Spring 5-29-2015

Why Should I Do It Myself? Hedonic and Utilitarian Motivations of Customers' Intention to Use Self-service Technologies

Alexandra Cetto
University of Regensburg, alexandracetto@googlemail.com

Julia Klier
University of Regensburg, julia.klier@wiwi.uni-regensburg.de

Mathias Klier
University of Regensburg, mathias.klier@wiwi.uni-regensburg.de

ISBN 978-3-00-050284-2

WHY SHOULD I DO IT MYSELF? HEDONIC AND UTILITARIAN MOTIVATIONS OF CUSTOMERS' INTENTION TO USE SELF-SERVICE TECHNOLOGIES

Complete Research

Cetto, Alexandra, University of Regensburg, Regensburg, Germany, alexandra.cetto@ur.de

Klier, Julia, University of Regensburg, Regensburg, Germany, julia.klier@ur.de

Klier, Mathias, University of Regensburg, Regensburg, Germany, mathias.klier@ur.de

Abstract

Customer self-service technologies (SST) have been gaining increasing economic importance given their proliferation in the customer service industry. Self-service kiosks have gradually been replacing traditional service employees and their progress is expected to continue. The growing relevance of SST results in the need for companies to understand why customers are willing to use SST and which motivations drive SST adoption. Two central constructs determine a customer's willingness to use SST, namely utilitarian and hedonic value. Thus, the aim of this paper is twofold: first, we explore the multidimensional nature of utilitarian and especially hedonic value. Second, we examine their relative importance in determining repeat use intention, depending on a customer's prior experience with SST. We develop a research model based on means-end chain (MEC) theory. The results underline that both values positively influence repeat use intention of SST. While hedonic value is prevalent for customers with little experience, utilitarian value weights stronger for customers with more experience.

Keywords: Self-service technology, Repeat use intention, Utilitarian value, Hedonic value.

1 Introduction

Self-service technologies (SST) have become increasingly important within the customer service industry. The amount spent on technology-based self-service solutions was estimated to exceed $5.8 bn in 2013 (Dabholkar and Spaid, 2012). For North America, self-service kiosk transactions are predicted to have surpassed one trillion dollars by the end of 2014 (Giebelhausen et al., 2014). Despite the rapid technological change, the fundamentals of superior service remain the same. Customers appreciate being recognized, listened to, valued and cared for – even in times of technological changes (Trend Watching, 2014). However, service employees who used to provide these values to the customers are gradually replaced by technology-facilitated interactions. Automated teller machines in banking, self-checkout systems in supermarkets, and services over the internet such as online check-in for flights have become an integral part of today's fast-paced world (Wang et al., 2013). Due to the rapid evolution of technology, the development of SST is expected to proceed and become an integral part of service delivery (Beatson et al., 2007). Based on this development, it is important to understand why customers are willing to use SST and which motivations drive SST adoption.

Prior research has begun to investigate the use and adoption of SST in firm-customer interactions (Bobbit and Dabholkar, 2001; Curran and Meuter, 2007; Dabholkar and Bagozzi, 2002; Lee et al., 2012; Meuter et al., 2000; Meuter et al., 2005). Researchers argue that the adoption of technology in general is determined by utilitarian influence factors like Perceived Usefulness and Perceived Ease of Use based on the Technology Acceptance Model (TAM) (Davis, 1989; Venkatesh and Bala, 2008). Additionally, it has been shown that the adoption of technology can be better explained when integrat-

ing hedonic influence factors like Perceived Enjoyment (Agarwal and Karahanna, 2000; Dabholkar, 1996; van der Heijden, 2004; Venkatesh., 2000; Venkatesh et al., 2012). For using SST, research has already explored utilitarian motivations such as time savings, reliability, and increased control (Alreck and Settle, 2002; Curran and Meuter, 2007; Dabholkar, 1996; Dabholkar et al., 2003; Davis et al., 1989; Meuter et al., 2000). However, far less research has investigated the hedonic nature of SST and little is known about the composition of hedonic value. Combining both views, we believe that SST are dual technologies with both utilitarian and hedonic motivations. Additionally, prior studies in other contexts have shown that the factors that motivate initial or repeat purchase intention are quite different, depending on prior experience (e.g., initial purchase vs. repeat purchase) (Cheung et al., 2003; Kim and Gupta, 2009; Parasuraman, 1997; van der Heijden et al., 2003). Hence, we assume that utilitarian and hedonic motivations to use SST vary with customers' prior experience with SST.

To improve our understanding, this paper develops a new model to explore why customers are willing not only to use SST but rather to reuse SST. More specifically, as the reasons for reuse intention of SST vary from other technologies, we examine the unique composition and thus the multidimensional nature of utilitarian and especially hedonic value and their relative importance in determining repeat use intention of SST. Thereby, we provide further insights into what differentiates SST from other technologies. Moreover, we analyse how a customer's prior experience with SST moderates the influence of the values on repeat use intention and therefore gain an understanding of the differences between different customer groups with specific experience levels. The research questions driving this study are: 1) *What are the benefits of utilitarian and especially of hedonic value for using SST?* 2) *Do customer motivations for using SST differ with varying customer SST experience?* To investigate these questions we build upon means-end chain (MEC) theory (Gutman, 1997) which states that customers obtain their values (ends) through positive consequences or benefits deriving from the attributes (means) of an act. The study helps us to gain a better understanding of how the importance of utilitarian and hedonic value differs for a customer's repeat use intention of SST.

The remainder of the paper is organised as follows: In Section 2, we review the theoretical foundations and related literature. The description of the research model in Section 3 is followed by the research methodology and the results in Section 4. Afterwards, we discuss theoretical and practical implications in Section 5. In Section 6, we conclude with a brief summary of our research.

2 Theoretical Background

SST are technological interfaces "that enable customers to produce a service independent of direct service employee involvement" (Meuter et al., 2000, p. 50). Compared to personal services, SST constitute a relatively new service delivery model (Beatson et al., 2007) that has changed the nature of the service delivery process in depth (Wang et al., 2013; Meuter et al., 2000). As Yan et al. (2013) point out, most research on SST focuses on either 1) the outcomes of SST adoption (e.g., Weijters et al., 2007), 2) the determinants of SST adoption (e.g., Curran and Meuter, 2007; Venkatesh et al., 2012), or 3) the benefits of and reasons for SST adoption (e.g., Bitner et al. 2002; Meuter et al., 2000). Studies in these fields which are important for our research questions are summarized below. Furthermore, we illustrate the foundation of MEC theory (Gutman, 1997) which serves as basis for our research model.

2.1 Adoption theory and outcomes of self-service technology adoption

User acceptance has been seen as the most important factor in determining the success or failure of any information system project (Davis, 1993). User acceptance can be defined as "the demonstrable willingness within a user group to employ information technology for the tasks it is designed to support" (Dillon and Morris, 1996, p. 3). It was conceptualized as an outcome variable in a psychological process when users make decisions about technology (Dillon and Morris, 1996). To predict information technology acceptance, the most prevalent model is Davis' (1989) TAM. TAM is derived from the Theory of Reasoned Action which states that beliefs influence intentions, and intentions influence one's actions (Ajzen and Fishbein, 1975). Thus, TAM builds a causal chain "linking external variables

to […] actual use" (Davis and Venkatesh, 1996, p. 20). In that context, researchers have shown that the intention to use is the strongest predictor of actual use (Davis et al., 1989; Taylor and Todd, 1995).

