.

However, after all the data was collected, it was shown that the number of the respondents who had some previous experience with Tryg (114 out of 141) outnumbered those who had no experience with Tryg (22 out of 141). Among all the respondents, five of them did not answer this question. Since the number of the respondents with the previous experience takes up 80% of the total sample, it could be predicted that the results concluded based on this part of the sample would be similar as the results concluded based on the whole sample.

The actual tests verified this prediction. After I ran the regression tests on all the four models based on the data including only the part of the respondents with previous experience, the following results were concluded: In the first model, only enjoyment had a significant and positive impact on brand experience ( $\beta_e=0.242, p<0.05$ ); In the second model, 'ease of use', 'enjoyment' and 'self-efficacy' have been shown to have significantly positive impacts on attitude ( $\beta_{eou}=0.177, p<0.05$ ;  $\beta_e=0.304, p<0.01$ ;  $\beta_s=0.201, p<0.05$ ); In the third model, 'ease of use', 'enjoyment', 'self-efficacy' and 'brand experience' had significant and positive impacts on attitude ( $\beta_{eou}=0.175, p<0.05$ ;  $\beta_e=0.246, p<0.01$ ;  $\beta_s=0.215, p<0.05$ ;  $\beta_{be}=0.235, p<0.01$ ); In the fourth model, only brand

attitude was revealed to have a significant impact on intention to use the brand ( $\beta_{ba}=0.518$ ,  $p<0.01$ ). Comparing these results with the results revealed in section 7.1, which are based on the whole sample, we can see that these two results concluded almost the same factors which have significant impacts on the dependent variables (except the tests on the last model for the impacts of brand experience on intention to use the brand). In addition, the tests on the data including only the respondents with no previous experience did not reveal any significant impact, which is probably because the number of this sample is too small to conclude any significant impact. Thus, the potential impact caused by the previous experience failed to be analyzed in this study.

## **Part IV Conclusion**

### **8. Conclusion**

#### **8.1 Summary**

The purpose of this study was mainly to investigate the effects of using SSTs on brand experience and the behavioral intentions in the quasi experimental online service settings. To achieve this goal, a conceptual model was intended to be established to understand the relationship between the determinants of brand experience, brand experience, and its outcomes in using SSTs. In addition, this model also considered the moderating role of the types of services on all the impacts. To address the relationships among the variables in using SSTs and the brand experience construct, literature review on the previous studies related to SSTs and brand experience was conducted. In the SST part, different types of SST interfaces and services were first interpreted based on the findings concluded by Meuter et al. (2000). Afterwards, three main outcomes of using SSTs and the relative determinants of these outcomes were discussed. For the brand experience part, the discussion mainly focused on its multidimensionality and its impacts on the behavioral intentions. In the proposed conceptual model, the following six SST-related factors were chosen as the potential determinants of brand experience in using SSTs: ease of use, usefulness, enjoyment, control, self-efficacy, and technology anxiety.

To test all the hypotheses, an empirical study on a service brand –Tryg, which provides several online insurance services, was conducted. The results of the empirical study revealed that the enjoyment aspect was the only significant determinant of brand experience in using the online services. However, several SST-related characteristics, including ease of use, enjoyment, and self-efficacy, were identified as important factors to determine consumer's attitudes toward the brand. In addition, brand experience was also identified as a critical determinant of consumer's attitudes toward the brand, intentions to use the brand. The results also revealed that consumer's attitudes toward the brand had the largest impact on consumer's intentions to use the brand, which complied with the findings concluded from the previous studies.

To investigate the moderating role of the types of services, the data were then divided into two based on the two types of services. By comparing the differences of the significant relationships revealed from the two split samples, the results showed that in the situation of using the information service, control was a more important factor to affect consumers' brand experience and ease of use, enjoyment, and self-efficacy appeared to be more significant in determining consumers' attitudes toward the brand. On the other hand, consumers would expect the online service to be more useful in using the transaction service. Additionally, brand experience was shown to be more significant in influencing consumers' attitudes toward the brand and their intentions to use the brand in using the transaction service.

