SELF-SERVICE TECHNOLOGY (SST) SERVICE QUALITY, INTERPERSONAL SERVICE QUALITY, AND RETAIL SUPPORT

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ABSTRACT

The main goal of this study is to examine how two elements of interactive service quality (interpersonal service quality and self-service technology service quality) are related to retail support. This study also goals to recognize the moderating effects of individual attributes. The results show that two elements of interactive quality are related to retail support intentions. The moderating effects of technology anxiety need for interaction, and age are also prejudicially supported. To increase retail support, it is significant to focus on improving self-service technology service quality as well as interpersonal service quality. The results from this study also furnish retail managers with a detailed understanding of how individual attributes impact retail support intentions.

KEYWORD: Individual attributes Self-service technology (SST), Retail support, service quality, Interpersonal service quality

INTRODUCTION

The significant role of technology in the marketing process is well exemplified in the pyramid model (Colby & Parasuraman, 2003; Parasuraman, 2000). Technology, placed at the center of the model, is supplemented as a fourth measure along with company, customers, and employees, and plays an important role in changing the formal marketing structure. To go along with this current trend, many retailers have incorporated a multiplicity of technological performing. Retail technology tools are used to offer consumer better access to services via different channels and to better meet consumer demand and increase consumer satisfaction (Bitner, Ostrom & Meuter 2002). Due to retailers' increasing use of technological tools, the traditional manners of service delivery (e.g., service by store employees) have been replaced or made larger by technology (Colby & Parasuraman, 2003). Lehtinen & Lehtinen (1991) propose two interactive elements in the service production process: interactive persons and interactive equipment. That is, service is conveyed by either a contact person or a technology system in interacting with consumers. This study focuses on two elements of interactive quality and its role as a determinant of retail support. The goal of this study is two-fold: (1) to examine the effect of perceived service quality of interactive elements on retail support intentions, which in turn result in retail support behavior and (2) to investigate the moderating effects of individual attributes in the relationship between perceived service quality of interactive elements and retail support intentions. In particular, among different retail technologies, the focus of this study is on a retail self-checkout system because of its popular acceptance over recent decades in the retail industry, especially grocery retailing areas. Recently, one statistical study shows that a top-ranked technology is a self-checkout in improvement consumers' shopping experience (Tarnowski, 2011). However, there have been raising disputes that the extending installation of self-service technologies, such as self-checkout systems, results in a reduction in customer service and the depersonalized atmosphere (Alpert, 2008). While some consumers may consider self-service technologies to be easy to use or more comfortable, others tend to be

uncomfortable with the technologies and prefer to contact with a person (Dabholkar, Bobbitt, & Lee, 2003). Therefore, how perceived service quality of interactive elements impacts retail support will be different by consumers' individual attributes. For this reason, a deeper understanding of consumers' individual attributes is necessary in order to justify the costs of self-service technologies performing.

2. LITERATURE RE-OBSERVE

Due to characterize of service including intangibility and heterogeneity, of production and consumption, service quality has been recognized as theorize and elusive construct (Parasuraman, Zeithaml, & Berry 1985). These characterize make the quality of personal interactions one of the key elements in the conceptualization of service quality (Brady & Cronin, 2001; Lehtinen & Lehtinen, 1991). According to Lehtinen & Lehtinen' (1991) observe the sense of service quality is created by consumers' estimation of three measures of the service production process: physical quality, interactive quality, and corporate quality. Physical quality results from the physical elements of service and physical elements are related to physical products and physical support. Interactive quality refers to interaction between interactive