Against this background, intention to use and repeat use intention have been commonly used as an outcome variable in the context of SST adoption (Curran and Meuter, 2005; Lee et al., 2012; Meuter et al., 2005; Venkatesh et al., 2012). In our research we use the outcome variable repeat use intention that reflects the subjective probability that a customer will continue to use SST from the same company. Compared with potential customers, "repeat (i.e. experienced) customers are better at comprehending and evaluating the information and attributes" of SST due to their experience (Chiu et al., 2012, p. 5).

2.2 Determinants of repeat use intention of self-service technologies

Human motivations, cognitive (utilitarian) as well as affective (hedonic), are aimed primarily at individual gratification and satisfaction (McGuire, 1974), which provides the theoretical basis for explaining why people engage in SST. Previous research mainly focuses on the utilitarian aspects of SST usage, described as task-related values such as time savings or reliability (Bitner et al., 2002; Dabholkar, 1996; Dabholkar et al., 2003; Hoffman and Novak, 1996; Meuter et al., 2000) that "aim to provide instrumental value to the user" (van der Heijden, 2004, p. 695). Utility is thus considered as "the potential rewards or punishments that an individual may expect from engaging in a given behaviour" (Curran and Meuter, 2007, p. 285). Lee et al. (2012) for example assert that compared to the traditional counter, SST enable customers to save time. Dabholkar et al. (2003) state that people prefer SST because they give them control and are reliable and easy to use.

However, traditional utilitarian explanations ignoring hedonic value are insufficient to reflect the reasons for SST usage (Curran and Meuter, 2007). Most people are intrinsically pleasure-seeking in nature (Holbrook and Hirschman, 1982). In contrast to utilitarian value, hedonic value grounds in the "aim to provide self-fulfilling value to the user" (van der Heijden, 2004, p. 696). Based on this reasoning, the initial TAM (utilitarian-oriented) was extended to include a new construct called Perceived Enjoyment to take into account the fun factor of using a technology (van der Heijden, 2004; Venkatesh and Bala, 2008). Also in the context of SST, customers typically desire to obtain a feeling of pleasure (Dabholkar et al., 2003). Dabholkar (1996) for example states that customers are more likely to use SST if it looks like being fun (Dabholkar, 1996). Curran and Meuter (2007) found that fun is even more important than utility for influencing the adoption of SST (Curran and Meuter, 2007). Dabholkar and Bagozzi (2002) suggest that people are more attracted by SST if their usage is enjoyable.

We believe that both views should be combined and postulate that SST are dual technologies that are both hedonic- and utilitarian-oriented. Thus, both values have to be considered as key determinants in understanding the customers' repeat use intention of SST. Accordingly, this study adopts a two-dimensional conceptualisation of customer value.

2.3 Benefits of self-service technology adoption

2.3.1 Utilitarian benefits of using self-service technologies

The reasons why customers adopt SST "depend upon the benefits they can receive from SST usage" (Yan et al., 2013, p. 3). Reflecting the literature, the most important utilitarian benefits of using SST include time savings (Dabholkar, 1996), control (Bateson, 1985), reliability (Davis et al., 1989), ease of use (Lee et al., 2012), and avoidance of service employees (Meuter et al., 2000).

First, SST can allow for the actual transaction to be performed more quickly than by a service employee, thus leading to time savings for the customer (Dabholkar, 1996; Dabholkar et al., 2003). Advantages in this category include shorter waiting time as well as less time taken for the actual service delivery (Dabholkar, 1996). A further benefit of using SST is the user's feeling of being in control of the process of service delivery when being responsible for the service him- or herself (Bateson, 1985; Dabholkar, 1996; Dabholkar et al., 2003; Sarel and Marmorstein, 2003). In addition, for technologies it is particularly important to prove their reliability to the customer to reduce the feeling of uncertainty

(Walker et al., 2002). Reliability refers to how accurately the orders will be fulfilled by SST (Dabholkar, 1996). Naturally, a customer is more likely to use SST if they work properly. Due to technological accuracy, SST are perceived as preventing mistakes a service employee might make, such as charging a wrong price (Dabholkar, 1996; Dabholkar et al., 2003). Beyond these benefits, the effort to use the technology and the complexity of the process of service delivery are of crucial importance for the decision. These two criteria – effort and complexity – are related and comprised in the concept ease of use (Dabholkar, 1996), which is important for customers' adoption of SST (Davis, 1989; Dabholkar and Bagozzi, 2002; Dabholkar et al., 2003; Lee et al., 2012; Meuter et al., 2000). Avoiding interactions with the service employee which may be inevitable at the traditional service counter is also seen as a benefit (Dabholkar, 1996; Dabholkar and Bagozzi, 2002; Lee et al., 2012; Meuter et al., 2000).

Utilitarian benefits of SST	References
Time Savings	Alreck and Settle (2002), Dabholkar (1996), Dabholkar et al. (2003), Lee et al. (2012); Meuter et al. (2000)
Control	Bateson (1985), Dabholkar (1996), Dabholkar et al. (2003), Hoffman and Novak (1996), Sarel and Marmorstein (2003)
Reliability	Dabholkar (1996), Dabholkar et al. (2003), Davis et al. (1989), Weijters et al. (2007), Yan et al. (2013)
Ease of Use	Dabholkar and Bagozzi (2002), Dabholkar et al. (2003), Meuter et al. (2000), Lee et al. (2012), Weijters et al. (2007)
Avoidance of Service Employee	Bateson (1985), Dabholkar (1996), Dabholkar and Bagozzi (2002), Langeard et al. (1981), Lee et al. (2012), Meuter et al. (2000)

Table 1. Utilitarian benefits of using SST.

2.3.2 Hedonic benefits of using self-service technologies

Researchers suggest that future work on SST adoption should particularly address hedonic reasons (Bagozzi, 2007; van der Heijden, 2004; Venkatesh, 2000). Dabholkar (1996) states that customers are more likely to use SST if they look like being fun. This enjoyment is referred to as "the feeling arising intrinsically from interacting with […] or from the novelty aspect" of a technology (Dabholkar, 1996, p. 35). Langeard et al. (1981) found that people who enjoy playing with machines prefer self-service options. Thus, the benefit enjoyment is important to customers when evaluating technological options, such as SST. Closely related to the enjoyment aspect is the novelty seeking aspect of a technology which encourages customers to try new things. Novelty seeking is referred to as "the desire to seek out new stimuli" (Hirschman, 1980, p. 284). Agarwar and Karahanna (2000) analysed the customer's personal innovativeness and showed that it has a positive influence on the attitudes toward and intention to use technological products. Accordingly, customers with a higher inclination toward novelty seeking are more willing to use technology-based products, such as SST, have a stronger intrinsic motivation to use them, and enjoy the stimulation of trying new ways to approach old problems (Dabholkar and Bagozzi, 2002; Hirschman, 1980; Parasuraman, 2000). Another hedonic benefit closely related to enjoyment is the feeling of being challenged (Ghani, 1991; Koufaris, 2002; Novak et al., 2000). The challenges presented by an activity are among the most important predictors of flow (Novak et al., 2000). The concept of flow was introduced by Csikszentmihalyi (1975) to "understand enjoyment […] as ongoing process which provides rewarding experiences in the present" (Csikszentmihalyi, 1975, p. 9) and is referred to as "a cognitive state" (Novak et al., p. 24) derived from "activities which are enjoyable themselves" (Csikszentmihalyi, 1975, p. 2). Using a technology such as SST properly can be a challenge in such a way that the customer may perceive it as a demanding experience to go through the process without failure. Comparable with a game, a feeling of satisfaction arises if he or she succeeds in doing so (Koufaris, 2002). This positive technology experience affects both customer responses and the intention to return in the future positively (Koufaris, 2002).

