



Why do customers use self-service information technologies in retail? The mediating effect of perceived service quality



Katrin Kallweit¹, Philipp Spreer^{*,1}, Waldemar Toporowski¹

University of Goettingen, Chair of Retailing, Faculty of Economic Sciences, Platz der Goettinger Sieben 3, D-37073 Goettingen, Germany

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ABSTRACT

To ensure a high level of service quality (SQ), retailers think about offering self-service information technologies (SSIT) at the point of sale. However, the explanatory value of the SQ for SSIT adoption is barely researched. Thus, the present study examines the mediation effect of SQ within the technology acceptance model. Building on data from a laboratory experiment using a fully functional application for Tablet PCs, the partial least squares approach is applied. The findings reveal that the perceived SQ partially mediates the effect of the attitude towards using on the intention to reuse. Therefore, retailers have to emphasize the service-related value of SSITs.

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1. Introduction

The increasing diffusion of information technology is on the brink of revolutionizing the way people shop. This development does not only affect digital distribution channels, but also bricks-and-mortar stores: Retailers progressively substitute or enlarge traditional modes of service delivery by sales clerks through the implementation of technology (Colby and Parasuraman, 2003; Lee and Yang, 2013). These self-service technologies (SST) are defined as technological interfaces that enable customers to produce a service independent of direct service employee involvement (Chen, 2005; Meuter et al., 2000). Examples are self-service check-outs (Dabholkar et al., 2003; Marzocchi and Zammit, 2006; Weijters et al., 2007), express order terminals (Meuter et al., 2000) and multimedia kiosks (Wang, 2012). Most often they are implemented to cut costs and raise productivity by turning customers into co-producers of services (Hilton et al., 2013; Meuter et al., 2005; Roggeveen et al., 2012; Weijters et al., 2007) or simply to keep up with technological advancements (Demirci Orel and Kara, 2014). Two types of SSTs can be distinguished: transaction-related technologies and customer-service or information-related technologies (Meuter et al., 2000). Early SSTs especially focused on the first category of “technology-facilitated transactions” (Meuter et al., 2000), such as placing an order, scanning or paying.

A taxonomy presented by Cunningham et al. (2008) based on the work of Zeithaml and Bitner (2006, p. 402) contains 11 out of 12 types of SSTs that are strictly related to transactions. In recent years, the service quality has become increasingly important as a key differentiator for retailers as sales are initiated by information rather than the simple access to a product via transaction-related technologies due to the transparency of the internet (Grewal et al., 2004).

1.1. Self-service technologies with focus on information

Thus, the role of SSTs in retail is also changing: Current approaches are increasingly aimed at delivering information to the user and allow for the provision of customized services instead of executing transactions (Marshall et al., 2012; Wang, 2012; Hilton et al., 2013). Examples are mobile shopping assistants (Heijden 2006; Resatsch et al., 2008), social media technologies (Marshall et al., 2012) and information kiosks (Zielke et al., 2011). Such customer-service or information-related technologies (Meuter et al., 2000) from the second category of SSTs are referred to as self-service information technologies (SSITs). SSITs render customers independent of the availability and know-how of sales clerks and reduce the search cost by pooling all the relevant information available and providing it in a much more customized way (Pantano and Viassone, 2014). This is especially important in the case of complex products which require explanation and subsequently have a higher buying risk (Chaudhuri, 2000). They are particularly attractive for customers who are looking for a high level of individual control and want to avoid interpersonal interactions to form an opinion without being influenced by sales clerks (Meuter et al., 2003) or for those who have a low need for personal interaction (Gelderman et al., 2011), e.g. due to the habit

* Corresponding author. Tel.: +49 551 37 4447; fax: +49 551 37 4446.

E-mail addresses: kallweit.katrin@gmx.de (K. Kallweit),

philipp.spreer@wiwi.uni-goettingen.de (P. Spreer),

wtoporo@uni-goettingen.de (W. Toporowski).

¹ All the authors contributed equally to the development and writing of this article.

of self-information on the internet. Moreover, waiting times can be reduced for customers who are searching for specific information while sales clerks are engaged in customer talks (Dabholkar, 1994; Meuter et al., 2000). Therefore, many researchers and retailers try to identify the technology capable of best satisfying customer requests (Pantano, 2010), which is basically a question of technology acceptance. Understanding customer acceptance is highly crucial due to the huge monetary investments and late returns on investment involved in the implementation process (Pantano and Viassone, 2014).