elements of the service furnisher and the consumer and interactive elements contain both interactive persons and interactive equipment (e.g., self-service). Corporate quality reflects how the corporate being, company, or its image is seen by consumers. Through in-depth inter observes, strong evidence for physical and interactive quality is found while corporate quality is less clear (Lehtinen & Lehtinen, 1991). Our conceptual framework, shown in Fig. 1, is based upon Lehtinen & Lehtinen's (1991) conceptualization of interactive quality. Interpersonal service quality and self-service technology (SST) service quality are proposed as two elements of interactive quality; interpersonal service quality represents the human element of interactive quality while SST service quality refers to the non-human element of interactive quality. The overall succession of effects in our model is that two elements of interactive quality impact consumers' retail support intentions, which in turn lead to retail support behavior. As related individual attributes referring to interactive elements (e.g., persons and self-checkout systems) in retail settings, technology anxiety, need for interaction, and age are incorporated into the conceptual model and these variables act key moderating roles in the relationship between service quality of interactive elements and retail support intentions.
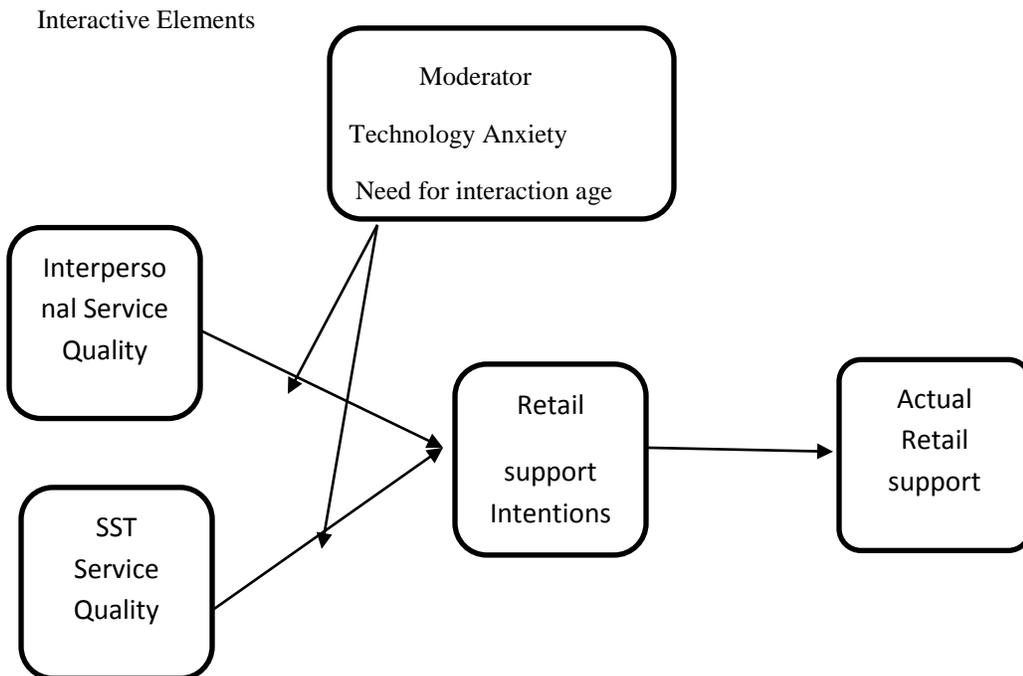
Interactive Elements

Fig. 1. Conceptual framework

The linkage of these variables to adoption and use of self-service technologies has been brought to concentration by several researchers (e.g., Eastlick ,Ratto, Lotz, & Mishra, 2012; Gelderman Ghijsen & van Diemen, 2011; Simon & Usunier, 2007).

2.1. SELF-SERVICE TECHNOLOGY (SST) SERVICE QUALITY, INTERPERSONAL SERVICE QUALITY, AND RETAIL SUPPORT

There have been multiple studies that verify a direct relationship between service quality and support intentions (e.g., Baker, Parasuraman, Grewal, & Voss, 2002; Sirohi, McLaughlin, & Wittink, 1998; Zeithaml , Berry, & Parasuraman 1996). Also, the significance of service quality as a key to performing retail support is found in a recent study that synthesizes previous studies using a meta-analytical approach (Pan & Zinkhan, 2006). Moreover, the significant effect of interpersonal service quality on retail support intentions is seized in the literature (e.g., Baker, Parasuraman, Grewal, & Voss, 2002; Sirohi, McLaughlin, & Wittink 1998). Therefore,

H1. Interpersonal service quality is positively related to retail support intentions.

As concentration has been afforded to service quality perceptions originating in interactive equipment (non-human service).The conceptualization of interactive quality identifies two interactive elements (interactive persons and interactive equipment) in service production yet a lack of empirical evidence of interactive equipment (Lehtinen & Lehtinen, 1991). Recently, the non-human element of service delivery has been addressed. Sureshchandar, Rajendran, & Anantharaman (2002) suggest systematization of service delivery as one of the factors of customer service quality. Related with the non- human element, systematization of service delivery directs to the process, systems, and technology of a service. In their study, the human element and the non-human element, as two separate factors, are empirically recognized as being important. In the current market, one of the increasingly used technologies for the delivery of service is self-service technologies (Verhoef et al., 2009). However, there has been restricted empirical work investigating how self-service technology (SST) service quality is related to retail support intentions. A study by Marzocchi & Zammit (2006) on self-scanning technologies recognizes that increasing satisfaction with self-

scanning technologies contributes to store re-support intentions. Also, the evidence shows that more positive estimation of SST service quality results in more increased support intentions toward a retailer (Lee, Fairhurst, & Lee 2009). Therefore,