Hedonic benefits	References
Enjoyment	Dabholkar (1996), Davis et al. (1992), Langeard et al. (1981)
Inherent Novelty Seeking	Agarwar and Karahanna (2000), Dabholkar and Bagozzi (2002), Hirschman (1980), Parasuraman (2000)
Challenges	Ghani et al. (1991), Koufaris (2002), Novak et al. (2000)

Table 2. Hedonic benefits of using technologies.

2.4 Means-end chain (MEC) theory

According to MEC theory (Gutman, 1997), customers think about products and services in terms of attributes. Attributes are the means through which the desired (positive) consequences and values (ends) may be achieved. As positive feelings only derive from benefits, the desired outcomes can be set equal with benefits (Woodside, 2004). Based on MEC theory, customers choose actions that avoid undesired and produce desired consequences. Once they have learned which acts produce the desired consequences (benefits) and values, they adapt their choice behaviour accordingly (Gutman, 1997). In other words, customers do not use services and products because of their attributes, but because of their values and benefits. MEC theory describes a hierarchy of goals: attributes are the lowest level, leading to the second level, the benefits, which then lead to the goals or values, which motivate customers to engage in a certain choice behaviour. Moreover, MEC theory says that customer behaviour is value driven, which means that the customers' choice patterns are, ultimately, influenced by the perceived values (Gutman, 1997). Accordingly, in the case of SST, utilitarian and hedonic benefits are the sub-goals which lead to the higher goals or utilitarian and hedonic values, with these higher goals being the final goals that trigger repeat use intention. MEC theory does not explicitly link value to behavioural intention, but a number of empirical studies have confirmed their relationship (Jones et al., 2006; Parasuraman and Grewal, 2000). Therefore, whereas TAM explains how Perceived Usefulness and Perceived Enjoyment are linked to intentions to use and actual use, MEC theory particularly covers the relationships between attributes, benefits, and values and thus additionally provides the basis for the connection between utilitarian and hedonic benefits and values. This benefit-value-intention linkage forms the basis for our research model.

3 Research Model

Based on the theoretical background, this study states that repeat use intention of SST is determined by utilitarian and hedonic value. It adopts a two-dimensional conceptualisation of customer value deriving from underlying benefits and leading to repeat use intention. Both values are operationalised as latent and formative second-order constructs formed by the underlying benefits as sources of their value. The benefit-value-intention linkage based on MEC theory as well as the connection between usefulness, enjoyment, intention to use, and actual use derived from TAM form the basis for the development of our model. The proposed relationships are shown in Figure 1 and discussed below.

Utilitarian and hedonic value are important results which determine a customer's future behaviour choices through feedback loops into the decision processes (Babin et al., 1994). Consequently, customers should have higher repeat use intentions if SST can provide higher utilitarian and hedonic value. Therefore, we propose the following hypotheses:

H1: Utilitarian value influences customers' repeat use intention positively.

H2: Hedonic value influences customers' repeat use intention positively.

Cheung et al. (2003) and van der Heijden et al. (2003) show that online repeat purchase intentions differ, depending on prior experience. We assume that this is similarly applicable to SST. Once customers have learned how to use SST, this positive or negative experience influences their future use intention accordingly. Therefore, we propose the following relationship:

H3: Prior experience with SST influences repeat use intention.

MEC theory states that customers choose actions that avoid undesired and produce desired consequences. Therefore, we presume that they learn from their experiences with SST and appreciate different values depending on their experience level. Kim and Gupta (2009) state that experienced customers are better than potential customers at evaluating attributes due to their experience, and they update the appraisals of the criteria through successive purchases (Kim and Gupta, 2009). Accordingly, a higher experience level may shift customers' focus between hedonic value, for example derived from the excitement of first usage, and utilitarian value. Hence, we also propose the following hypotheses:

H4: Prior experience moderates the influence of utilitarian value on repeat use intention.

H5: Prior experience moderates the influence of hedonic value on repeat use intention.

To monitor possible disruptive effects, we use the four control variables technology affinity, gender, age, and education.

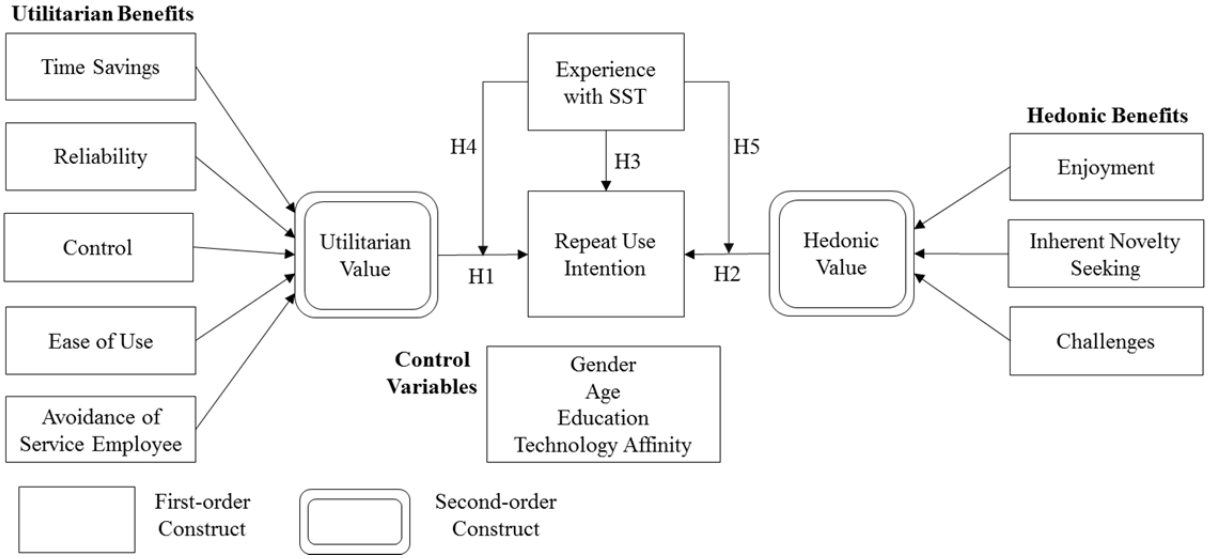

Figure 1. Research model.

4 Research Methodology and Results

For data collection, this study adopts the field survey methodology. We considered a survey of customers of a store providing SST to be an effective method for capturing the proposed constructs and their impacts on repeat use intention (cf. Chiu et al., 2012). In the following, we provide details with respect to the development of the measures, the administration of the survey, and the analysis via Structural Equation Modelling (SEM) techniques.

4.1 Measurement development

We adapted measures from previously validated multi-item scales to foster reliability and validity of measurement. The design of the survey followed standard instrument construction procedures (Atteslander, 2010). Items for measuring utilitarian value were adapted from Dabholkar (1996). To measure hedonic value, we combined constructs from Dabholkar (1996), Mehrabian and Russell (1974), and Novak et al. (2000) and adapted them to the context of SST. Definitions of each construct have been given in Section 2. Items and measurement scales are provided in the appendix. We use a five-point Likert scale, scaled from strongly disagree (1) to strongly agree (5).