## **8.2 Discussion**

Regarding the effects of SSTs on brand experience, the findings of this study support only the significant impact of enjoyment on brand experience. The reasons behind this could be explained in many ways. Firstly, the samples in this study are quite unique. The respondents investigated in this study belong to a group of young and highly-educated students, who are believed to be very familiar with the similar online services as provided by Tryg. This background can probably influence the impacts of some SST variables on brand experience, e.g. due to their high level of familiarity with the technology and the similar online service experiences, the respondents probably do not think that the two types of services presented in the experimental settings are difficult at all and are not anxious to handle these types of services. In addition, the moderating effects of age and education in using the SSTs have also been proven to be significant in the previous studies (Weijters et al., 2007; Meuter et al., 2003). Secondly, the stimuli used in this study were only text-based descriptions of the services and most of the respondents have not used or experienced these two types of services provided by Tryg, thus it might be difficult for them to evaluate accurately their perceptions on the characteristics of the online services provided by Tryg. In addition, even though experience can be generated both by direct and indirect contacts with the company, direct contacts (e.g. use the products or services) usually give stronger associations toward the company. Referring to the questions measuring the four dimensions of brand experience (see **Appendix B**), we

can see that most of the questions seem to require the respondents to have relatively long term contacts with the brand –Tryg – to be able to evaluate the items accurately (e.g. ‘Tryg makes a strong impression on my senses’; or ‘I believe I can get strong emotions for Tryg’). Besides, since the investigated brand Tryg is just a service brand providing insurance services, it is hard for the respondents to associate any behavioral motions with the brand (refer to the items measuring the behavioral dimension of brand experience in **Appendix B**). At last, in this study, since the data was not evenly divided by whether the respondents had previous experience with Tryg, the potential moderating impacts of previous experience can not be tested (refer to section 7.3). However, according to Verhoef et al. (2009), the current customer experience can be affected by the past customer experience, it is speculated that some of the insignificant impacts of the variables on brand experience might be caused by this latent impacts of previous brand experience. Thus, this could be an interesting topic to be investigated in the future studies.

Another interesting point to be discussed is the differences in the effects of the antecedents between the two services, which are not caused by the differences in service complexity as I previously assumed (refer to section 7.2). Consequently, it is speculated that some other differences might have caused these differences in effect. Two potential differences between these two types of services are the purpose to conduct the service and the necessity to use the online channel to implement the service. The purpose of implementing the information service is mainly to educate the customers themselves (Meuter et al., 2000), indicating the customers may have no clue on how to find the information. Thus, to be able to get the information as fast as possible, they would expect the way to find the needed information to be easy and under control, e.g. the keywords search function. Otherwise, they could also just call the help center to ask for the information and it is sometimes even more convenient. On the other hand, the purpose of conducting the transaction service is mainly to fulfill the business needs, and the online channel is probably the best way to satisfy these needs since it allows the customers to conduct the transactions without any time and place limits. However, since the procedures to implement this service are quite long and demand some computer skills if the customers want to do it online by themselves, they would expect the online service to help them save more time and be more efficient.



### **8.3 Managerial implications**

The findings in this study provide marketing managers with new evidence emphasizing the importance of enhancing brand experience when offering the technology-based self-services. The results revealed that brand experience poses positive impacts on consumer's attitudes toward the brand and intentions to use the brand. The multidimensionality of brand experience indicates that brand managers need to engage the consumers into every experiential dimension (sensory, affective, intellectual, and behavioral) to create a good brand experience.

When considering providing the online service, brand managers should suggest that the company design the interface more enjoyable and easier to operate. In addition, brand managers should also advise the companies to make the online service option more user-friendly to attract the customers to use it more often, which can significantly increase customers' self-confidence to use the online service in general (Bobbitt & Dabholkar, 2001). In addition, brand managers should also be aware that the determinants for adoption of online service differ across the types of services, thus they should understand the significant differences between the different types of services and make the appropriate adaptations for the certain type of service. This would increase the chance that the customers use the service. For the online information service, managers should make the process more controllable, easy to use, and enjoyable. Additionally, the company should make the system more user-friendly so that customers can use it more often to increase their self-confidence. For the online transaction service, managers should make sure that the process is more efficient and useful.