H2. Self-service technology (SST), service quality is positively related to retail support intentions

Literature in consumer behavior has have recourse to Fishbein & Ajzen's (1975) theory of reasoned action (TRA) to understand the behavioral intention actual behavior link. According to TRA, a person's performance of behavior is drawn from the person's intention to carry out the behavior. However, some of the researchers have proposed that intention may not be a suitable proxy for actual behavior (Miniard, Obermiller, & Page, 1982; Young, DeSarbo, & Morwitz, 1998). In particular, it is discussed that intentions to purchase non-durable goods and services may not predict actual purchase behavior (Jamieson & Bass, 1989). Despite such an argument, the general majority among researchers seems to be that behavioral intention leads to actual behavior. Therefore,

H3. Retail support intentions are positively related to retail support behavior.

2.2. THE MODERATING EFFECTS OF TECHNOLOGY ANXIETY, NEED FOR INTERACTION AND AGE

Technology anxiety, coming from computer anxiety, refers to people's fear that arises when they consider to use or when they use technological tools. Especially, technology anxiety relates to a person's capacity and willingness in using technology-related tools (Meuter Ostrom, Bitner,& Roundtree 2003). Consumers with technology anxiety have a fear of using technology and thus such consumers feel more relaxing with the option of using a cashier-staffed checkout than using a self-checkout (Meuter, Ostrom, Bitner, & Roundtree 2003). The causal link between technology anxiety and self-service technology (SST) employment and experience has been empirically founded in previous studies (Eastlick, Ratto, Lotz, & Mishra 2012; Meuter, Bitner, Ostrom, & Brown, 2005). Meuter Ostrom, Bitner, & Roundtree, (2003) signify that the higher levels of technology anxiety a person have, the smaller that person will use SSTs. In addition, satisfaction with SSTs, future continuous

use of SSTs, and involvement in positive word-of-mouth activities are negatively related to technology anxiety. Given that anxiety, in general, results in lower performance and avoidance behavior (Dew, Galassi, & Galassi 1984), technology anxiety will lead to avoidance of using SSTs. Accordingly, consumers with technology anxiety will promote using cashier-staffed stations. When such consumers decide whether or not to patronize a retail store, their estimation of interpersonal service quality will be a more significant determinant of that decision than consumers who are low in technology anxiety, due to their frequent contact with a cashier. On the other hand, since consumers with technology anxiety use SSTs less or do not use SSTs, their estimation of SST service quality will not be considered significantly to these consumers when they develop retail support intentions. Therefore, SST service quality will less strongly impact retail support intentions in case of consumers who are high in technology anxiety than in case of their complement.

H4a. The effect of interpersonal service quality on retail support intentions will be stronger for consumers who are high in technology anxiety than those who are low in technology anxiety.

H4b. The effect of self-service technology (SST) service quality on retail support intentions will be weaker for consumers who are high in technology anxiety than those who are low in technology anxiety.

Although retailers have introduced many technological performing with the growth of new technology, consumers often reply with opposition to the adoption of self-service technologies. Some consumers like interacting with a cashier and thus they do not see the benefits of self-service technologies. One may say that such consumers have a great need for human contact. In previous studies, need for interaction has been found to be negatively related with the use of self-service technologies (Dabholkar, 1996; Gelderman Ghijsen, & van Diemen 2011). For instance, if consumers have a great need for interpersonal contact, they tend to be less intrinsically motivated to use self-service technologies (Dabholkar & Bagozzi, 2002). Given that consumers who are high in need for interaction prefer to have personal service, whether a cashier delivers high quality service will be important for them to decide whether to patronize a retail store. However, consumers with a high need for interaction

will not take into consideration SST service quality in patronizing that retail store due to these consumers' rare use of SSTs. Therefore, needs for interaction will moderate the effects of interpersonal service quality and SST service quality on retail support intentions.

H5a. The effect of interpersonal service quality on retail support intentions will be stronger for consumers who are high in need for interaction than those who are low in need for interaction.

H5b. The effect of self-service technology (SST) service quality on retail support intentions will be weaker for consumers who are high in need for interaction than those who are low in need for interaction.