4.2 Survey administration

We administered a survey consisting of questions capturing the constructs encompassed in the research model. The target group were customers of a German IKEA store. IKEA was chosen, because

it has already introduced SST in terms of self-service kiosks in Germany some years ago thus enabling us to gain data from customers with different experience levels. That way, we could revert to a big and diverse group of customers. For this study, a total of 455 customers were asked to report about their motivations for using the self-service kiosks. The survey yielded a total of 433 complete and valid responses for data analysis. Table 3 provides demographic information about the respondents.

Measure	Items	
Gender	Male (n=157; 36.26%)	Female (n=276; 63.74%)
Age	14-19 (n=42; 9.70%)	40-49 (n=53; 12.24%)
	20-29 (n=199; 45.96%)	50-59 (n=37; 8.55%)
	30-39 (n=97; 22.40%)	>60 (n=5; 1.15%)
Education	University (Master, Bachelor) (n=154; 35.57%)	Elementary school (n=121; 27.94%)
	Secondary Education (n=156; 36.03%)	No degree (n=2; 0.46%)

Table 3. Demographic information about the respondents (n=433)

4.3 Analysis and results

The research model includes two construct types: first-order constructs (utilitarian and hedonic benefits) and second-order constructs (utilitarian and hedonic value). In the following, we apply a two-step approach (cf. Anderson and Gerbing, 1988; Chiu et al., 2012). The first step examines the composition of the first-order constructs (measurement model), while the second step tests the structural relationships among the latent second-order constructs (structural model). The objective is to ensure the reliability and validity of the measures before examining the structural model parameters (Anderson and Gerbing, 1988; Chin et al., 2003). For our analysis, we chose Partial Least Squares (PLS) and the software package Smart PLS 2.0M3 for the following reasons: First, PLS is recommended for studies including formative constructs as it enables latent constructs to be modelled both as formative and reflective indicators (Lowry and Gaskin, 2014). Second, PLS uses a component-based approach and thus places minimal restrictions on sample size, measurement scales, and residual distribution (Chin, 1998). We operationalise utilitarian and hedonic value as formative second-order constructs as they are latent variables composed of manifest measurement variables causing changes in them.

4.3.1 Measurement model

The second-order constructs were measured by the observed variables for the first-order constructs. We used the approach of repeated manifest variables. This "repeated indicator" approach works very well if the second-order construct is endogenous and formative. The first-order constructs perfectly predict the repeated indicators in the second-order constructs, because they also comprise those indicators (Lowry and Gaskin, 2014). As a result, our research model can be analysed using the standard PLS algorithm. In detail, the second-order construct utilitarian value was measured by the observed manifest variables for time savings (TS), control (CO), reliability (RE), ease of use (EU), and avoidance of service employee (AS), while hedonic value was measured by the variables for enjoyment (EN), inherent novelty seeking (INS), and challenges (CH) (see appendix).

To evaluate the measurement model, we examined reliability and internal consistency of the measures as well as convergent and discriminant validity (via item loadings) (Chin et al., 2003). Reliability was analysed using composite reliability (CR) values which should exceed the commonly acceptable threshold 0.7 (Fornell and Larcker, 1981). Table 4 shows that all CR values satisfy this condition.

Convergent validity was analysed based on two requirements: First, the indicator loadings have to exceed 0.5 (Gefen and Straub, 2005). Hair et al. (2009) suggest that for a sample size that large, even loadings in the 0.3 range suffice. According to Hulland (1999), more important than deleting an item is a model's "consistency at large", suggesting that smaller loadings are equally acceptable if the construct reliability does not change substantially. Second, the average variance extracted (AVE) of each

construct should be higher than the variance due to the measurement error for that construct. Nunally (1979) recommends that the AVE should surpass a 0.5 threshold. As evident in Table 4, the AVE values meet the requirement. Table 5 shows that all of the items exhibit a loading higher than 0.5 on their respective construct. The only exception is AS1 with a loading value of 0.47, but due to the fact that the deletion does not result in a change in reliability, we follow the "consistency at large" approach and keep the item. Thus, the conditions for convergent validity are satisfied.

Construct	Items	CR	Mean	AVE	Construct	Items	CR	Mean	AVE
TS	4	0.86	4.18	0.60	EN	4	0.88	3.64	0.65
RE	4	0.86	4.28	0.62	INS	3	0.82	3.73	0.62
CO	3	0.81	4.00	0.60	CH	2	0.83	2.09	0.71
EU	3	0.86	4.45	0.66	RUI	3	0.96	4.37	0.89
AS	2	0.72	3.66	0.59	TA	3	0.87	4.14	0.69

Table 4. Descriptive statistics of variables.

	TS	RE	CO	EU	AS	EN	INS	CH	RUI	TA
TS1	**0.72**	0.31	0.19	0.40	0.28	0.21	0.09	-0.03	0.36	0.06
TS2	**0.81**	0.40	0.33	0.42	0.25	0.21	0.16	0.00	0.37	0.14
TS3	**0.72**	0.25	0.28	0.29	0.13	0.23	0.13	0.07	0.22	0.06
TS4	**0.85**	0.43	0.35	0.43	0.26	0.26	0.10	0.08	0.41	0.15
RE1	0.39	**0.77**	0.47	0.39	0.25	0.21	0.12	-0.08	0.40	0.17
RE2	0.21	**0.55**	0.24	0.25	0.21	0.12	0.06	-0.01	0.16	0.18
RE3	0.40	**0.88**	0.40	0.49	0.24	0.25	0.22	0.01	0.40	0.26
RE4	0.40	**0.90**	0.47	0.47	0.28	0.26	0.18	0.02	0.43	0.32
CO1	0.37	0.49	**0.88**	0.38	0.21	0.30	0.21	0.02	0.38	0.31
CO2	0.26	0.37	**0.84**	0.28	0.10	0.27	0.30	0.08	0.23	0.25
CO3	0.22	0.21	**0.55**	0.10	0.05	0.25	0.09	0.18	0.14	0.10
EU1	0.46	0.45	0.39	**0.80**	0.19	0.25	0.21	-0.02	0.34	0.21
EU2	0.38	0.43	0.26	**0.88**	0.34	0.16	0.23	-0.07	0.34	0.21
EU3	0.37	0.40	0.21	**0.76**	0.29	0.10	0.17	-0.08	0.27	0.18
AS1	0.06	0.08	-0.05	0.08	**0.47**	-0.03	-0.03	-0.11	0.13	0.02
AS2	0.31	0.32	0.20	0.34	**0.98**	0.26	0.14	-0.05	0.38	0.20
EN1	0.30	0.28	0.34	0.23	0.24	**0.86**	0.36	0.31	0.37	0.18
EN2	0.08	0.02	0.15	0.01	0.04	**0.77**	0.19	0.38	0.16	0.09
EN3	0.43	0.42	0.40	0.36	0.34	**0.73**	0.30	0.09	0.50	0.21
EN4	0.16	0.18	0.24	0.10	0.15	**0.87**	0.32	0.37	0.25	0.10
INS1	0.12	0.18	0.22	0.15	0.04	0.36	**0.87**	0.21	0.20	0.27
INS2	0.02	0.13	0.06	0.25	0.20	0.03	**0.58**	-0.06	0.11	0.17
INS3	0.19	0.15	0.29	0.24	0.13	0.34	**0.87**	0.11	0.28	0.29
CH1	-0.10	-0.16	-0.11	-0.17	-0.12	0.14	0.01	**0.71**	-0.13	-0.15
CH2	0.09	0.04	0.16	-0.02	-0.04	0.40	0.19	**0.96**	0.08	0.04
RUI1	0.44	0.45	0.33	0.39	0.38	0.38	0.26	0.01	**0.95**	0.26
RUI2	0.39	0.40	0.32	0.33	0.31	0.34	0.19	0.01	**0.93**	0.21
RUI3	0.44	0.45	0.34	0.38	0.36	0.39	0.30	0.03	**0.95**	0.28
TA1	0.10	0.23	0.21	0.20	0.15	0.09	0.23	-0.03	0.20	**0.87**
TA2	0.13	0.27	0.32	0.23	0.19	0.26	0.35	0.06	0.27	**0.91**
TA3	0.10	0.25	0.22	0.20	0.14	0.06	0.18	-0.10	0.19	**0.70**

Table 5. PLS confirmatory factor analysis and cross-loadings.