Such technologies are particularly suitable for retailers with a large selling space and relatively low number of sales clerks. A prominent example is the German do-it-yourself (DIY) retail segment. Since 2009, the selling space has grown by almost 10% while the number of employees has remained stable for reasons of cost efficiency (Gemaba, 2013). As a consequence, customers suffer from a lack of service, which negatively affects customer satisfaction and ultimately the economic success of the retailer. Thus, DIY retailers implement SSITs to build up a customer-friendly service landscape and differentiate in terms of shopping experience. Thus, service quality is more important for DIY retailers than ever, especially with regard to the high number of complex products such as lawn-mowers, motor saws or drilling machines.

1.2. Study objective

The acceptance of SSTs has been broadly researched in the past. Most studies come to the conclusion that the attitude towards using technology has a strong influence on the behavioral intentions. If such a strong relation between predictor and criterion variable exists, Baron and Kenny (1986) recommend the analysis of the mediating effects. Thus, the question as to how that strong effect can be explained needs to be evaluated. Because the customer benefit plays a crucial role in technology acceptance and as this benefit consists in a service quality (SQ) improvement in the context of SSITs, one can assume that SQ provides explanatory potential for the relationship between the attitude towards using a technology and the intention to use. The evaluation of SQ is especially important in the context of retail SSITs as the outcome directly redounds upon the evaluation of the retailer (Meuter et al., 2000; Wang, 2012). Recent studies, for example, have shown the huge relevance of perceived service quality (PSQ) delivered by

technology-based self-services, e.g. for retail patronage (Lee and Yang, 2013; Lee et al., 2009) and customer satisfaction (Dabholkar and Spaid, 2012; Demirci Orel and Kara, 2014). But despite their growing importance in retail, to the best of our knowledge empirical work has not deepened the understanding of the relationship in the context of retail-service technologies yet. As a consequence, retailers are not able to fully understand the acceptance of new technologies without considering the customers' perception of the SQ delivered by SSTs (Lee et al., 2009; Wang, 2012). To address this point, the study attempts to enlarge the understanding of technology acceptance in the context of retail SSITs by analyzing the mediating effect of PSQ between the attitude towards using a technology and the intention to use it.

The remainder of this paper is organized as follows: The proposed conceptual framework and a literature review on technology acceptance and service quality in retail are presented. Deduced from the relevant literature, specific research propositions are made. Following a description of the methodology, the results are provided. Subsequently, we discuss the most relevant findings and deduce theoretical and managerial implications. The limitations of the study and future research avenues conclude the paper.

2. Conceptual framework and hypothesis development

The customer acceptance of new technologies is one of the most critical factors given that a lot of innovations do (not) hit the market. In order to gain a deeper understanding of the use of retail SSITs, the relevant literature is presented and the most important influencing factors for consumer acceptance are discussed. Moreover, we embed these findings in service quality research to define the conceptual framework of this study.

2.1. Acceptance of self-service technologies

Research on SST acceptance has been conducted in a broad range of different research contexts, using many different research designs and examining a great variety of different technologies. Despite this methodological diversity, the majority of quantitative studies use the technology acceptance model (TAM; Davis, 1989) or related models, such as the theory of reasoned action (TRA;

Table 1
Overview of relevant literature on retail SST acceptance.

Study	SST	Retail context	Focus on SQ	Theory	Research design	Analysis	N
Meuter et al. (2000)	Diverse	×	×		Online panel survey	Qualitative/quantitative	1000
Dabholkar and Bagozzi (2002)	Self-service terminal	✓	×	TAM	Laboratory experiment	Quantitative	392
Weijters et al. (2007)	Mobile self-scanning	✓	×	TAM, Diffusion Theory	Field study	Quantitative	497
Kowatsch and Maass (2010)	Mobile recommendation agent	✓	×	TAM, Diffusion Theory	Laboratory experiment	Quantitative	46
Lee et al. (2010)	Self-service checkout	✓	×		Online survey	Quantitative	285
Corvello et al. (2011)	Virtual shopping assistant	✓	×	Adaptive Structuration Theory	Conceptual paper		
Zielke et al. (2011)	Interactive terminal for cooking receipts	✓	×	TAM	Field study	Quantitative	216
Marshall et al. (2012)	Social media technologies	✓	×		Focus groups	Qualitative	35
Wang (2012)	Multimedia kiosk: payment, ticketing, downloads	✓	×	Expectation-Confirmation Model	Online panel survey	Quantitative	424
Hilton et al. (2013)	diverse	×	(✓)		In-depth interviews	Qualitative	24
Demirci Orel and Kara (2014)	Self-service checkout	✓	(✓)		Field study	Quantitative	275
Lee and Yang (2013)	Self-service checkout	✓	✓	TRA	Online panel survey	Quantitative	300

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