In shopping environments, old consumers enjoy interacting with other people such as store employees, service agents, which can be a source of social stimulation (Kang & Ridgway, 1996). Research has shown that old consumers prefer to carry out financial transactions by interacting with a banker over using an automatic teller machine (ATM) (Zeithaml & Gilly, 1987). Old consumers tend to feel that they are not capable to learn new things due to their information process shortage (John & Cole, 1986). For this reason, old consumers are less likely to adopt new service options such as self-service technologies (e.g., ATM, and mobile phone). Previous studies have systematically reported that old consumers are not regular online shoppers, do not prefer to use ATM, need a longer time to perform certain tasks on a mobile phone, and show less confidence in using different self-service technologies (Ziefle & Bay, 2005). Given that old consumers like having social interaction with a cashier while they are indecisive of using self-service technologies, they will patronize a retail store if service from that store's employees is superior. In other words, estimation of interpersonal service quality will be used as a guide that helps old consumers to decide which retail store they patronize in the future. However, old consumers' retail support intentions will not be developed based on estimation of SST service quality because they occasionally use SST. Therefore, the path from interpersonal service quality to retail support intentions and that from SST service quality to retail support intentions will be simplified by age.

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H6a. The effect of interpersonal service quality on retail support intentions will be stronger for old consumers than young consumers.

H6b. The effect of self-service technology (SST) service quality on retail support intentions will be weaker for old consumers than young consumers.

RESEARCH METHOD

This study was directed through a web-based survey and participants were obtained from a consumer board, which is organized and maintained by a market research firm. Utilizing board data through an online statistical study agent offers abundant advantages including low costs, quick response times, and wide geographic reach. Since self-checkouts have been established in a position only by some retailers in a certain region, a web-based survey was estimate appropriate. In this way, responses from a nationwide sample of consumers could be obtained, meeting the specific sample frame for this study, and performing a more equal distribution of samples in their demographic information. Only qualified individuals who had used a self-checkout at least once at a retail store in the past one year were allowed to participate in the survey. In this survey, a self-checkout refers to an automatic alternative to the traditional cashier-staffed checkout. Using a self-checkout, shoppers can unload, scan, and bag their purchases. A total of 1764 questioner were distributed. Of these, 1164 board members had no experience with self-checkouts, resulting in the final sample of 600 usable responses. For interpersonal service quality, five items were taken from Dabholkar (1996). Three items were adapted for self-service technology (SST) service quality from Dabholkar, Shepherd & Thorpe (2000). We also adapted two items of retail support intentions from Cronin, Brady & Hult (2000). Retail support behavior was measured by asking respondents to show how long they had been a customer of the retail store where they had used the most the self-checkout. For individual attributes, technology anxiety was measured by seven items adopted from Meuter, Ostrom, Bitner & Roundtree (2003) and three items for need for interaction were borrowed from Dabholkar (1996). Respondents were asked to show their age. All scale items, except retail support behavior and age, were rated on a five-point Likert-type scale ranging from ''strongly disagree'' to ''strongly agree.'' The scale items for the main variables are summarized in Table 1 and those for the moderating variables are summarized in Table 2.

Table 1 Measurement model: scale items for latent variables

Construct	Scale item	t-value	Average variance extracted	mix reliability
Interpersonal service quality	Employees in this store have the knowledge to answer customers' questions	17.08***	0.67	0.94
	Employees in this store are never too busy to respond to customer's requests	18.21***		
	Employees in this store tell customers exactly when services will be performed	15.34***		
	Employees in this store are consistently polite with customers	20.58***		
	This store gives customers individual concentration	20.15***		
Self-service	I believe that the overall service quality at the self-	20.94**	0.81	0.96

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technology (SST) service quality	checkout is superior			
	I think the overall service, I usually receive from the self-checkout is of a high quality	21.89***		
	The overall quality of the service at the self-checkout is generally a high standard of service	22.75***		
Retail support intentions	The likelihood that I will shop at this store again	19.36**	0.79	0.93
	The likelihood that I would recommend this store to a friends	16.76***		
Retail support behavior	How long have you been a customer of this store? a	25.47***		

Table 2 Scale items and reliability for moderating variables

Construct	Scale items	Reliability(a)
Technology anxiety	I have prevented technology because it is unfamiliar to me	0.94
	I have difficulty understanding most technological matters	
	I am sure of my capacity to interpret technological output (r)	
	I am sure I can learn technology-related skills (r)	
	Technological terminology sounds like confusing jargon to me	
	I hesitate to use technology for fear of making mistakes I cannot correct	
	I feel worried about using technology	
Need for interaction	I like interacting with the person who furnish the service	0.79
	Personal concentration by the service employee is not very significant to me	
	Human contact in furnishing services makes the process delightful for me	

Note. (r) Signify that scale items are reverse coded

DATA ANALISIS AND RESULTS

The sample of respondents is included of partly more males (55.7%) than females. Nearly, 57% were the ages of 23 and 46, with a mean age of 48 years. The majority attained a four-year college degree (64%), and married were (52.8%). The illustrative information on self-service technologies (SSTs) use was also acquired.