Discriminant validity was assessed by its cross-factor loadings. The loading in absolute terms of each item on its assigned construct should exceed its loadings on all other constructs (Chin, 1998). Table 5 shows that each construct satisfies this condition. In addition, the correlations among the constructs should be lower than 0.85 (Kline, 1998), which is also fulfilled (cf. Table 6). Third, the square root of the AVE of each construct should exceed the correlations of the construct with the other constructs (Fornell and Larcker, 1981). As evident in Table 6, these requirements are well met and the measures demonstrate discriminant validity. Given the strong evidence for convergent and discriminant validity, the scales exhibit good internal consistency and reliability, and the measurement model was deemed acceptable.

	TS	RE	CO	EU	AS	EN	INS	CH	RUI	TA
TS	**0.78**									
RE	0.46	**0.79**								
CO	0.38	0.51	**0.77**							
EU	0.50	0.52	0.36	**0.81**						
AS	0.30	0.31	0.17	0.33	**0.77**					
EN	0.30	0.28	0.35	0.21	0.23	**0.81**				
INS	0.16	0.19	0.27	0.25	0.12	0.37	**0.79**			
CH	0.04	-0.02	0.09	-0.07	-0.07	0.36	0.15	**0.84**		
RUI	0.45	0.46	0.35	0.39	0.37	0.39	0.27	0.02	**0.95**	
TA	0.14	0.30	0.31	0.25	0.19	0.18	0.32	-0.02	0.27	**0.83**
Note: Pearson correlation coefficients with absolute value > 0.1120 are significant at p < 0.01; > 0.0792 at p < 0.05; >0.0618 at p < 0.1. Square root of AVE is in bold.										

Table 6. Correlations among constructs and square root of AVE.

4.3.2 Structural model

To examine the explanatory power of the basic model (referring to hypotheses 1-3), we analysed the structural paths as well as the R^2 score of the endogenous variable. The research model was tested conducting 433 bootstrap runs. The results are shown in Figure 2. They reveal that all of the paths show significance, and the basic model explains 51.4% of the variance of repeat use intention, which underlines that the model explains the cohesions well and has a good fit.

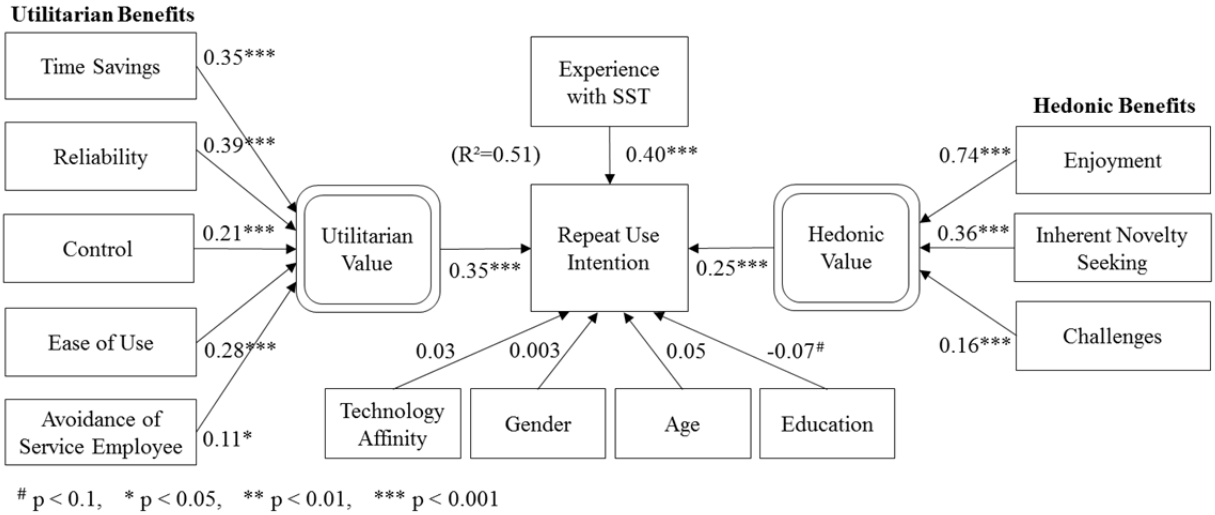

Figure 2. PLS results of the basic research model.

The results of the structural model show that based on the data of all respondents, utilitarian value (β=0.35) and hedonic value (β=0.25) both influence repeat use intention positively. This is in line with

our expectations (cf. hypotheses 1 and 2). The comparison of the path coefficients based on Johnson et al. (1987) reveals that the effect of utilitarian value on repeat use intention is significantly stronger (t=1.98; p<0.05) than the effect of hedonic value. The results also reveal that all proposed constructs of utilitarian value which are time savings (β=0.35, p<0.001), reliability (β=0.39, p<0.001), control (β=0.21, p<0.001), ease of use (β=0.28, p<0.001), and avoidance of service employee (β=0.11, p<0.05) constitute significant components. Weight comparisons based on Johnson et al. (1987) show that among utilitarian benefits, reliability and time savings have higher influence on utilitarian value (p<0.05) than control, ease of use, and avoidance of service employee. This does not seem surprising in today's fast paced world where topics such as security and reliability are becoming increasingly important. Customers may fear that traditional counters are too slow due to inefficiencies of service employees or inescapable interactions. Confirming our expectations, enjoyment (β=0.74, p<0.001), inherent novelty seeking (β=0.36, p<0.001), and challenges (β=0.16, p<0.001) were found to have significant positive influence on hedonic value. By far the most influential construct is enjoyment. The weight comparison (Johnson et al., 1987) showed that the differences are statistically significant (p<0.001). Education was found to have a slightly significant influence (p<0.1), whereas technology affinity, age, and gender were found to have no significant influence on repeat use intention at all. Further, our findings indicate that experience has a significant positive effect on repeat use intention (β=0.40, p<0.001), confirming our expectations (cf. hypothesis 3).

