

Journal of Fashion Business
Vol.21, No.6

—
ISSN 1229-3350(Print)
ISSN 2288-1867(Online)

—
J. fash. bus. Vol. 21,
No. 6:106-121, December. 2017
[https://doi.org/
10.12940/jfb.2017.21.6.106](https://doi.org/10.12940/jfb.2017.21.6.106)

A Study on Service Encounter Quality: Interpersonal Service vs. Self-Service Technology in the Fashion Retail Stores

Eun Young Kim

Dept. of Fashion Design Information, Chungbuk National University, Korea

Corresponding author

—
Eun Young Kim
Tel: +82-43-261-2792
Fax: +82-43-274-2792
E-mail: eunykim@cbnu.ac.kr

Keywords

service encounter,
self-service technology,
service effectiveness,
behavioral intentions

Abstract

This study was to identify underlying dimensions of service encounter quality, to test difference in service encounter quality between interpersonal service(IPS) and self-service technology(SST) and to predict service effectiveness and behavioral intentions in the fashion retail context. A field experimental study was designed for collecting data. Repeat sampling frames were involved in two types of service encounters: interpersonal service and self-service technology within the store environment. Thirty participants served as subjects. Sample represents more females than males, and age was ranged from 20 to 33 years old (*Mean*=24.2). The result suggested that service encounter quality consisted of competence, dedication, and listening. There was a significant mean difference on listening factor of service encounter quality between IPS and SST. For the interpersonal service, dedication and listening had significant effects on service effectiveness. For the self-service technology, competence and listening had significant effects on service effectiveness. In the IPS condition, the service effectiveness significantly affected the revisit intention, whereas it was not significantly related to the revisit intention in the SST condition. This study discussed managerial implications for fashion retailers seeking to effectively manage service quality by specifying interpersonal service versus self-service technology in the retail environments.

—
This work was conducted during
the research year of Chungbuk
National University in 2016

I. Introduction

Within the 4th industrial revolution over the world, many firms recognize the great importance of digital technologies which are increasingly evolving a communication way in the marketplace. Globally, self-service technology market would gain about 31 billion dollars by 2020, prospecting a growth rate of 14% during 2015 to 2020. Already, the technically advanced kiosks have revolutionized the self-service industry by rendering an improved automation experience (Allied Market Research, 2015). The self-service technology is primarily driven by giving a fertile opportunity to provide more convenient services to the customers and by optimizing the cost of such services at the same time (Giebelhausen, Robinson, Sirianni, & Brady, 2014; Park & Kim, 2011). These benefits have been vital to service industries, such as medical or healthcare, food & beverage, hotels, travels, and so on.

Given in this situation, the self-service technology becomes to be key demand to fashion retailers who have just stressed interpersonal service on their stores. Already, many retailers have endeavored to apply various types of technology-based services (e.g., touch screen, self-service kiosk, virtual-try-on and self-checking terminal) in their stores (Kim & Sung, 2016). In particular, it is possible to transform traditional service encounter (i.e., interpersonal interaction: human to human) to technology-based service encounter (i.e., self-service technology: human to technology). Thus, service encounter is very keen to build and manage a customer relationship in the retail venue.

Traditionally, it is seen that service encounter is occurred in a period during interaction between customer and service provider (Bitner, 1990). That is, the service encounter is perceived as interaction between human to human, i.e., salesperson to customer (Solomon, Surprenant, Czepiel, & Gutman, 1985). From a dyadic perspective, the service encounter quality identified to be multidimensional, which was more based on employees'

performance (e.g., competence, dedication, listening or empathy) than on environmental factors in the retail settings. Previous studies well indicated that service encounter was strongly related to service outcomes. It is critical input to determine customer satisfaction, leading to a strong relationship with customers, such as customer retentions, relationship quality or patronage intentions toward service providers (Hwang, Kim, & Choi, 2014; Lee, Suh, & Yoon, 2013; Wang, Cheng, & Huang, 2013).

On the other hand, researchers in service marketing area have been in a prospect for technologies replaced with human in a near future (Beatson, Lee, & Coote, 2007; Meuter, Ostrom, Roudtree & Bitner, Brown, & Meuter, 2000; Salomonson, Allwood, Lind, & Alm, 2013). More recently, it is issued that the primary motivation for switching to technology-infused interaction is a desire to improve customer service (Giebelhausen et al., 2014). This might be due to that technological evolution can enable to have active two-way communication between human and technologies. As one of interactive media, self-service technology can encourage users actively involve creating service for themselves. Likewise, it is likely that the technology-based encounters play a more important role in success of service delivery and outcomes, than do traditional service encounters (Beatson et al., 2007; Meuter et al., 2000; Salomonson et al., 2013). Moreover, the service encounter (i.e., the person-to-person interaction) can leave an indelible impression on the consumer even in mixed product/service offerings, such as clothing purchased in a retail store. Thus, retailers, such as fashion retailers who emphasize the importance of sales person on selling products, cannot disregard to utilizing technologies in a provision of service.

Yet, it is not prevalent, but optimistic to expand the service encounter from human to technologies in the fashion retail environments. Here, one of questions is whether technology can be replaced with human or not in the retail stores? Still, effectiveness of self-service technology on service outcome is a topic that gains

relatively little attention, compared with a prediction of behavioral intentions to use technology. Recent studies suggested that technology-based service encounter significantly influenced customer assessment of service quality and satisfaction (Hwang et al., 2014; Lee et al., 2013; Park & Kim, 2011; Seo & Suh, 2014), but they were limited to the area of service industries where a physical product is not exchanged (e.g., travel or medical services). In the service marketing, literatures have been proposed a difference of concept and outcome between interpersonal service and technology-based service. Therefore, it is important to compare perception of service encounter quality and effectiveness between two types of service encounters (interpersonal encounter vs. self-service technology encounter). Nevertheless, there was little empirical evidence of difference in service encounter qualities and even less of an attempt to point out the implication for service effectiveness in the context of fashion retailing.