Table 3 Sample sizes and means of the sub-groups.

	Technology anxiety		Need for interaction		Age	
	Sample size	Mean	Sample size	Mean	Sample size	Mean
Low group	294	26.28	286	13.65	288	32.10
High group	290	46.71	272	19.98	294	51.99
Total	584		558		582	

Over three quarters of the sample were aware and used a wide range of SSTs, including ATMs, Internet banking, and online shopping. Specifically, self-checkout use was measured by asking respondents to show what percentage of the shopping trips they used the self-checkout. The mean use was 53.89% with a range from 0% to 100%. Between 0% and 22% (27.8%) and between 82% and 100% (25.0%) were two highly represented use categories. Data analysis was conducted with structural equation modeling (SEM) using AMOS 19.0. First, the measurement model was accessed for its fit, convergent validity, and reliability of the measures through a confirmatory factor analysis (CFA). The goodness-of-fit statistics of the measurement model showed acceptable fit ($x2/df=2.07$; CFI=0.96; GFI=0.91; TLI=0.95; RMSEA=0.06). All standardized path weights were significant (p< 0.001). The mix reliabilities were between 0.90 and 0.92 and the average variance extracted (AVE) values ranged from 0.67 to 0.81 (Table 1). Discriminant validity was estimated by the process proposed by Fornell & Larcker (1981). None of the AVE value of the construct was smaller than the shared variance between all pairs of the constructs. Thus, discriminant validity was performed. The next step was to evaluate the goodness-of-fit of the structural model and examine the hypothesized relationships among constructs. The model fitted the data well ($x2/df=$ 2.07; CFI=0.96; GFI= 0.91; TLI=0.95; RMSEA = 0.06). H1 stated that interpersonal service quality would be positively related to retail support intentions. The link between interpersonal service quality and retail support intentions was significant at the 0.001 level, supporting H1. H2 suggested that SST service quality would be positively related to retail support intentions. This hypothesis was supported by the significant effect of self-service technology (SST) service quality on retail support intentions (p<0.001). Therefore, our results present the significant role of interactive quality derived from both interpersonal service quality and SST service quality in developing retail support intentions. The effect of retail support intentions on retail support behavior was also found to be significant at the 0.01 level. Therefore, H3 was supported. The results of H1 through H3 are summarized in Fig. 2.

