

SELF-SERVICE INTERACTIVE KIOSK SYSTEM IN
SHOPPING MALL: SMALL IN SIZE, BIG
CONTRIBUTION TO CUSTOMER LOYALTY

SIAH JIA WEN

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

SHAH JIA WEN BTM (TECHNOLOGY INNOVATION) 2016 UTeM

APPROVAL

‘I/ We hereby declared that I/ we had read through this thesis and in my/ our opinion that this thesis is acceptable in terms of scope and quality which fulfill the requirements for the award of Bachelor of Technology Management with Honours (Technology Innovation)’

SIGNATURE : _____

NAME OF SUPERVISOR : DR. FAM SOO FEN

DATE : _____

SIGNATURE : _____

NAME OF PANEL : PN. EDNA BINTI BUYONG

DATE : _____

SELF-SERVICE INTERACTIVE KIOSK SYSTEM IN SHOPPING MALL:
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SIAH JIA WEN

This report is provided for fulfils a part of graduation requirements for Bachelor of
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Universiti Teknikal Malaysia Melaka

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DECLARATION

I hereby declared that this thesis entitled
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is the result of my own research except those as cited in the references. This thesis
has not been accepted for any degree and is not concurrently submitted by
candidature of any other degree.

SIGNATURE :.....
NAME : **SIAH JIA WEN**
DATE :.....

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ABSTRACT

Self-service technology (SST) is rapidly growing and penetrating in shopping mall to reduce retailer costs while enhancing shoppers' shopping experience. Among numerous SST available, self-service interactive kiosk systems have become one of the tested kiosk system in shopping malls. While most studies focus on effect of SST adoption instead of its service quality, satisfaction and ultimately loyalty. Hence, the present study explored the attributes of service quality for self-service interactive kiosk system based on customer evaluation and also interrelationship between these three major construct which are service quality, satisfaction and loyalty on selected shopping mall in Malaysia. By using attribute-based model (Dabholkar,1994) and recent successful attributes from SSTQUAL model (Demirci Orel & Kara, 2014) of SST, data (n=358) of this study is collected through online questionnaire. Structural equation modeling (SEM) was employed to test the models by means of confirmatory factor analysis and a measurement scale is proposed. The key findings are the attribute of self-service interactive kiosk system service quality are ease of use, enjoyment and functionality. Results show that these are positive relationship with customer satisfaction. Findings also showed significantly positive relationships between self-service interactive kiosk system service quality with customer satisfaction. Findings suggest self-service interactive kiosk system can be used to increase customer satisfaction.

Keywords: Service Quality, Customer Satisfaction, Customer Loyalty, Self-Service Technology, Kiosk System

ABSTRAK

Teknologi layan diri (SST) berkembang pesat dan mendapat keputusan di pusat membeli-belah untuk mengurangkan kos peruncit dan meningkatkan kepuasan membeli-belah. Antara pelbagai SST ada, layan diri sistem kiosk interaktif telah menjadi salah satu sistem kiosk yang diuji di pusat membeli-belah. Kebanyakan kajian telah memberi tumpuan kepada kesan penggunaan SST tetapi kualiti perkhidmatan, kepuasan dan akhirnya kesetiaan. Oleh itu, kajian ini meneroka sifat-sifat kualiti perkhidmatan untuk layan diri sistem kiosk interaktif berdasarkan penilaian pelanggan dan juga perhubungan antara ketiga-tiga konstruk utama iaitu kualiti perkhidmatan, kepuasan dan kesetiaan di pusat membeli-belah terpilih di Malaysia. Dengan menggunakan model berasaskan atribut-(Dabholkar, 1994) dan sifat-sifat yang berjaya baru-baru ini dari model SSTQUAL (Demirci Orel & Kara, 2014) SST, data (n = 358) kajian ini diperolehi melalui soal selidik dalam talian. Structural pemodelan persamaan (SEM) telah digunakan untuk menguji model dengan menggunakan analisis faktor-faktor pengesahan dan skala pengukuran adalah dicadangkan. Penemuan utama adalah sifat layan diri interaktif sistem kiosk kualiti khidmat, kemudahan penggunaan, keseronokan dan fungsi dan ia mempunyai hubungan yang positif dengan kepuasan pelanggan. Dapatan kajian juga menunjukkan hubungan positif yang signifikan antara layan diri perkhidmatan sistem kiosk interaktif berkualiti dengan kepuasan pelanggan. Dapatan kajian ini juga mencadangkan layan diri sistem kiosk interaktif boleh digunakan untuk meningkatkan keyakinan dan kepuasan para pelanggan.