This study conceptually framed the service encounter based on a dyadic communication perspective and included two types, such as interpersonal service (human-to-human interaction) and self-service technology (human-to-technology interaction) in order to comprehend a dynamic of service encounter within the fashion retail stores. Specific objectives of this study were (a) to identify underlying dimensions of service encounter quality; (b) to test difference in perceived encounter quality; and (c) to predict service effectiveness and behavioral intentions for interpersonal service and self-service technology in the fashion retail stores. This study would expand the role theory of dyadic interaction for service encounter in which technology can be replaced with human. Also, it provides an insight into applications of retail technologies for developing service marketing in fashion retail environments.

II. Literature Review

1. Service encounters as a dyadic

Traditional service is focused on more face to face encounter. Service encounter is broadly defined as a period of time during which a consumer interacts with a service (Bitner, 1990). Primarily in the service sector, dyadic encounter has a greater deal of managerial concern. The idea of dyadic communication is not simple relationships, which is adapted from a social psychological perspective on human interaction. In this view, the concept of service encounter is narrow down to an interaction between customers and service providers (Chandon, Leo & Philippe, 1997; Gabbott & Hogg, 2001; Surprenant & Solomon, 1987).

From a dyadic perspective, communication between a service provider and a customer is interactive, which is focused on a reciprocal process rather than a linear one. Solomon et al. (1985) proposed that service encounter was a dyadic interaction entirely consisting of a close interpersonal exchange between people (customer) and people (seller) in personal selling process. Thus, the service encounters were characterized as dyadic and human interactions. Service encounter is seen as a kind of compromise between partially conflict parties because the conflict occurs in the delicate balance between customer and service provider (Gabbott & Hogg, 2001). At this point, it was discussed that service encounter was occurred as a primarily social occasion to customers (Chandon et al., 1997; Guiry, 1992).

In a dyadic communication process, the service encounter is more particularly relevant to human-based services, rather than to equipment-based services. It could, however, be generalized to any marketing situation in which interaction was an important element of the total offerings (Solomon et al., 1985). The idea of service encounter might be applicable to technology-based service, in that interactivity is essential for active two-way communication in using technologies. Thus, this study reviewed the literatures by focusing on the dyadic encounters in the both of interpersonal service and self-service technology contexts.

With respect to outcome of service, the service encounter quality refers to the consumer's evaluation of

his or her personal interactions with a component of a service provider during a service transaction, i.e., process of service delivery (Wang et al., 2013). Indeed, good encounters can play important role in gratifying experience with contact personnel, which leads to success of service outcome (Meuter et al., 2000; Price, Arnould, & Deibler, 1995; Surprenant & Solomon, 1987). Therefore, an interactive nature is a major concern on perception of service encounter quality (Chandon et al., 1997). Several studies attempted to identify dimensions of service encounter quality based on role theory on dyadic interaction. For personal contact, employees may engage in adjusting elements of service in real time during service delivery in order to meet customers' needs. The service encounter quality highlights employees' ability to customize the service (McAlexander, Kaldenburg, & Koenig, 1994). Therefore, the perceived quality of service encounter was measured by heavily depending on employee's role performance in the service sector (Chandon et al., 1997; Giebelhausen et al., 2014).

In addition, service encounter quality identified to be associated with the interpersonal factor of service quality suggested by Parasuraman, Zeithaml and Berry (1988). The interpersonal service quality included various factors, such as responsiveness, assurance and empathy. For instance, Gabbott & Hogg (2001) found that employees' empathy, and power or control played an important role of non-verbal communication in face to face encounters. In addition, Chandon et al. (1997) explored multiple components of service encounter quality, such as competence, listening, and dedication. They suggested that the factors of service encounter quality were based on two aspects of quality interactions, i.e., "interactivity"—the service relations at work during the encounter—and "rituality"—ceremonial and contextual aspects which shape the climate of encounter. Specifically, the agent's competence tended to be perceived based on the rituality of role performance, whereas the listening and dedication are judged based on interactivity between customer and agent during the encounter. Another evidences suggested that employees'

performance was dominant in evaluation process of service encounter (Bettencourt & Gwinner, 1996). Kang, Choi and Ahn (2012) also supported the dimensions of service encounter quality (e.g., competence, dedication) in the area of travel agency.

With an application of the interpersonal circumplex model (ICM), Ma and Dubé (2006) identified two major dimensions of service encounter: agency (i.e., an individual's strivings for mastery and power) and communion anchored by warm-agreeable traits and cold-quarrelsome traits. The both factors were in a complementary pattern for client-provider encounter, which was stronger in the communal factor than in the agency. It is true that service encounter quality is perceived by depending on how well they interact with salesperson, even in service given an exchange of tangible products. The interpersonal encounter can be generally occurred in where consumers interact with salesperson even for purchasing tangible products. Thus, this study adopts Chandon et al. (1997)'s three aspects of service encounter quality encompassing competence, listening and dedication from a dyadic perspective in the context of fashion retail stores.

2. Self-Service Technology and service encounter

Today, technology continually evolves and become to be more essential in transaction and service delivery. Self-service technologies (SSTs) are defined as "any use of a technological interface to produce a service for the consumer without the direct involvement of a service employee" (Meuter, 2000, p.50). Examples of interface for self-service technologies include various types which are expanded from traditional telephone voice response, direct online connection, or interactive ATM to digital platforms, such as LBS touch screen, point-of-sale terminals, self-checking kiosks, interactive kiosk (e.g., magic mirror or virtual fitting room). The kinds of SSTs affect the way customers interact with firms to create service, which is changing the traditional concept of service encounter (Beatson et al., 2007).

The term "technology-based service encounters" refers

to the interactions between customers and technology-based service platforms (Meuter et al., 2000). It is sometimes called as "service technology contact" in that consumers contact to the technology in a service system (Theotokis & Doukidis, 2011, p.140). It seems that technology-based encounter is similar with the traditional service encounter in terms of the mechanism of two-way interaction or interactive communication (e.g., human-to-technologies).