Interactive Elements
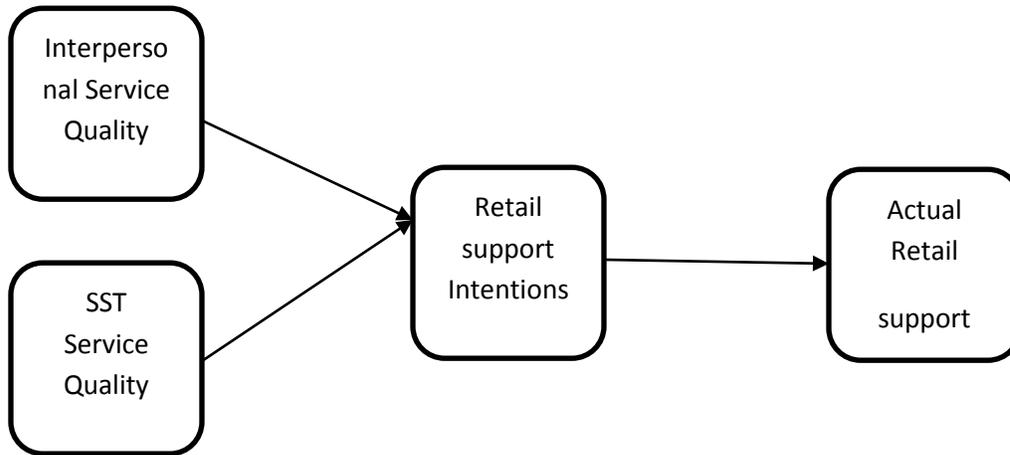
H2:0.21***

*p < 0.05, ** p < 0.01, *** p*

Fig. 2. Structural equation results of hypotheses in main effects

Three individual attributes, technology anxiety (TA), need for interaction (NI), and age, and were contained as moderating variables in this study. The moderating effects of individual attributes on two links from interpersonal service quality to retail support intentions and from SST service quality to retail support intentions were tested. To perform this, median splits were conducted based upon the values of the moderating variables. That is, for each moderating variable, the median group was removed from the analysis to avoid contaminating the group differences with more neutral response and the remaining respondents were divided into high and low sub-groups. Then, for each moderating variable, a series of analyses were performed to test whether the paths are   constant between two sub-groups. More specifically, two nested models were constructed: (1) the unconstrained model in which two paths (interpersonal service quality-retail support intentions, SST service quality- retail support intentions) were freely estimated; and (2) the constrained model in which two paths were specified to be equal across two sub-groups. Table3 reports the sample sizes and means of sub-groups for each moderating variable. As shown in Table 4, interpersonal service quality was a stronger determinant of retail support intentions for high TA groups than for low TA groups. The difference of the path across groups was also significant ($\Delta x2$=4.06,

p<0.05). Thus, H4a was supported. The effect of SST service quality on retail support intentions was also stronger for high TA groups than for low TA groups. In fact, the effect is in the opposite direction to what was hypothesized in H4b, although the difference with respect to the effect of SST service quality on retail support intentions across groups was not significant ($\Delta x2$=1.09, n.s.). Thus, H4b was rejected. The stronger effect of SST service quality on retail support intentions among technologically anxious consumers may be illustrated by the increasing prevalence of self-checkout systems in the current retail market. More disclosures to self- checkouts could motivate such consumers to use self-checkouts sometimes just in case there is a long line of people waiting at the cashier-staffed checkout. In this circumstance, due to their concern or fear about using self-checkout systems, technologically anxious consumers might closely examine SST service quality and SST service quality could become a salient determinant to them in the development of their retail support intentions. In line with H5a, interpersonal service quality was a stronger determinant of retail support intentions for high NI groups than low NI groups. However, x2 difference test did not verify a significant difference of the path a cross groups ($\Delta x2$=1.50, n.s.), rejecting H5a. SST service quality had no significant effect on retail support intentions for high NI groups, but such a

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relationship was significant for low NI groups. The difference in effect was also significant ($\Delta x2=3.05$, $p<0.05$). Thus H5b was supported. As anticipated, the unstandardized coefficients of the path from inter-personal service quality to retail support intentions was greater for older consumers than for younger consumers. However, the difference in effect across groups was not significant ($\Delta x2=0.45$, n.s.). Thus,

H6a was not supported. The effect of SST service quality on retail support intentions was not significant for older consumers, but significant effect was detected for younger consumers. Such a difference was also statistically significant ($\Delta x2=7.85$, $p<0.01$), supporting H6b. The results of H4 through H6 testing are summarized in Table 4.

Table 4 Structural equation results of hypotheses in moderating effects

		Interpersonal service quality-retail support intentions	x^2 test	SST service quality-retail support intentions	x^2 test
Technology anxiety	Low	0.28***	4.06*	0.13*	1.09 (n.s.)
	High	0.43***	H4a: Supported	0.23**	H4b: Not supported
Need for interaction	Low	0.31***	1.50 (n.s.)	0.31***	3.90*
	High	0.44***	H5a: Not supported	0.14	H5b: Supported
Age	Young	0.33***	0.45 (n.s.)	0.35***	7.85**
	old	0.34***	H6a: Not supported	0.06	H6b: Supported

Note. n.s. = not significant. * $P<0.05$. ** $P<0.01$. *** $P<0.001$.

5. DISCUSSIONS AND IMPLICATIONS

The main goal of this study was to examine how interactive service quality is related to retail support. Adapting Lehtinen & Lehtinen's (1991) conceptualization of interactive quality, we assumed that interactive service quality was made up of two elements: interpersonal service quality and self-service technology (SST) service quality. Consistent with previous studies, our results recognize the significant effect of interpersonal service quality on retail support intentions (Baker, Parasuraman, Grewal, & Voss 2002; Sirohi, McLaughlin, & Wittink 1998) In addition, our results furnish strong support for the non-human element of interactive quality since the supplemented descriptive power of SST service quality is found in the development of retail support. Thus, this study extends previous research on the service quality and retail support link by demonstrating that SST service quality is also a significant predictor of retail support, which was not examined in previous studies. Despite some arguments over the intention behavior link existed in previous studies, our results furnish additional support for the prevailing observe that