### **8.4 Limitations and Further Research**

Although this study discovers the new theory to support the important role brand experience plays in using the SSTs, there are still quite a few limitations to be considered. Firstly, only the case of internet-based self-services is used in this study to illustrate the impact of SSTs on brand experience. To make a comprehensive conclusion on the impact, other types of SSTs should also be investigated. Secondly, brand experience is studied as a holistic construct in this study. However, as demonstrated in Skard et al.'s (2011) study,

the impact of each individual dimension of brand experience on satisfaction and loyalty can be different, which makes us expect that the impact of each individual dimension of brand experience on brand attitude and intentions to use the brand can be also different. Thus, the impact of each individual dimension of brand experience on behavioral intentions should be studied in the future. In addition, the impacts of SSTs on each individual dimension of brand experience may also differ. Thirdly, This study only measures intentions to use the brand, further study should also investigate the actual usage of the brand, which is what the brand managers are really concerned and the actual source to bring profits to the company. The importance to study directly on the actual usage is because according to the theory of planned behavior, intentions do not necessarily mean actual usage (Wang et al., 2012, p.57). Last but not least, the respondents investigated in this study only cover a small range of people who are familiar with the investigated online services, wider sample coverage should be investigated in further studies.

The direction of the future research should mainly focus on extending this study by investigating the brand experience in its four individual dimensions. In addition, the future research should use real exposure to the services instead of just descriptions of the services to allow the respondents to have stronger impressions of the brand and it should also investigate a wider range of samples.

## REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Process* , 179-211.
- Ajzen, I., & Fishbein, M. (2005). The influence of attitudes on Behavior. *The handbook of attitudes* , 173-221.
- Arnold, M. J., Reynolds, K. E., Ponder, N., & Lueg, J. E. (2005). Customer delight in a retail context: investigating delightful and terrible shopping experiences. *Journal of Business Research* , 1132-1145.
- Bagozzi, R. P., & Warshaw, P. R. (1990). Trying to Consume. *Journal of Consumer Research* , 127-140.
- Beuningen, J. v., Ruyter, K. d., Wetzels, M., & Streukens, S. (2009). Customer Self-Efficacy in Technology-Based Self-Service. *Journal of Service Research* , 407-428.
- Bitner, M. J., Ostrom, A. L., & Meuter, M. L. (2002). Implementing successful self-service technologies. *Academy of Management Executive* , 96-109.
- 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* , 423-450.
- Brakus, J. J., Schmitt, B. H., & Zarantonello, L. (2009). Brand experience: What is it? How is it measured? Does it affect loyalty? *Journal of Marketing* , 52-68.
- Castro, D., Atkinson, R., & Ezell, S. (2010). *Embracing the Self-Service Economy*. Washington, DC: The Information Technology and Innovation Foundation.
- Chen, S.-C., Chen, H.-H., & Chen, M.-F. (2009). Determinants of satisfaction and continuance intention towards self-service technologies. *Industrial Management & Data Systems* , 1248-1263.
- Childers, T. L., Carr, C. L., Peck, J., & Carson, S. (2001). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of Retailing* , 511-535.
- Cronin, J., Brady, M., & Hult, G. (2000). Assessing the effects of quality, value and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing* , 193-218.
- (2010). *Customer Experience Report North America*. Harris Interactive.
- 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* , 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. *Academy of Marketing Science* , 184-201.
- Dabholkar, P. A., Bobbitt, L. M., & Lee, E.-j. (2003). Understanding consumer motivation and behavior related to self-scanning in retailing. *International Journal of Service* , 59-95.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science* , 982-1003.
- Gentile, C., Spiller, N., & Noci, G. (2007). How to sustain the customer experience: An overview of experience components that co-create value with the customer. *European Management Journal* , 395-410.
- Ghose, K. (2009). Internal brand equity defines customer experience. *Direct Marketing: An International Journal* , 177-185.
- Grace, D., & O'Cass, A. (2004). Examining service experiences and post-consumption evaluations. *Journal of Services Marketing* , 450-461.
- Hair, J. J., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis*. Pearson.
- Ho, S.-H., & Ko, Y.-Y. (2008). Effects of self-service technology on customer value and customer readiness. *Internet Research* , 427-446.
- Holbrook, M. B., & Hirschman, E. C. (1982). The Experiential Aspects of Consumption: Consumer Fantasies, Feelings, and Fun. *Journal of Consumer Research* , 132-140.
- Home-Tryg. (u.d.). Hentet June 4, 2012 fra Tryg:  
<http://www.tryg.com/en/home/index.html>
- Hoyer, W. D., & MacInnis, D. J. (2010). *Consumer Behavior* (5th edition. utg.). South-Western: Cengage Learning.
- Hsieh, C.-t. (2005). Implementing Self-service technology to gain competitive advantages. *Communications of the IIMA* , 77-82.
- Hui, M. K., & Bateson, J. E. (1991). Perceived Control and the Effects of Crowding and Consumer Choice on the Service Experience. *Journal of Consumer Research* , 174-183.
- Jones, M. (1999). Entertaining Shopping Experiences: An Exploratory Investigation. *Journal of Retailing and Consumer Services* , 129-139.
- Kinnear, P. R., & Gray, C. D. (2009). *SPSS 16 made simple*. New York: Psychology Press.
- Lin, J.-S. C., & Hsieh, P.-L. (2007). The influence of technology readiness on satisfaction and behavioral intentions toward self-service technologies. *Computers in Human Behavior* , 1597-1615.