As well known, technology-mediated communication process is characterized as active interactivity, such as user control, two-way communication or responsiveness (McMillan & Hwang, 2002; Stromer-Galley, 2004). Such interactivity reflects a kind of competences driven from quality interaction between customers and technologies. Unlike to interpersonal service, SSTs are likely to maintain consistency as well as accuracy in a service, regardless of personnel traits or moods during the service encounter. The consistency and accuracy make it trustful, and thus consumers actively process and create a service what they need for themselves. Another advantage of technology-based services is convenience, which is corresponded to greater control of service delivery, a reduced waiting time, a greater level of perceived customization (Bitner, et al., 2000; López-Bonilla & López-Bonilla, 2013). Likewise, technology-based service encounters was assessed by various criteria, such as conformance with customers' special needs, reliability, trustworthiness, and convenience (Hsieh, 2005). This might provide an insight into replacing employee with SST in taking care of customers' special needs or problems. Despite of the loss of interpersonal aspect, it can be possible to assume if the service encounter quality would be applicable to measure the quality of technology-based encounter.

Otherwise, customers are required to navigate the technology on their own, which may sometimes lead to the dedication of a customer's cognitive efforts. In fact, there was a positive effect of technology use when rapport was low. In contrast, when rapport was high, there was negative effect of technology use for the

check-in/out service experience in hotels (Giebelhausen et al., 2014). Therefore, it is one of barriers to generate a "loss of human contact" or personal interaction. Artificial agents lack many of desirable communicative traits (i.e., implicit communication functions, adequate feedback, relevant adaptation of its answer, referential connections going back more than one turn, change of perspective and the co-construction of information, and amount information) of human to human service encounters (Salomonson et al., 2013). Also, several studies concern about customers with personal traits (e.g., technology anxiety, limited technology readiness) who had preference for human over technological interaction (Dabholkar & Bagozzi, 2002; Meuter, Ostrom, Bitner & Roundtree, 2003; Theotokis & Doukidis, 2011; Walker, Craig-Lees, Hecker & Francis, 2002). Despite some limitation of self-service technology, it seems likely that SSTs can mimic and/or surpass the positive aspects of interpersonal encounters in the future.

3. Effectiveness and Service Outcomes

1) Interpersonal service

Service effectiveness is more importantly dealt as a service outcome in most studies. According to Chandon et al. (1997), the concept of effectiveness is driven from perceived service quality (Parasuraman et al., 1988), which is more fitted to assess global service outcome. The effectiveness concerns the result of service encounter evaluated in a communication between agent and customer in a dyadic manner.

With respect to effectiveness, several researches suggested that service effectiveness was directly linked to quality encounter to employees. In order to deliver service effectively, for instance, it is necessary for the service provider to use employees' empathy and power (or control) over the process by guiding or directing the consumer (Beatson et al., 2007; Gabbott & Hogg, 2001). Especially, for face-to-face service encounter, employee's empathy identified to be more critical for successfully helping relationships with customer, which

led to success of service outcome (Beatson et al., 2007). Service effectiveness can stem from a comparison of customer expectation (i.e., what they want) with satisfaction of service encounter quality. Therefore, the service effectiveness would be determined by service encounter quality which may depend on the different level of competence, dedication or listening as perceived by customers in retailing context.

One of ultimate goals for service providers is to maintain a long-term relationship between customers and firms. Consumers satisfied with service encounters are likely to stay with the service organization. In previous studies, it has been well established that service encounter quality was a vital tool to practice a customer relationship marketing. For example, Lee et al. (2013) found service encounter quality had positive effect on customer satisfaction, in turn leading to trust, customer loyalty, or retention and future behavior. In Kang et al. (2012)'s study, effectiveness also was most great related to perceived service quality, which ultimately in turn increasing relationship quality. Another research suggested that service encounter quality had a significant effect on relational quality, leading to trust in travel industries in an employee's view (Seo & Suh 2014). Hwang et al. (2014) identified that service encounter quality (e.g., personalization, effectiveness, or empathy) had significant effects on emotional attachment that affected airline loyalty. Especially, personal service played an more important role in low cost carrier than in high cost carrier for airline service. In contrast, failed service, that is dissatisfied with service encounter, was likely to decrease trust and customer loyalty, or to increase switching behavior (Keaveney, 1995; Tax & Brown, 1998). Thus, it is assumed that service encounter quality or service effectiveness increases customers' revisit intentions toward the stores even in the context of transaction for exchanges of service or products.

2) Self-service technology

In addition to human-to-human encounters, technology-to-human encounters play an important role in

increasing customer satisfaction that links to customer retentions (Wang et al., 2013). Nevertheless, there was little evidence to empirically investigate the service effectiveness relevant to technology-to-human encounters. Just studies have suggested that SSTs were a effective tool for service delivery in both customers and firms (Beatson et al., 2007). For consumers, technology-based service can offer convenient service delivery and favorable human-computer interaction, which makes customers feel like as they use effectively the service (Wang et al., 2013).

Above all, for technology-based service delivery, performance might has a great deal of importance in predicting success of service outcome (Bharadwaj, 2000; Stone, Good, & Baker-Eveleth, 2007). Meuter et al. (2000) identified that users of SSTs were most likely to attribute outcome of the encounter to technology, and more respondents to do for a dissatisfying than a satisfying interpersonal encounter. Wang et al. (2013) also discussed that performance of self-service technology was more critical to success service effectiveness by increasing overall satisfaction than was interpersonal service.