intention leads to behaviors. The moderating effects of technology anxiety need for interaction, and age were also partly supported. With technology anxiety, the relationship between interpersonal service quality and retail support intentions was reinforced while the relationship between SST service quality and retail support intentions was weakened, with greater need for interaction. The relationship between SST service quality and retail support intentions was also simplified by age. According to Dabholkar & Bagozzi (2002), what is more significant is to examine the moderating effects of consumer traits although extant studies have been made on the direct effects of consumer traits. Therefore, the current study makes a significant addition to the research flow investigating the moderating role of consumer traits. Much of the researches has neglected the non-human element of interactive quality in illustrating retail support. In particular, retailers who plan to use or have used self-checkout systems can draw several practical implications from this study. To increase retail support, it is very significant to focus on improving SST service quality as well as interpersonal service quality. The results from this study may furnish retail managers with a detailed

understanding of how individual attributes impact retail support intentions. Especially, if profiles of a retailer's major consumer group are identified to be related with technologically anxious people, then the retailer could pay particular concentration to interpersonal service quality although SST service quality is still significant to that kind of consumer. Consumer traits such as technology anxiety and need for interaction are known to be hard to measure. However, retailers could familiarize a consumer research study and build a profile of key consumers. More readily available way may be to use demographic information of consumers in order to recognize whether a retailer's key consumers belong to a group who are high in technology anxiety. Retailers could develop an employee training program that encourages the employees' capacity or readiness to help or interact with consumers who are high in technology anxiety. In particular, setting up a control center where a store employee stands near self- checkout lanes would be mandatory in order to furnish his or her alert assistance or instruction. If a retail store furnished with self-checkouts is situated in an area where young people or people whose need for human interaction is low make up of large portion of the population, that retailer could attempt efforts on SST service quality. However, it should be noted that interpersonal service quality still remains very necessary in the development of retail support, regardless of a level of need for interaction and age. Young consumers and consumers who are low in need for interaction may place greater value on SST service quality than their complements. Therefore, retailers need to ensure that their self-checkout systems are actually designed to furnish a high level of services. In conjunction with self-checkout systems, retailers need to have at least one employee to care for all related activities such as bagging, verifying non-bar coded items, checking a consumer's ID card for alcohol, or payment.

6. LIMITATIONS

This study is not free of limitations. This study contained only one measure of service quality, interactive quality, as a determinant of retail support intentions. To furnish a broader observe and better prediction, future research could examine other measures of service quality such as physical quality and outcome quality. Likewise, a restricted number of individual attributes were investigated as moderating variables. Dabholkar & Bagozzi (2002) found that inherent novelty seeking, self-efficacy,

and self-consciousness moderate the relationships within their relational model for technology-based self-service. In future studies, developing a more comprehensive model by including such moderating variables would furnish further insight into the interactive quality and retail support relationship. Lastly, using board data through a web-based survey might prevent us from obtaining generalizable samples. In spite of the advantages of a web-based survey, future research could utilize other sampling methods.

REFERENCES

1. Alpert, H.K., (2008). The Self-Service ''Buy-and-Pay'' Market: Kiosk, Vending and Foodservice Trends in the U.S. Packaged Facts, from MarketResearch.com Academic.
2. Baker, J., Parasuraman, A., Grewal, D., Voss, G.B., (2002). The influence of multiple store environment cues on perceived merchandise value and patronage intentions. Journal of Marketing 66 (2), 120–141.
3. Bitner, M.J., Ostrom, A.L., Meuter, M.L., (2002). Implementing successful self-service technologies. Academy of Management Executive 16 (4), 96–109.
4. Brady, M.K., Cronin, J.J.J., (2001). Some new thoughts on conceptualizing perceived service quality: a hierarchical approach. Journal of Marketing 65 (3), 34–49.
5. Colby, B.L., Parasuraman, A., (2003). Technology still matters. Marketing Management 12 (4), 28–33.
6. Cronin, J.J.J., Brady, M.K., Hult, G.T.M., (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service encounters. Journal of Retailing 76 (2), 193–218.
7. Dabholkar, P.A., (1996). Consumer evaluations of new technology-based self-service options: an investigation of alternative models of service quality. International Journal of Research in Marketing 13 (1), 29–51.
8. Dabholkar, P.A., Bagozzi, R.P., (2002). An attitudinal model of technology-based self-service: moderating effects of consumer traits and situational factors. Journal of the

Academy of Marketing Science 30 (3), 184–201.