4.3.3 Multi-group analysis

To gain deeper insights into how customer motivations for using SST differ with varying SST experience (cf. hypotheses 4 and 5), we conducted pairwise comparisons of the path coefficients from utilitarian value and hedonic value to repeat use intention in a separate multi-group analysis. Thereby, we distinguished three groups: First, users who had used SST for the first time (N_1=51), second, users with medium experience, meaning they had used it rarely or sometimes (N_2=127), and third, users with a high experience level who had used it often or always (N_3=255). As utilitarian and hedonic value are formative second-order constructs, we used a multiple-group approach to analyse and compare the three groups (Baron and Kenny, 1986). We employed the following formula (cf. Keil et al., 2000):

$$t = (\beta_i - \beta_j) \Big/ \left[\sqrt{\frac{(N_i-1)^2}{N_i+N_j-2} * SE_i^2 + \frac{(N_j-1)^2}{N_i+N_j-2} * SE_j^2} * \sqrt{\frac{1}{N_i} + \frac{1}{N_j}} \right]$$

with t being the t-statistic with N_i+N_j-2 degrees of freedom, N_i the sample size of the data set for group i, SE_i the standard error of the path in the structural model for group i, and β_i the path coefficient in the structural model for group i.

The results show that for users with low experience hedonic value (β=0.58) is more important than utilitarian value (β=0.36). The reason may be that they do not entirely realise the utilitarian benefits, because they are focused on the fun factor. Consequently, for them hedonic reasons prevail. For users with medium experience, the result is reversed: for them, utilitarian value is more important with respect to repeat use intention (β=0.51) than hedonic value (β=0.18). Between the two respective groups we observed significant differences in the influence of hedonic value (t=4.88; p<0.001) as well as in the influence of utilitarian value (t=1.94; p<0.1). Similarly, for users with high experience, utilitarian value (β=0.41) is more important than hedonic value (β=0.27). However, compared to users with medium experience, the influence of utilitarian value decreases (from β=0.51 for medium experienced users to β=0.41) while the influence of hedonic value increases (from β=0.18 for medium experienced users to β=0.27). While the difference between the path coefficients for hedonic value and users with high versus low experience is significant (t=2.75; p<0.01), we did not observe significant differences for their utilitarian values as well as for users with high versus medium experience. Overall, the importance of utilitarian value did not vary that much for the three groups (β between 0.36 and 0.51) compared to the weight of hedonic value (β between 0.18 and 0.58). An explanation for the high difference in the influence of hedonic value may be that, once people know how SST work, the hedonic

aspect decreases. Indeed, the excitement of first usage may decline rapidly, leading to a significant decrease of the influence of hedonic value on repeat use intention. As a consequence, utilitarian value exceeds the weight of hedonic value, leading to a contrary weight allocation for medium experienced customers. Overall, the results meet our expectations, namely that prior experience moderates the influence of utilitarian value and hedonic value on repeat use intention (cf. hypotheses 4 and 5).

5 Discussion

5.1 Implications for theory and practice

Prior research has analysed intention to use of various technologies but the reasons for repeat use intention of SST depending on utilitarian and hedonic values have not been investigated in sufficient detail yet. Against this background, we developed a multidimensional research model to capture an individual's utilitarian and hedonic motivations for the repeat use intention of SST. Our results show that hedonic value is of particular importance for repeat use intention of SST. Whereas analyses about other technologies or technologies in general often solely refer to enjoyment as hedonic component (e.g. Curran and Meuter, 2007; Dabholkar, 1996; Davis et al., 1992), we found that for SST the hedonic factors inherent novelty seeking and challenges must not be ignored. The reason may be that SST encompass a specific do-it-yourself character where customers do not only give orders and wait for the results, but they are responsible for the whole process and thus the results to a certain extent. Supplementary, it is necessary to note that the utilitarian benefit reliability attains special distinction for SST. The reason may be that the customers are in charge of the whole process and thus the reliability of the technology might be more important than in the context of other technologies. In fact, customers may need a certain feeling of reliability when they use SST on their own, in order to really use them. Our study contributes to theory in various ways. First, prior research shows that aside from utilitarian influence factors hedonic influence factors play an important role in explaining the adoption of technology (Agarwal and Karahanna, 2000; Dabholkar, 1996; van der Heijden, 2004; Venkatesh, 2000; Venkatesh et al., 2012). However, little is known to date about the composition of hedonic value of SST. We contribute to this gap by combining both the utilitarian and the hedonic view in a multidimensional research model that captures an individual's motivations for repeat use intention of SST. In so doing, we complement the approach of Dabholkar (1996) and Meuter et al. (2000) by proposing a composition of hedonic value which, like utilitarian value, significantly influences customers' repeat use intention. Thus, we extend the prior understanding of why customers are willing to use SST and even more, why they are willing to use it repeatedly. Second, previous studies have shown that the factors that motivate initial or repeat purchase intention when using technologies are quite different, depending on prior experience. Hence, experience has a moderating role on initial or repeat use intention in various contexts, but still, little is known about how that moderates the importance of utilitarian and hedonic value for the customer. We complement this research (cf. e.g. Cheung et al., 2003; Kim and Gupta, 2009; Parasuraman, 1997; van der Heijden et al., 2003) by expanding it to SST and by conducting an in-depth analysis to enrich current research about utilitarian value, hedonic value, and repeat use intention in the context of SST considerably. We show that prior experience significantly moderates the influence of utilitarian and hedonic value on repeat use intention of SST.

Additionally, this study has several implications for practice. First of all, firms have to recognise that utilitarian and hedonic value both influence repeat use intention positively. Therefore, companies have to design SST in such a way that they address not only task-related benefits such as time savings, reliability, or control (Bitner et al., 2002; Dabholkar, 1996; Dabholkar et al., 2003; Meuter et al., 2000) but also hedonic benefits such as enjoyment, novelty seeking, and challenges that provide "self-fulfilling value to the user" (van der Heijden, 2004, p. 696). Furthermore, as hedonic value is of particular importance for repeat use intention for users who have used SST for the first time, firms need to highlight the fun factor of SST usage for this target group in particular and keep up with new trends in the self-service industry. The use of group buying, social networking, and gaming features may

serve as examples. This is all the more important if firms aim to increase the usage rate of their SST and have to address people who have rarely used SST so far.

5.2 Limitations

Our study provides interesting new insights with respect to customers' repeat use intention of SST. However, a number of limitations still remain which can serve as starting points for future research. First, our study focuses on self-service kiosks, which constitute only one particular type of SST. We decided to do so in a first step to ensure a consistent understanding and to prevent mixing distinct effects that may arise for different types of SST. However, future research should examine a wider range and different types of SST (e.g., SST provided over the internet) in order to substantiate our findings. Second, we collected data for one specific case which may limit the generalizability of our findings. Actually, the main part of IKEA's customers consists of females and young males. Therefore, our sample may not be representative for the totality of SST users. However, our results reveal that age and gender do not have a significant influence on repeat use intention. Moreover, since our survey was carried out in a real customer service setting, we are confident that our rich data set provides a solid foundation for testing the research model.

6 Conclusion

The current study aims to improve our understanding why customers are willing to use SST. Based on MEC theory we examined the multidimensional nature of utilitarian and especially hedonic value and their relative importance in determining repeat use intention of SST. We complement existing research providing a composition of hedonic value which, like utilitarian value, significantly influences customers' repeat use intention. Our findings show that the constructs enjoyment, inherent novelty seeking, and challenges constitute significant components of hedonic value. Both utilitarian and hedonic value influence customers' repeat use intention positively, with the influence of utilitarian value prevailing. More detailed multi-group analyses with respect to customers' prior experience with SST reveal that this result does not hold for all customers. Indeed, for users with low experience hedonic value is more important than utilitarian value. Overall, our study is the first to compare the relative importance of utilitarian and hedonic value in dependence of customers' prior experience of using SST, and we confirmed the key roles of these constructs in influencing repeat use intention. We hope that our work opens doors for further research activities in this exciting field.