In the context of using self-service technology, use intentions have been considered as the outcome variable of service. Compared with interpersonal service, the process of a technology-based service can be completed more easily and quickly, and fulfill customer needs better (Meuter et al., 2000). In particular, usefulness of the technology helped in developing positive attitude toward the technology (e.g., ATM service), which in turn affected customers' intentions to use the technology (Sahi & Gupta, 2013). Also, saving cost for time and energy is one of drivers to increase effectiveness of tasks in customer-technology contact (CTC) process (Park & Kim, 2011). However, some researchers argued that consumers were more likely to use self-service technology in order to feel that they control the service process for themselves, rather than saving time or reducing efforts (López-Bonilla & López-Bonilla, 2013). If customers perceive the service useful or helpful during the transaction through

self-service technologies, they are likely to use the self-service technologies in the retail environments. Thus, it is assumed that perceived service effectiveness increases consumers' intentions to use the SST for shopping at the stores.

III. Methods

1. Experimental Procedures

For this study, field experimental study was designed because self-service technology is still in an infant stage, in fashion retail stores, South Korea. The site for the field experiment was a selected store of fashion retailer "Adidas" which was a presence of self-service technology. The experimental stimulus was a self-service kiosk that included an LCD touch screen attached to a stand located on the floor at the store. For collecting data, thirty participants were recruited from undergraduate and graduate students who closely reflected characteristics of target consumer for the fashion brand. Sample represented more females ($n=19$) than males ($n=11$), and age was ranged from 20 to 33 years old (means=24.2). All participants had no prior experience with the self-service technology at any fashion stores.

Repeat sampling frame involved two types of service encounters: interpersonal service and self-service technology within the store environment. For this study, the interpersonal service has been already experienced, whereas the SST seems to be new to the fashion store. Accordingly, the first step is the creation of data to represent "interpersonal service encounter" to salespersons at the stores. Respondents who indicated that they experienced shopping at the retail stores not used self-service technologies represent the starting point for creating the condition of "interpersonal service(IPS)" at any stores of the same brand. Before visiting to the store with self-service kiosk, participants completed a self-administered questionnaire in the condition of interpersonal service. The second step is to generate data set in the "self-service technology(SST)

encounter." The participants, who had completed the first survey, were asked to visit to the store on a different day and at different time of day to ensure various shopping times, and to undertake the shopping task by using the self-service kiosk at the store. They were guided to shop and make a choice of one item for themselves by using the self-service kiosk. After finishing shopping task, they completed a survey questionnaire given in the context of self-service technology.

2. Measures

A self-administered questionnaire was developed based on the literatures and designed in two versions: one for interpersonal service and the other for self-service technology. The original version of questions was consisted of multi-items scales to measure service encounter quality, service effectiveness, and behavioral intention in the context of interpersonal service. To measure the quality of service encounter, nine items were adopted from existing scale(Chandon et al., 1997). The statements of nine items for measuring service encounter appear Table 2.

As dependent variable, service effectiveness and behavioral intentions were developed. Service effectiveness was measured for both service encounters (i.e., IPS and SST). The scale with four items composed of perceived service outcome, such as "At the end of encounter, I did get exactly what I wanted," "Regarding my problem, the encounter was very positive," "On the whole, the encounter very useful," and "It was very important for me that was said during the encounter." For measuring behavioral intentions to revisit, two items included. Examples are "I prefer to visit this store for shopping," and "I intend to revisit this store when I need to shop." A corresponding items were used for measures in the version of self-service technology. Additionally, two items of behavioral intention to use SST were added. Examples of question are "I continually intend to use this SST," and "I am willing to use this SST as much as I can." All items were

measured on 7-point rating scale(1=very unlikely, 7=very likely).

3. Data Analysis

Initially, factor analysis using principal component analysis with varimax rotation was used to identify underlying dimensions of service encounter quality via PASW 18.0 program. Cronbach alpha was calculated to assess reliability of measurements. For means comparison between two conditions, paired *t*-test was used. Split-sample regression analysis was conducted to predict relationships among service encounter quality, service effectiveness, and behavioral intentions for IPS and SST conditions.

IV. Results and Discussions

1. Dimension of Service Encounter Quality

Preliminarily, factor analysis using principal component analysis with varimax rotation was conducted on the 9 items of service encounter quality. The initial factor analysis revealed two factors with an eigenvalue greater

than 1.0. However, Chandon et al(1997)’s study, three dimensions were the predominant criteria used by consumers in assessing encounter quality, especially on a case of person to person interaction.

With respect to small sample size(below 50), increasing number of factor is risky, but principal component analysis can yield smaller mean square errors of loading estimates when the ratio of sample size to the number of observed variable (60/9=6 in this study) was greater than 1(Jung & Lee, 2011). De Winter, Dodou and Wieringa(2009) also suggested that the level of loadings was a very strong determinant. For example, when loadings were as high as .8, and even with a high number of factors (f=3) and a limited number of variables(p=12), a sample size of 17 sufficed. Thus, this study attempted to find the solution with fixed to 3 factors.

As presented in Table 1, service encounters consisted of three factors such as “competence,” “dedication,” and “listening” The three factors were accounted for 78.73 % of total variance, and factor loadings were ranged from .705 to .885. According to MacCallum, Widaman, Zhang and Hong(1999), exploratory factor analysis using principal component analysis can yield stable

Table 1. Dimensions of Service Encounter Quality

Factors and Items	Factor Loadings ^a		
	I	II	III
Competence			
You dealt with an honest person.	.871	-	-
The salesperson(SST) seemed competent.	.774	-	-
The salesperson(SST) gave good advice.	.750	-	-
Dedication			
The salesperson(SST) genuinely wished to help you.	-	.885	-
The salesperson(SST) seemed interested in your case.	-	.865	-
The salesperson(SST) tried eagerly to solve your problem.	-	.723	-
Listening			
The salesperson(SST) was very attentive to your case.	-		.816
The salesperson(SST) understood properly what you wanted.	-		.738
The salesperson(SST) listened to you carefully.	.513		.705
Variance	56.081	14.955	7.697

a: loadings ≤.50 not shown.

estimates when the level of loadings was high, the number of factors small, and the number of variables high. For example of loadings higher than .8 and one factor, even sample sizes smaller than 10 were sufficient for factor recovery. Thus, it deems that the result of factor analysis with a sample size of 60 is stable by considering higher factor loading and number of factors.