Kata kunci: Kualiti Perkhidmatan, Kepuasan Pelanggan, Kesetiaan Pelanggan, Teknologi Self-Service, Sistem Kiosk

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CHAPTER 1

INTRODUCTION

1.1 Introduction

With Increasingly greater complexity of the retail atmosphere - density of growing competition, demanding customers and shopping attitudes of customers, the capability of retailers to offer a satisfactory service may be crucial and attractive manoeuvre to differentiate and actively satisfy the customers (Martinelli and Blaboni, 2012). When consumer is satisfied with the service, they will tend to be loyal (Mehta, Lalwani & Han, 2000). In this highly competitive business world today, companies are facing multiple challenges in increasing number of loyal customers towards them. Also, society are moving towards technology world. There will be over 50 billion connected devices in the world by 2020, these are unimaginably large numbers of people and devices all connected. (Palmer, S., 2015). In addition, customers are expecting and seeking for more convenient services in retail outlets. This is because customer are accustomed to kiosk system such as ATM machine and airline check-ins, therefore they will seek for similar experiences in shopping (Cho, H, 2010). This proved the trend of using technology in shopping mall by the society today. Therefore, retailers must continuously engage consumers and stir their interest in a given mall (Jones and Reynolds, 2006). In response to the wave of interactive technologies and to build excitement in customers and meet the rising of consumer expectations, self-service interactive kiosks system (SSIKS) will be the one of the technologies to perform their

service delivery process in order to best utilize emergent technology.

Meeting customer expectation subsequently increase customer satisfaction and loyalty, companies are choosing to provide self-service system options for their customers for better, more efficient and customized services in shopping mall. This is to reduce costs, to increase customer satisfaction and loyalty, and to reach new customer segments (Bitner et.al.,2002). SSIKS provides highly effective solution to improve service quality. However, the value of SSIKS in shopping mall has been doubted. Previous studies conducted mainly in relation to consumer adoption of kiosks in the context of airline service (Chang and Yang, 2007; Liljander *et al.*, 2006), banking (Littler and Melanthiou, 2006) and overall use of SSTs (Lin and Hsieh, 2006). Those studies of kiosks were not fully focused on retail used especially for shopping mall case. Scholar and practitioners generally accept the statement service quality is significant to achieve customer loyalty, repurchase intention and a differential advantage. However, this topic become more focus on determining the attributes of service quality on this rapid changing technology society. To what extend the service quality can still provide to customer with technological setting environment is being studied and tested over decades. Service quality from human interaction to self-service technology has dramatically change the nature of service delivery process. Yet, the effect of service quality is still important as it is the key component to decide a firm successful with strong customer loyalty. Therefore, this study will focus on the relationship between service quality attributes with customer loyalty.

1.2 Problem Statement

Self-service interactive kiosk system (SSIKS) have been widely been used in airline service (Chang and Yang, 2007; Liljander *et al.*, 2006), banking (Littler and Melanthiou, 2006) and overall use of SSTs (Lin and Hsieh, 2006). However, there is little research of SSIKS in shopping mall and its value has been doubted. Besides, previous research has studied the importance of service quality on customer satisfaction and customer loyalty using SERQUAL and SERVPERF scales which were

designed to address customer to employees' interaction but not customer to technology interaction. The absence of a technology focus in service encounter research is also highlighted by (Bitner et al., 2000) and (Parasuraman, 2000). Although these models on service quality have been extended to focus on e-service (Zeithaml et. al, 2002; Barnes and Vidgen, 2001), yet much less research have been made to investigate factors of service quality and its impact relates to customer satisfaction and loyalty. Since the best fit model of SSIKS service quality tends to be focus, the discussion moves on by developing different model to be tested. Rather than simply examining the SSIKS service quality, our study attempts to review and integrate literature related to self-service technology system to further discuss on its impact on customer satisfaction and loyalty when customers use SSIKS. Consequently, this study helps managers to make better decisions based on more realistic expectations concerning SSIKS use.