Appendix A – Questionnaire Items

Notes: Anchors for these scales are: 1=Strongly disagree; 2=Slightly disagree; 3=Neither agree nor disagree (neutral); 4=Slightly agree; 5=Strongly agree

Time Savings (TS) (adapted from Dabholkar, 1996)	
TS1	I needed a lot of time for using the SST.
TS2	The paying process with the SST was very quick.
TS3	The waiting time for using the SST was very quick.
TS4	Shopping with the SST allows me to save time.
Ease of Use (EU) (adapted from Dabholkar, 1996)	
EU1	The usage of the SST is complicated.
EU2	The usage of the SST takes a lot of effort.
EU3	The usage of the SST is slow and complex.
Reliability (RE) (adapted from Dabholkar, 1996)	
RE1	Using the SST is accurate (means I will get just what I ordered).
RE2	Using the SST results in errors in the order.
RE3	Using the SST is something I don't expect to work very well.

RE4	Using the SST is reliable.
Control (CO) (adapted from Dabholkar, 1996)	
CO1	The usage of the SST gives me control.
CO2	The usage of the SST lets me be in charge of the right result.
CO3	The usage of the SST lets me be in charge of the right price.
Avoidance of Service Employee (AS) (adapted from Dabholkar, 1996)	
AS1	Personal attention by the service employee is not important to me.
AS2	It does not bother me to use a machine when I could talk to a person instead.
Enjoyment (EN) (adapted from Dabholkar, 1996)	
EN1	It is enjoyable to use the SST.
EN2	It is exciting to use the SST.
EN3	It is pleasant to use the SST.
EN4	It is interesting to use the SST.
Inherent Novelty Seeking (INS) (adapted from Mehrabian and Russell, 1974)	
INS1	I am always seeking new ideas and experiences.
INS2	When things get bored I like to find new and unfamiliar experiences.
INS3	I prefer a routine way of doing things to experimenting with new things.
INS4	I like to experience novelty and change in my daily routine.
Challenges (CH) (adapted from Novak et al., 1998)	
CH1	Using the SST challenged me to perform to the best of my ability.
CH2	Using the SST provided a good test of my skills.
Repeat Use Intention (RUI) (adapted from Hu et al., 2011 and Venkatesh et al., 2003)	
RUI 1	In the future, I am very likely to use SST.
RUI 2	I expect I will use SST in the next months.
RUI 3	I intend to use SST in the future.
Technology Affinity (TA) (adapted from Venkatesh et al., 2003)	
TA1	I use a lot of new technologies in my everyday life.
TA2	I feel good about using new technologies.
TA3	It is pleasant for me to deal with new technologies.

References

Agarwal, R. and E. Karahanna (2000). Time flies when you're having fun: Cognitive absorption and beliefs about information technology usage. *MIS Quarterly* 24 (4), 665–694.

Alreck, P.A. and R.B. Settle (2002): The Hurried Consumer: Time-Saving Perceptions of Internet and Catalog Shopping. *Journal of Database Management* 10 (1), 25–35.

Anderson, J.C. and D.W. Gerbing (1988). Structural equation modeling in practice: a review and recommended twostep approach. *Psychological Bulletin* 103, 411–423.

Atteslander, P. (2010). *Methoden der empirischen Sozialforschung.* Berlin: Erich Schmidt Verlag.

Babin, B.J., W.R. Darden and M. Griffin (1994). Work and/or fun: measuring hedonic and utilitarian shopping value. *Journal of Consumer Research* 20, 644–656.

Bagozzi, R.P. (2007). The Legacy of the Technology Acceptance Model and a Proposal for a Paradigm Shift. *Journal of the Association for Information Systems* 8 (4), 244–254.

Baron, R.M. and D.A. Kenny (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology* 51, 1173–1182.

Bateson, J.E.G. (1985): Self-service consumer. An exploratory study. *Journal of Retailing* 61 (3), 49–76.

Beatson, A., L.V. Coote and J.M. Rudd (2006). Determining Consumer Satisfaction and Commitment Through Self-Service Technology and Personal Service Usage. *Journal of Marketing Management* 22, 853–882.

Beatson, A., N. Lee and L.V. Coote (2007). Self-Service Technology and the Service Encounter. *The Service Industries Journal* 27 (1), 75–89.

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

Bobbit, L.M. and P.A. Dabholkar (2001). Integrating attitudinal theories to understand and predict use of technology-based self-service. *International Journal of Service Industry Management* 12 (5), 423–450.

Cheung, C.M.K., L. Zhu, T. Kwong, G.W.W. Chan and M. Limayem (2003). Online consumer behavior: a review and agenda for future research. *Proceedings of the 16th Bled eCommerce Conference*, Bled, Slovenia.

Chin, W.W. (1998). Issues and opinions on structural equation modeling. *MIS Quarterly* 22, 7–16.

Chin, W.W., B.L. Marcolin and P.R. Newsted (2003). A partial least squares latent variable modeling approach for measuring interaction effects: results from a Monte Carlo simulation study and voice mail emotion/adoption study. *Information Systems Research* 14, 189–217.

Chiu, C.-M., E.T.G. Wang, Y.-H. Fang and H.-Y. Huang (2012). Understanding customers' repeat purchase intentions in B2C e-commerce: the roles of utilitarian value, hedonic value and perceived risk. *Information Systems Journal*, 1–30.

Curran, J.M., M.L. Meuter and C.F. Surprenant (2003). Intentions to Use Self-Service Technologies: A Confluence of Multiple Attitudes. *Journal of Service Research* 5 (3), 209–224.

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

Curran, J.M. and M.L. Meuter (2005). Self-service technology adoption: comparing three technologies. *Journal of Services Marketing* 19 (2), 103–113.

Csikszentmihalyi, M. (1975). *Beyond Boredom and Anxiety*. San Francisco: Jossey-Bass.

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

Dabholkar, P.A. and R.P. Bagozzi (2002). An Attitudinal Model of Technology-Based Self-Service: Moderating Effects of Consumer Traits and Situational Factors. *Journal of the Academy of Marketing Science* 30 (3), 184–201.

Dabholkar, P.A., L.M. Bobbitt and E.J. Lee (2003). Understanding consumer motivation and behavior related to self-scanning in retailing. Implications for strategy and research on technology-based self-service. *International Journal of Service Industry Management* 14 (1), 59–95.

Dabholkar, P.A. and B.I. Spaid (2012). Service failure and recovery in using technology-based self-service: effects on user attributions and satisfaction. *The Service Industries Journal* 32 (9), 1415–1432.

Davis, F.D. (1993). User Acceptance of Information Technology: System Characteristics, User Perceptions and Behavioral Impacts. *International Journal of Man Machine Studies* 38, 475–487.

Davis, F.D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly* 13 (3), 319–340.

Davis, F.D., R.P. Bagozzi and P.R. Warshaw (1992): Extrinsic and Intrinsic Motivation to Use Computers in the Workplace. *Journal of Applied Social Psychology* 22 (14), 1111-1132.

Davis, F.D., R.P. Bagozzi and P.R. Warshaw (1989): User Acceptance of Computer Technology: a Comparison of two theoretical models. *Management Science* 35 (8), 982–1003.

Dillon, A. and M. Morris (1996). User acceptance of new information technology - theories and models. In: *Annual Review of Information Science and Technology* 31. Ed. by M. Williams. Medford NJ: Information Today, pp. 3–32.