Reliability coefficients of three factors were acceptably high (above .82) in pooled data. Also, reliabilities of the factors were within acceptable range in interpersonal service and SST data (Table 2). It is confirmed that the measures of service encounter quality was valid and reliable. Therefore, service encounter quality consisted of three dimensions, such as competence, dedication, and listening as perceived by customers. However, the evaluation of service encounter quality might be differed by different settings (IPS vs. SST).

For further statistics, the mean scores of each factor were used. To compare the means of service encounter quality between IPS and SST, a paired *t*-test was used. As shown in Table 3, there was a significant difference on the encounter quality of listening between IPS and SST. The listening factor was more highly rated in the

interpersonal service encounter, rather than in the self-service technology encounter. However, there was no significant difference of service encounter quality in the factors of competence and dedication between two types of service encounter. This means that the encounter quality of SST is perceived as similar to that of interpersonal service in terms of competence or dedication. This result supports the criteria used by consumers to evaluate technology-based service encounter shared a great deal of similarity with those used to evaluate traditional service encounter (Hsieh, 2005). Therefore, the finding implies that salesperson can be replaced with self-service technologies in the aspects of competence and dedication at the fashion retail store. Yet, there is a gap between human and technology in the role performance for carefully listening to customers wants.

2. Service Encounter Quality and Service Effectiveness

As a dependent variable, unidimensional factor of service effectiveness was revealed, accounted for 77.96% of total variance. Factor loadings were ranged from .782 to .943, and thus the scale with four items deemed to

Table 2. Reliabilities for the Service Encounter Quality Factors in IPS and SST

Service Encounter Quality	Total (n=60)	IPS (n=30)	SST (n=30)
Competence	.821	.832	.821
Dedication	.875	.946	.729
Listening	.858	.863	.831

Table 3. Comparison on Means of Service Encounter Quality between IPS and SST

Service Encounter Quality	IPS (n=30)	SST (n=30)	<i>t</i>	Sig. (2-tail)
Competence	4.244(1.079)	4.088(1.068)	0.596	.556
Dedication	3.965(1.298)	3.644(0.909)	1.062	.297
Listening	4.144(1.063)	3.511(0.973)	2.495*	.019

**p* < .05

be valid and reliable (Cronbach's $\alpha = .904$). For predicting service effectiveness, regression analysis was conducted to examine the effects of service encounter quality on service effectiveness. In a regression model for pooled data ($n=60$), the three factors of service encounter quality served as independent variable in order to predict service effectiveness. According to Hair, Anderson, Tatham and Black (1998), sample size affects the generalizability of the results by the ratio of observation to independent variables. They recommended that the ratio should never fall below 5 to 1, meaning that should be five observations for each independent variable. For this study, the ratio of sample size ($n=60$) to independent variables (3) was 20 to 1, which is the desired level recommended by Hair et al. (1998).

As expected, service encounter quality significantly had positive effects on service effectiveness ($F=14.464$,

$p < .001$, adjusted $R^2 = .419$). That is, perceived quality of service encounter was likely to increase service effectiveness. Specifically, the regression coefficient of competence was slightly higher than that of dedication or listening (Table 4). This supports a notion that service encounter quality played an important role in effectively delivering service, leading to a successful outcome of service (Beatson et al., 2007; Kang et al., 2012; Wang et al., 2014). Thus, it is certain that service encounter quality will contribute to fulfillment of customers' needs in a dyadic communication between customers and service providers.

Still, it remains a question how service effectiveness is differed by different types of service encounter (i.e., interpersonal vs. self-service technology). One assumption is that there will be difference in the effects of service encounter quality on service effectiveness between two conditions of service encounter. Split-

Table 4. Regression Result for Predicting Service Effectiveness

Service Encounter Quality	Dependent Variable: Service Effectiveness		
	Std. β	t	Sig.
Competence	.444***	4.355	.000
Dedication	.362**	3.557	.001
Listening	.349**	3.423	.001
F	14.464		
p	.000		
Adjusted R^2	.419		

** $p < .01$, *** $p < .001$

Table 5. Regression Result for Predicting Service Effectiveness: IPS vs. SST

Service Encounter Quality	IPS ($n=30$)			SST ($n=30$)		
	Std. β	t	Sig.	Std. β	t	Sig.
Competence	.279	1.966	.060	.614***	4.216	.000
Dedication	.513**	3.664	.001	.285	1.984	.059
Listening	.378*	2.651	.014	.326*	2.224	.036
Statistic summary						
F	9.857***			9.936***		
p	.000			.000		
Adjusted R^2	.487			.498		

* $p < .05$, ** $p < .01$, *** $p < .001$

sample regressions were conducted with sample size of 30 per each condition. For regression with small sample, Hair, Black, Babin and Anderson(2010) recommended that the ratio should never fall below 5 to 1, meaning that there should be five observations for each independent variable). By considering the minimum ratio, a sample size of 30 for three independent variables deemed to be valid for the generalizability of the result. As shown in Table 5, there were different patterns in the effect of service encounter quality on service effectiveness in two conditions of service.

For the interpersonal service, dedication and listening had significant effects on service effectiveness($F=9.857$, $p<.001$; adjusted $R^2=.487$). Specifically, the regression coefficient of dedication ($\beta=.513$, $p<.01$) was higher than was that of listening($\beta=.378$, $p<.05$). The competence regression coefficient was also positive, but does not reach significance level for predicting service effectiveness($p >.05$). This finding suggests that salespersons' dedication is an important determinant in enhancing service effectiveness in the interpersonal encounter condition at the fashion retail stores.