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

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* , 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* , 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* , 50-64.

Meyer, C., & Schwager, A. (2007, February). Understanding Customer Experience. *Harvard Business Review* , ss. 1-11.

Nysveen, H., & Pedersen, P. E. (2011). Self-service technology: An overview of existing research. *SNF Working Paper* , 10-61.

Oyedele, A., & Simpson, P. M. (2007). An empirical investigation of consumer control factors on intention to use selected self-service technologies. *International Journal of Service Industry Management* , 287-306.

Parasuraman, A. (2000). Technology readiness index (TRI): a multiple-item scale to measure readiness to embrace new technologies. *Journal of Service Research* , 307-321.

Pine II, B., & Gilmore, J. (1999). *The Experience Economy*. Boston: Harvard Business School Press.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Prentice Hall.

Shamdasani, P., Mukherjee, A., & Malhotra, N. (2008). Antecedents and consequences of service quality in consumer evaluation of self-service internet technologies. *The Service Industries Journal* , 117-138.

Skard, S., Nysveen, H., & Pedersen, P. E. (2011). *Brand and Customer experience in service organizations: Literature Review and Brand Experience Construct Validation*. Bergen: SNF.

*Standard Deviation*. (u.d.). Hentet May 27, 2012 fra Wikipedia:  
[http://en.wikipedia.org/wiki/Standard\\_deviation](http://en.wikipedia.org/wiki/Standard_deviation)

Verhoef, P. C., Lemon, K. N., Parasuraman, A., Roggeveen, A., Tsiros, M., & Schlesinger, L. A. (2009). Customer Experience Creation: Determinants, Dynamics and Management Strategies. *Journal of Retailing* , 31-41.

Wang, C., Harris, J., & Patterson, P. G. (2012). Customer choice of self-service technology: the roles of situational influences and past experience. *Journal of Service Management* , 54-78.

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* , 3-21.

Yen, H. r. (2005). An attribute-based model of quality satisfaction for internet self-service technology. *The service industries journal* , 641-659.

Zarantonello, L., & Schmitt, B. H. (2010). Using the brand experience scale to profile consumers and predict consumer behavior. *Brand Management* , 532-540.

Zhao, X., Mattila, A. S., & Tao, L.-S. E. (2008). The role of post-training self-efficacy in customers' use of self service technologies. *International Journal of Service Industry Management* , 492-505.

# APPENDIX A

## Scenarios used in the study

### 1. Transaction service

Tryg is offering several online self-services. One of them is a service where you as a customer can log in with client ID and get access to information about your insurances (full overview of all of your insurances at Tryg at the same site), make changes in your insurances (if you need to increase the insurance cover or open new insurances), get access to all online communication between Tryg and you (see illustration below), and place orders and download relevant documents. The small illustration below (text in Norwegian) indicates the log on procedure for the service. If you are not a user of BankID or Buypass, you have to register with your personal identity number and e-mail address. The password has to include between 7 and 20 characters. The password will be sent to you on sms or by mail (letter). You have to accept usage of cookies to get access to the self-service. The larger illustration (also in Norwegian) hopefully gives you understanding of how the online dialogue you have had with the brand is organized and presented to the customer.

The screenshot displays the Tryg online service interface. On the left, there are login options for 'bankID' and 'buypass'. Below these are input fields for 'Fødselsnummer' (ID number) and 'Passord' (password), along with a 'Logg inn' button. To the right, there are links for 'Fødselsnummer og passord' and 'Bedriftskunde?'. The main part of the screenshot shows a message history table with columns for 'Dato', 'Type henvendelse', 'Emne', and 'Status'. Below the table, there are two detailed views of messages, each showing the sender's status, the message content, and the recipient's response.