Fishbein, M. and I. Ajzen (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.

Fornell, C. and D.F. Larcker (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research,* 39–50.

Gefen, D. and D. Straub (2005). A practical guide to factorial validity using PLS-graph: tutorial and annotated example. *Communications of the Association for Information Systems* 16, 91–109.

Ghani, J.A., R. Supnick and P. Rooney (1991). The experience of flow in computer-mediated and in face-to-face groups. *Proceedings of the Twelfth International Conference on Information Systems*, 229–238.

Giebelhausen, M., S. Robinson, N. Sirianno and M. Brady (2014). Touch Versus Tech: When Technology Functions as a Barrier or a Benefit to Service Encounters. *Journal of Marketing* 78, 113–124.

Gutman, J. (1997). Means-end chains as goal hierarchies. *Psychology and Marketing* 14, 545–560.

Hair, J.F., W.C. Black, B.J. Babin and R.E. Anderson (2009). *Multivariate Data Analysis: A Global Perspective.*7th Edition. Upper Saddle River: Prentice Hall.

Hirschman, E.C. (1980). Innovativeness, Novelty Seeking and Consumer Creativity. *Journal of Consumer Research* 7, 283–295.

Hoffman, D.L. and T.P. Novak (1996). Marketing in hypermedia computer-mediated environments: conceptual foundations. *Journal of Marketing* 60, 50–68.

Holbrook, M.B. and E.C. Hirschman, (1982). *The experiential aspects of consumption: consumer fantasies, feelings, and fun*. Journal of Consumer Research 9, 132–140.

Hulland, J. (1999). Use of Partial Least Squares (PLS) in Strategic Management Research: A Review of Four Recent Studies. *Strategic Management Journal* 20 (4), 195–204.

Johnson, A.C., M.B. Johnson and R.C. Buse (1987). *Econometrics: Basic and Applied*. New York: MacMillan.

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

Keil, M., B.C.Y. Tan, K.K. Wei and T. Saarinen (2000). A cross-cultural study on escalation of commitment behavior in software projects. *MIS Quarterly* 24, 299–325.

Kim, H.W. and S. Gupta (2009). A comparison of purchase decision calculus between potential and repeat customers of an online store. *Decision Support Systems* 47 (4), 477–487.

Kline, R.B. (1998). *Principles and Practice of Structural Equation Modeling*. New York: Guilford Press.

Koufaris, M. (2002). Applying the Technology Acceptance Model and Flow Theory to Online Consumer Behavior. *Information Systems Research* 13 (2), 205–223.

Langeard, E., J.E.G. Bateson, C.H. Lovelock and P. Eiglier (1981). *Marketing of services: New insights from consumers and managers*. Cambridge, MA: Marketing Science Institute Report No. 81–104.

Lee, H.-J., A. Fairhurst and H.J. Cho (2012). Gender differences in consumer evaluations of service quality: self-service kiosks in retail. *The Service Industries Journal* 33 (2), 248–265.

Lim, E.T.K., D. Cyr and C.W. Tan (2012). Untangling Utilitarian And Hedonic Consumption Behaviors In Online Shopping. *PACIS 2012.* Paper 94.

Lowry, P.B. and J. Gaskin (2014). Partial Least Squares (PLS) Structural Equation Modeling (SEM) for Building and Testing Behavioral Causal Theory: When to Choose It and How to Use It. *IEEE Transactions on Professional Communication*, 57.

McGuire, W. (1974). Psychological motives and communication gratification. In: *The Uses of Mass Communications: Current Perspectives on Gratification Research*. Ed. by J.F. Blumler, J.F. and J. Katz, Sage, Beverly Hills: CA, USA, pp. 167–196.

Mehrabian, A. and J.A. Russel (1974). *An approach to environmental psychology.* Cambridge: M.I.T. Press.

Meuter, M.L., A.L. Ostrom, R.I. Roundtree and M.J. Bitner (2000). Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters. *Journal of Marketing* 64, 50–64.

Meuter, M.L., M.J. Bitner, A.L. Ostrom and S.W. Brown (2005). Choosing Among Alternative Service Delivery Modes: An Investigation of Customer Trial of Self-Service Technologies. *Journal of Marketing* 69, 61–83.

Novak, T.P., D.L. Hoffman and Y.-F. Yung (2000). Measuring the Customer Experience in Online Environments: A Structural Modeling Approach. *Marketing Science* 19 (1), 22–42.

Nunally, J.C. (1979). *Psychometric Theory*. New York: McGraw-Hill.

Parasuraman, A. (1997). Reflections on gaining competitive advantage through customer value. *Journal of the Academy of Marketing Science* 25 (2), 154–161.

Parasuraman, A. (2000). Technology Readiness Index (TRI): A multiple item scale to measure readiness to embrace new technologies. *Journal of Service Research* 2, 307–320.

Parasuraman, A. and D. Grewal (2000). The impact of technology on the quality-value-loyalty chain: a research agenda. *Journal of the Academy of Marketing Science* 28, 168–174.

Sarel, D. and H. Marmorstein (2003). Marketing Online Banking Services: The Voice of the Customer. *Journal of Financial Services Marketing* 8 (2), 106–118.

Taylor, S. and P.A. Todd (1995). Understanding Information Technology Usage: A Test of Competing Models. *Information Systems Research*, 144–176.

Trend Watching (2014). September 2014 Trend Briefing - The Future of Customer Service, accessed 26 September 2014, <http://trendwatching.com/trends/future-customer-service/>.

van der Heijden, H. (2004). User Acceptance of Hedonic Information Systems. *MIS Quarterly* 28 (4), 695–704.

van der Heijden, H., T. Verhagen and M. Creemers (2003). Understanding online purchase intentions: contributions from technology and trust perspectives. *European Journal of Information Systems* 12, 41–48.

Venkatesh, V. (2000). Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model. *Information Systems Research* 11 (4), 342–365.

Venkatesh, V., J.Y.L. Thong and X. Xu (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly* 36 (1), 157–178.

Venkatesh, V. and H. Bala (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences* 39 (2), 273–315.

Venkatesh, V. and F.D. Davis (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science* 46 (2), 186–204.

Venkatesh, V., M.G. Morris, G.B. Davis and F.D. Davis (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly* 27 (3), 425–478.

Walker, R.H., M. Craig-Lees, R. Hecker and H. Francis (2002). Technology-Enabled Service Delivery. An Investigation of Reasons Affecting Customer Adoption and Rejection. *International Journal of Service Industry Management* 13 (1), 91–106.

Wang, C., J. Harris and P. Patterson (2013). The Roles of Habit, Self-Efficacy, and Satisfaction in Driving Continued Use of Self-Service Technologies: A Longitudinal Study. *Journal of Service Research* 16 (3), 400–414.

Weijters, B., D. Rangarajan, T. Falk and N. Schillewaert (2007). Determinants and Outcomes of Customers' Use of Self-Service Technology in a Retail Setting. *Journal of Service Research* 10 (1), 3–21.

Woodside, A.G. (2004). Advancing means-end chains by incorporating Heider's balance theory and Fournier's consumer-brand relationship typology. *Psychology and Marketing* 21, 279–294.

Yan, A., S. Solomon, D. Mirchandani, M. Lacity and J. Porra (2013). *The role of service agent, service quality, and user satisfaction in self-service technology.* Thirty Fourth International Conference on Information Systems, Milan, Italy.