In the context of self-service technology, it showed that competence and listening were significant predictors of service effectiveness, accounting for 49.8% of total variance ($F=9.936$, $p<.001$, adjusted $R^2=.498$). More specifically the effect of competence($\beta=.614$, $p<.001$) was much higher than that of listening ($\beta=.326$, $p<.05$). This implies that competence is essential for increasing service effectiveness, supporting the importance of technological function or performance in the encounter to self-service technology (Wang et al., 2013). However, dedication did not significantly affect service effectiveness, suggesting that technology is unlikely to effectively helping customer like a salesperson.

By considering the magnitude of coefficients, the result implies that customers are more likely to expect the quality of dedication from interpersonal contacts, whereas they are more likely to expect the function of competence on the encounter to the self-service technology given in the store.

3. Service Encounter, Service Effective and Behavioral Intentions

1) Revisit intentions

The regression analysis was separately conducted to predict behavioral intentions of revisits for both of service encounters. First, three factors of service encounter quality served as independent variables, and then service encounter quality and service effectiveness input together as independent variable(Table 6).

For interpersonal service, of service encounter quality factors, competence was significant predictor of intentions to revisit(model 1). In the second regression model, service effectiveness($\beta=.569$, $p<.05$) solely emerged as a significant predictor of intentions to revisit. The service encounter quality factors did not significantly affect the revisit intentions(model 2). The regression coefficient of competence was in the right direction, but did not reach to significant level. This finding is not consistent with the literatures that customer satisfaction of service encounter directly related to service outcome, such as relationship behavior or loyalty in the traditional service encounter(Beatson et al., 2007; Lee et al., 2013; Seo & Suh, 2014). Therefore, it is implied that service effectiveness fully mediates the effect of service encounter quality on revisit intentions toward the stores.

Unpredictably, there were no significant predictors of the intention to revisit in the SST. As shown in Table 6, the regression coefficients tended to be negative or close to zero. This finding indicated that encounter quality or service effectiveness did not contribute to predicting behavioral intention to revisit the store in the condition of the self-service technology. Considering SST encounter quality (e.g., competence) influencing service effectiveness(Table 5), this result partially support a potential that human agents can be replaced with technologies in the quality of interactivity. The self-service technology can improve the service delivery system, but it may not turn in revisit behavior. This outcome must be debatable in lights of the technology acceptance to use because it is still in infant stage

especially for the fashion retailers. Therefore, this study attempted further analysis to predict intention to use the SST.

2) Behavioral intention to use

For predicting behavioral intention to use the SST, regression analysis with the sample of SST($n=30$) was conducted. In the regression model, behavioral intention to use was serviced as dependent variable, and service encounter quality and service effectiveness were serviced as independent variables. Interestingly, all factors of service encounter quality were significantly related to the intentions to use the SST at the store(model 3). Specifically, the dedication of service encounter had the most highly effect($\beta=.494, p<.01$), followed by competence($\beta=.455, p<.01$) and listening($\beta=.354, p<.05$) on the intentions to use SST for shopping at the store.

As shown in Table 7, dedication and service effectiveness were had positive effects on behavioral intention to use the self-service technology(model 4). Of service encounter qualities, dedication had a direct

effect on the intention to use SST at the fashion store. In particular, regression coefficient for service effectiveness ($\beta=.620, p<.001$) was relatively higher than was that for dedication($\beta=.317, p<.05$). Rather than dedicated encounter quality, higher level of service effectiveness should be required for encouraging consumer uses of the SST at the store.

V. Conclusions and Implications

As an exploratory approach, this study provides an implication that the service encounter is a promising starting point for utilizing self-service technology in fashion retail environments. The service encounter between customers and service provider as perceived by consumers appears to be useful tool for assessing the service effectiveness in both contexts of interpersonal service and self-service technology in the fashion retail stores. Overall, this study suggests that service encounter qualities consisted of competence, dedication and listening, supporting the role theory on a dyadic perspective(Solomon et al., 1985) in the context of

Table 6. Regression Model for Predicting Revisit Intentions: IPS vs. SST

	Model 1			Model 2		
	Std. β	t	Sig.	Std. β	t	Sig.
Interpersonal Service						
Competence	.480*	2.589	.016	.321	1.755	.092
Dedication	-.039	-.214	.832	-.331	-1.587	.126
Listening	.065	.348	.731	-.150	-.774	.446
Service effectiveness	-	-	-	.569*	2.367	.026
F	2.290			3.435		
ρ	.103			.023		
Adjusted R^2	.121			.258		
Self-Service Technology						
Competence	-.070	-.323	.749	-.149	-.512	.614
Dedication	-.017	-.081	.936	-.054	-.230	.820
Listening	.129	.590	.561	.087	.356	.725
Service Effectiveness	-	-	-	.128	.415	.682
F	.136			.142		
ρ	.937			.965		
Adjusted R^2	.002			.025		

* $p<.05$

Table 7. Regression Models for Predicting Intention to Use the Self-Service Technology

Independent Variables	Model 3			Model 4		
	Std. β	<i>t</i>	Sig.	Std. β	<i>t</i>	Sig.
Competence	.455**	2.875	.008	.074	.424	.675
Dedication	.494**	3.159	.004	.317*	2.240	.035
Listening	.354*	2.220	.036	.152	1.032	.313
Service Effectiveness	-	-	-	.620**	3.332	.003
<i>F</i>	7.172			10.417		
<i>p</i>	.001			.000		
Adjusted R^2	.407			.582		

* $p < .05$, ** $p < .01$

using self-service technology. It is supportive that the service encounter can be characterized by high degree of person-to person interaction (Chandon et al., 1997) and/or person-to technology interaction in the context of exchange of tangible goods. With respect to service encounter qualities, there was commonalities in the perceived quality of competence between IPS and SST, whereas the quality of listening in the IPS was distinguished from that in the SST. This might be an answer to the question if technology would be replaced with human in the aspects of competence or dedicated service provision in the retail stores.