9. Dabholkar, P.A., , E.J., (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.

10. Dabholkar, P.A., Shepherd, C.D., Thorpe, D., (2000). A comprehensive framework for service quality: an investigation of critical conceptual and measurement issues through a longitudinal study. Journal of Retailing 76 (2), 139–173.

11. Dew, K.H., Galassi, J.P., Galassi, M.D., (1984). Math anxiety: relation with situational test anxiety, performance, physiological arousal, and math avoidance behavior. Journal of Counseling Psychology 31 (4), 580–583.

12. Eastlick, M.A., Ratto, C., Lotz, S.L., Mishra, A., (2012). Exploring antecedents of attitude toward co-producing a retail checkout service utilizing a self-service technology. The International Review of Retail, Distribution and Consumer Research 22 (4), 337–364.

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

14. Fornell, C., Larcker, D.F., (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research 18 (1), 39–50.

15. Gelderman, C.J., Ghijsen, P.W.T., van Diemen, R., (2011). Choosing self-service technologies or interpersonal services: the impact of situational factors and technology-related attitudes. Journal of Retailing and Consumer Services 18 (5), 414–421.

16. Jamieson, L.F., Bass, F.M., (1989). Adjusting stated intention measures to predict trial purchase of a new product: a comparison of models and methods. Journal of Marketing Research 26 (3), 336–345.

17. John, D.R., Cole, C.A., (1986). Age differences in information processing: under- standing deficits in young and elderly consumers. Journal of Consumer Research 13 (3), 297–315.

18. Lee, H.-J., Fairhurst, A.E., Lee, M.-Y., (2009). The importance of self-service kiosks in developing consumers' retail patronage intentions. Managing Service Quality 19 (6), 687–701.

19. Lehtinen, U., Lehtinen, J.R., (1991). Two approaches to service quality dimensions. The Service Industries Journal 11 (3), 287–303.

20. Marzocchi, G.L., Zammit, A., (2006). Self-scanning technologies in retail: determinants of adoption. The Service Industries Journal 26 (6), 651–669.

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

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

23. Miniard, P.W., Obermiller, C., Page, T.J., (1982). Predicting behavior with intentions: a comparison of conditional versus direct measures. In: Mitchell, A.A. (Ed.), Advances in Consumer Research. Association of Consumer Research, Ann Arbor, MI.

24. Pan, Y., Zinkhan, G.M., (2006). Determinants of retail patronage: a meta-analytical perspective. Journal of Retailing 82 (3), 229–243.

25. Parasuraman, A., (2000). Technology readiness index (TRI): a multiple-item scale to measure readiness to embrace new technologies. Journal of Service Research 2 (4), 307–320.

26. Parasuraman, A., Zeithaml, V.A., Berry, L.L., (1985). A conceptual model of service quality and its implications for future research. Journal of Marketing 49 (4), 41–50.

27. Simon, F.i., Usunier, J.-C., (2007). Cognitive, demographic, and situational determinants of service customer preference for personnel-incontact over self-service technology. International Journal of Research in Marketing 24 (2), 163–173.

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28. Sirohi, N., McLaughlin, E.W., Wittink, D.R., (1998). A model of consumer perceptions and store loyalty intentions for a supermarket retailer. Journal of Retailing 74 (2), 223–245.

29. Sureshchandar, G.S., Rajendran, C., Anantharaman, R.N., (2002). Determinants of customer-perceived service quality: a confirmatory factor analysis approach. Journal of Services Marketing 16 (1), 9–34.

30. Tarnowski, J., (2011). Self-checkout: readers respond. Progressive Grocer 90 (10), 139–140.

31. 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 85 (1), 31–41.

32. Young, M.R., DeSarbo, W.S., Morwitz, V.G., (1998). The stochastic modeling of purchase intentions and behavior. Management Science 44 (2), 188–204.

33. Zeithaml, V.A., Berry, L.L., Parasuraman, A., (1996). The behavioral consequences of service quality. Journal of Marketing 60 (2), 31–46.

34. Zeithaml, V.A., Gilly, M.C., (1987). Characteristics affecting the acceptance of retailing technologies: a comparison of elderly and nonelderly consumers. Journal of Retailing 63 (1), 49–68.

35. Ziefle, M., Bay, S., (2005). How older adults meet complexity: aging effects on the usability of different mobile phones. Behaviour & Information Technology 24 (5), 375–389.