Dato	Type henvendelse	Emne	Status
16.04.12	Annet	Avtale: 1301927 - Husopp...	Åpen
16.04.12	Annet	Avtale: 1301927 - Husfor...	Åpen
25.06.11	Utførelse ending	Endre: Annet	Lukket
17.01.11	Annet	Hei! Jeg er ansatt i Tryg...	Lukket
27.08.06	Trygghetsavtale	tekst:Har reiseforsikrin...	Lukket
03.07.05	Utførelse ending	Tekst:Jeg har nylig tegn...	Lukket

In addition to the illustrations of the log on procedure (illustration 1) and the dialogue history (illustration 2) given above, the service also provides access to similar overviews of all of the customers' accounts, specifications of all of their insurance accounts, etc.

## 2. Information service

Tryg is offering several online self-services. One of them is a service where the customer can find information about how to prevent damages. The service is interactive and by interacting with the service, customers will learn what kind of precautions they can take to prevent damages. The illustrations below show how the self-service works for one type of damage - housebreaking. By clicking on the red crosses in the pictures, the picture zooms in to the open window and the ladder (Illustration 1), and complementary text explains the importance of closing the windows and hiding the ladder to avoid housebreaking. In illustration 2, you also see that you can click on the red crosses, and get complementary text (in Norwegian) explaining that a garden hose outside the house make it look like people are at home. The two other red crosses in illustration 2 inform you that outside lighting is preventive, and that a radio sound that switches on and off for example every fourth hour may be preventive.



Two illustrations are shown above, but the service includes five pictures with the similar interactive solution where customers can learn more about how to avoid housebreaking. In addition to housebreaking, Tryg also provide similar self service solutions to customers to learn more about how to avoid damages when travelling, how to avoid fire, etc.



## APPENDIX B

### Measures of constructs

---

(All the items to be measured with the 5-point, Likert-type scale: '1= disagree' to '5= agree', except the last item on previous experience, which is measured with the nominal scale)

#### **Ease of Use (Childers et al., 2001)**

The service seems to be clear and understandable

Using the service would not require a lot of mental efforts

The service would be easy to use

#### **Usefulness (Weijters et al., 2007)**

Using the service would make me save time

Using the service would improve my efficiency

The service seems to be useful to me

#### **Enjoyment (Childers et al., 2001)**

Using the service would be fun

Using the service would be exciting

Using the service would be entertaining

#### **Control (Dabholkar et al., 2003)**

The service would give me control of my insurances

The service would let me be in control of my insurances

The service would improve the controllability of my insurances

#### **Self-efficacy (Beuningen et al., 2009)**

I believe that using the service is a task on which I can perform well

I believe that I can master this service

I believe that I can use this service as well as I would like

### **Technology Anxiety (Meuter et al., 2003)**

When given the opportunity to use self-service technologies, I fear I might damage it in some way

I have difficulty understanding most self-service technologies

I hesitate to use self-service technology for fear of making mistakes I cannot correct

### **Complexity**

Using this service would be a complex task

### **Brand Experience (Brakus et al., 2009)**

#### *Sensory experience*

Tryg makes a strong impression on my visual sense or other senses

I find Tryg interesting in a sensory way

Tryg appeals to my senses

#### *Affective*

Tryg induces feelings and sentiments

I believe I can get strong emotions for Tryg

Tryg is an emotional brand

#### *Behavioral*

If I was a customer of Tryg, I would probably have to engage in physical actions and behaviors

If I was a customer of Tryg, it would probably result in bodily experiences

Tryg seems to be action oriented

#### *Intellectual*

I would have to engage in a lot of thinking if I should encounter this brand

It seems like Tryg wants me to think

Tryg stimulates my curiosity and problem solving

**Knowledge level**

I know a lot about Tryg

**Attitude (Dabholkar & Bagozzi, 2002)**

Based on the text you just read, how would you describe Tryg

- 1. Good-Bad
- 2. Dislike-Like

**Intention (Dabholkar & Bagozzi, 2002)**

Based on the text you just read, would you intend to be a customer of Tryg

- 1. unlikely-likely

**Previous experience**

Have you heard about Tryg before?

Yes \_\_\_\_\_ No \_\_\_\_\_