With respect to service effectiveness, a trial of field experiment enabled to have an insight into retailers for excellence in service management with salesperson and/or self-service technologies. This study found different patterns in the impacts of service encounter quality on service effectiveness between interpersonal and SST conditions. Therefore, retailers can effectively utilize different types of service encounters (i.e., interpersonal vs. technology) at their stores. Specifically, competence is more likely to increase service effectiveness in the self-service technology, while dedication is more likely to increase service effectiveness in the interpersonal service. For self-service technology, technology-to-human encounter should be task oriented nature of interaction. If role of the technology could be more competency, such as consistent or accurate service (López-Bonilla & López-Bonilla, 2013; Sundaram & Webster, 2000), customers would be satisfied with the

service quality provided through the technology platform. As a humanistic factor, salesperson's dedication is relevant to empathy, friendliness (Gabbott & Hogg, 2001; Parasuraman et al., 1988) or communion (Ma & Dubé, 2006), which is a dominant factor for quality of human to human service encounter. Therefore, it is still necessary that salesperson should perform genuinely or eagerly taking care of customers claims.

Of particular interest is the finding that there was commonality of a positive relationship between listening and service effectiveness between both conditions. According to Chandon et al. (1997), listening is evaluated by quality interactivity between customers and employees. Therefore, it is ensure that the excellence in listening of service encounter quality should be essential to deliver service effectively for both of encounter (e.g., human-to-human, technology-to-human) in fashion retail settings.

In the interpersonal service environment, service encounter quality was likely to increase service effectiveness, which led to consumers' revisit intentions. Unlike to the interpersonal service, the encounter quality of self-service technology was likely to increase service effectiveness, which could not contribute to encouraging consumer intention to revisit the store. The service effectiveness driven from the technology-based encounter is more likely to encourage behavioral intentions to use the self-service technology for shopping, rather than store patronage toward the store

with SSTs. This implies that a potential reduction in personal contact through self-service technology may affect positive evaluation of service (Beatson et al., 2007; Lee et al., 2013; Wang et al., 2013). Still, it may be too early offering to adopt self-service technology in their stores without consideration of this barrier. Therefore, retailers should carefully consider specification of encounters to personnel or technology contacts when providing service mixed personnel and technologies in the stores.

As an exploratory approach into field experiment, this study is meaningful in expanding to service encounters with various technological interfaces within retail environments. However, the repeated measures with same subjects in different settings might cause order effect, thus the results of this study should be interpreted with a caution. With consideration of counterbalancing technique, future studies should be designed in order to control such disadvantage. Although the sample size in this study was above the minimum ratio for data analysis, which should attempt to validate the generalizability of results by using larger sample. With increasing debate on the vitality of retail technologies by growth in digital interactive media (e.g., augmented reality, virtual reality, or internet of things), this study used the same measure to explore if technology can be replaced with human agent. However, technological functions should be given to human-to-technology service encounters. It is recommended that more reliable and valid measures of technology-based encounters are developed by using qualitative and quantitative methods. Future researches could focus on the need for a revised a theoretical structure of role performance based on technology-based service. In addition, the antecedents of perceived service encounter include demographics (e.g., gender, age) and personal traits (e.g., anxiety, communication pattern, and technology readiness) which keen to accept the technologies

References

- Allied Market Research (June 2, 2015.) Self-service technology market is expected to reach \$31.75 billion, globally by 2020 Retrieved from <https://www.prnewswire.com/news-releases/self-service-technology-market-is-expected-to-reach-3175-billion-globally-by-2020---allied-market-research-505819131.html>.
- Beatson, A., Lee, N., & Coote, L. V. (2007). Self-service technology and the service encounter, *The Service Industries Journal*, 27(1), 75-89. doi:10.1080/02642060601038700
- Bettencourt, L. & Gwinner, K. (1996). Customization of the service experience: The role of the frontline employee, *International Journal of in Service Industry Management*, 7(2), 2-20. doi:10.1108/09564239610113442
- Bitner, M. J. (1990). Evaluating service encounters: The effects of physical surroundings and employee responses, *Journal of Marketing*, 54(2), 69-82. doi:10.2307/1251871
- Bitner, M. J., Brown, S. W., & Meuter, M. L. (2000). Technology infusion in service encounters, *Journal of the Academy of Marketing Science*, 28(1), 138-149. doi:10.1177/0092070300281013
- Bharadwaj, A. S. (2000). A resource-based perspective on information technology capability and firm performance: An empirical investigation, *MIS Quarterly*, 24(1), 169-196. doi: 10.2307/3250983
- Chandon, J-L., Leo, P-Y., & Philippe, J. (1997). Service encounter dimensions—a dyadic perspective: Measuring the dimensions of service encounters as perceived by customers and personnel, *International Journal of Service Industry Management*, 8(1), 65-86. doi:10.1108/09564239710161088
- Dabholkar, P.A. and 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), 184-202. doi:10.1177/0092070302303001

- De Winter, J., Dodou, D., & Wieringa, P. A. (2009). Exploratory factor analysis with small sample sizes, *Multivariate Behavioral Research*, 44(2), 147–181. doi:10.1080/00273170902794206
- Gabbott, M. & Hogg, G. (2001). The role of non-verbal communication in service encounters: A conceptual framework, *Journal of Marketing Management*, 17(1–2), 5–26. doi:10.1362/0267257012571401
- Giebelhausen, M., Robinson, S. G., Sirianni, N. J., & Brady, M. K. (2014). Touch versus tech: When technology functions as a barrier or a benefit to service encounters, *Journal of Marketing*, 78(4), 113–124. doi:10.1509/jm.13.0056
- Guiry, M. (1992). Consumer and employee roles in service encounters, *Advances in Consumer Research*, 19(1), 666–672.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis* (5th ed.). Prentice Hall, NJ: Upper Saddle River.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*(7th ed.). Pearson Education, Inc., NJ: Upper Saddle River.
- Hsieh, C. T.(2005). Implementing self-service technology to gain competitive advantages, *Communications of the IIMA*, 5(1), 77–83.
- Hwang, Y. Y., Kim, H-J., & Choi, S-A.(2014). The impact of service encounter quality to airline loyalty: The difference between LCC and HCC, *Journal of Industrial Economics and Business*, 27(5), 2117–2143.
- Jung, S. & Lee, S. (2011). Exploratory factor analysis for small samples, *Behavior Research Methods*, 43(3), 701–709. doi: 10.3758/s13428-011-0077-9
- Kang, C-D., Choi, S-Y., & Ahn, S-S.(2012). A study on how service encounter, perceived product quality influence customer satisfaction, relationship quality and relationship behavior factors, *International Journal of Tourism Management and Sciences*, 26(6), 1–29.
- Keaveney, S. M.(1995). Customer switching behavior in service industries: An exploratory study, *Journal of Marketing*, 59(2), 71–82. doi: 10.2307/1252074
- Kim, E. Y. & Sung, H. W.(2016). A study of digital signage effects in shopping context for fashion brands, *Korean Journal of Human Ecology*, 25(3), 361–374. doi: 10.5934/kjhe.2016.25.3.361
- Lee, H-J., Suh, J-Y., & Yoon, K-H. (2013). A comparative study on the effect of experiences on service encounter, customer satisfaction and brand loyalty in the homemade and foreign coffee shop brands-centered on moderating role of brand trust, *Journal of Foodservice Management Society of Korea*, 16(3), 197–227.
- López-Bonilla, J. M. & López-Bonilla, L. M. (2013). Self-service technology versus traditional service: Examining cognitive factors in the purchase of the airline ticket, *Journal of Travel & Tourism Marketing*, 30(5), 497–508. doi: 10.1080/10548408.2013.803396
- Ma, Z. & Dubé, L. (2006). Interpersonal behaviors during service encounter and their impact on service outcome: An application of the interpersonal circumplex model, *Advances in Consumer Research*, 33(1), 409–410
- McAlexander, J. H., Kaldenburg, D. O. & Koenig, H. F. (1994). Service quality measurement, *Journal of Health Care Marketing*, 14(3), 34–40.
- MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis, *Psychological Methods*, 4(1), 84–99. doi: 10.1037/1082-989X.4.1.84
- McMillan, S. J. & Hwang, J-S. (2002). Measures of perceived interactivity: An exploration of the role of direction of communication, user control, and time in shaping perceptions of interactivity, *Journal of Advertising*, 31(3), 29–42. doi: 10.1080/00913367.2002.10673674
- 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. doi:10.1016/S0148-2963(01)00276-4 doi: 10.1016/S0148-2963(01)00276-4
- Meuter, M. L., Ostrom, A.L., Roundtree, R.I., Bitner,

- M.J.(2000). Self-service technologies: Understanding customer satisfaction with technology-based service encounters. *Journal of Marketing* 64(3), 50-64. doi:10.1509/jmkg.64.3.50.18024
- Park, J. D. & Kim, K. C. (2011). Structural for the technology-based service encounter in the service business: An exploratory study, *Journal of Service Research*, 8(2), 17-31.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality, *Journal of Retailing*, 64(1), 12-40.
- Price, L. L., Arnould, E. J., & Deibler, S. L. (1995). Consumers' emotional responses to service encounters: The influence of the service provider, *International Journal of Service Industry Management*, 6(3), 34-63. doi: 10.1108/09564239510091330
- Sahi, G. K., & Gupta, S. (2013). Predicting customers' behavioral intentions toward ATM service, *Journal of Indian Business Research*, 5(4), 251-270. doi: 10.1108/JIBR-10-2012-0085
- Salomonson, N., Allwood, J., Lind, M. & Alm, H. (2013). Comparing human-to-human and human-to-AEA communication in service encounters, *Journal of Business Communication*, 50(1), 87-116. doi: 10.1177/0021943612465180
- Seo, I-K. & Suh, C-H.(2014). The effect of service encounter quality on relationship quality-Focused on the airline industry and the travel industry, *Tourism Research*, 39(3), 115-140.
- Solomon, M. R., Surprenant, C., Czepiel, J. A., & Gutman, E. G. (1985). A role theory perspective on dyadic interactions: The service encounter, *Journal of Marketing*, 49(1), 99-111. doi: 10.2307/1251180
- Stone, R. W., Good, D. J., & Baker-Eveleth, L. (2007). The impact of information technology on individual and firm marketing performance, *Behaviour & Information Technology*, 26(6), 465-482. doi: 10.1080/01449290600571610
- Stromer-Gally, J. (2004). Interactivity-as-product and interactivity-as-process, *The Information Society*, 20(5), 391-394. doi: 10.1080/01972240490508081
- Sundaram, D. S., & Webster, C. (2000). The role of nonverbal communication in service encounters, *Journal of Service Marketing*, 14(5), 378-391. doi: 10.1108/08876040010341008
- Surprenant, C. F. & Solomon, M. R.(1987). Predictability and personalization in the service encounter, *Journal of Marketing*, 51(2), 73-80. doi: 10.2307/1251131
- Theotokis, A. & Doukidis, G. I. (2011). Employee, technology or both? The effect of technology-based service design on consumer experience, *Proceedings of American Marketing Association*, Winter, 140-141.
- Tax, S. S. & Brown, S. W.(1998). Recovering and learning from service failure, *MIT Sloan Management Review*, 40(1), 75-88.
- Walker, R. H., Craig-Lees, M, Hecker, R., & Francis, H.(2002). Technology-enabled service delivery: An investigation of reasons affecting customer adoption and rejection, *International Journal of Service Industry Management*, 13(1), 91-106. doi: 10.1108/09564230210421173
- Wang, W-T., Cheng, S-Y., Huang, L-Y. (2013). Technology-based service encounters using self-service technologies in the healthcare industry, *International Journal of Human-Computer Interaction*, 29(3), 139-155. doi: 10.1080/10447318.2012.695728

Received (November 16, 2017)

Revised (December 1, 2017; December 12, 2017)

Accepted (December 20, 2017)