1.3 Significant of Study

The importance of self-service technologies in the service environment has grown significantly over the last decade. Self-service technology can reduce labour costs, enhance efficiency, improve productivity, increase customer satisfaction and loyalty, and to reach new customer segments (Bitner et.al.,2002; Zeithaml, and Gremler 2011). In short, self-service technology such as self-service interactive kiosks system (SSIKS) provide highly effective solution to improve service quality. Ultimately, this research is to study on the relationship between service quality attributes with SSIKS and its effect on customer loyalty. It is useful to both practitioners and academics in the field of relationship marketing. Dabholkar et. al (1996) who the first person that introduce service quality with its attribute-based model (speed, ease of use, reliability, enjoyment and control) as the five most important attributes to measure SSTs service quality. More recent, Orel and Kara (2014) measures SSTs service quality with 7 dimensions from Lin and Hsieh (2011) and the relevant attributes of service quality only includes functionality, enjoyment, assurance, design and convenience. Therefore, our study contributes to bringing these gaps,

focusing on combining these two model to find out a new model of self-service technology service quality attributes.

With accelerated competition among shopping malls, this study provides a deeper insight to Malaysia shopping malls on the importance of self-service kiosk system on customer loyalty. Thereby, retailers can determine its effectiveness in implementing self-service kiosk system in shopping mall. Hence, this study have significant contribution to retailers to look from the perspective of customers on the effect of using kiosk system in shopping mall. Thus, customer loyalty can be improved.

1.4 Research Questions

From the previous section, the importance of kiosk system are to be studied specially on customer loyalty in shopping mall. Therefore, the following research questions have been formulated.

RQ1: What are the attributes of service quality for self-service interactive kiosk system to evaluate customer loyalty?

RQ2: Does service quality delivered by self-service interactive kiosk system influence on overall customer satisfaction and customer loyalty?

1.5 Research Objectives

The research objectives are arise from the research question. These objectives are needed to be answered at the end of the study.

RO1: To determine the relationship between service quality attributes with self-service interactive kiosk system.

RO2: To investigate the effect of service quality delivered by self-service interactive kiosk system on overall customer satisfaction and customer loyalty.

RO3: To study the relation between customer satisfaction with customer loyalty.

1.6 Scope, Limitation and Key Assumption

1.6.1 Scope

This study was carried out in Johor Bahru. As the third most crowded and populous state in Malaysia after Kuala Lumpur and Georgetown, Johor Bahru has a relatively large population for the research. In addition, Johor Bahru has a lot of visitors from its neighbour country, Singapore which indirectly increase the population of Johor Bahru. Hence, the scope of this study target to consumers aged 16-60 years old at Johor Bahru, Malaysia and it is decided to choose Tesco as the scope to conduct the research.

1.6.2 Limitation

This research has highlighted two limitations which provides opportunities for future studies. Firstly, there is restricted geographical scope. The scope of research is only focused on self-service interactive kiosk system at Johor Bahru shopping mall but not other types of self-service kiosk system at other places. Second, there is age restriction. This is because the age of target respondents only focus within age 16-60 which age below 16 and above 60 was eliminated based on the consumption that they are not used to technology device. These limitations will be the barriers of research progress.

1.6.3 Key Assumption

The assumption of this research is the honesty and truthful responses from the respondents. It is assumed that the respondents that managed to answer the questionnaires are potential respondents. The respondents will answer the questions based on their own experience and without interference from other respondents.

1.7 Summary

Overall in chapter 1, the background of the research has been discussed where the self-service interactive kiosk system has been penetrated into shopping mall due to the increasing competition and technology trend today. Studies revealed the need of kiosk system in gaining loyal customers. The study aims to answer the research questions regarding the attributes of service quality for self-service interactive kiosk system based on customer evaluation and the effect of service quality delivered by self-service interactive kiosk system influence on overall customer satisfaction and customer loyalty.

Based on these research questions, there are three research objectives have been planned to be studies. The research objectives are to determine the relationship between service quality attributes with self-service interactive kiosk system, to investigate the effect of service quality delivered by self-service interactive kiosk system on overall customer satisfaction and customer loyalty and to study the relation between customer satisfactions with customer loyalty. The scope of the study will be focus on one of the well-known shopping mall at Johor Bahru which is Tesco Johor Bahru. However, this study contributes to both practitioners and academics in the field of relationship marketing. Thus, the companies can determine what attributes are important in service quality context and whether self-service interactive kiosk system is workable in improving customer loyalty.

CHAPTER 2

LITERATURE REVIEW

2.1 Service Quality

Service quality has gained researchers' attention all over the world. Service quality delineates two rather distinct facets of the construct: a technical dimension (the core service provided) and a functional dimension (how the service is provided) (Grönroos, 1984) while Crosby et. al (1983) emphasizes that quality is 'conformance to standards'. (Grönroos, 1984) have discussed another characteristic of services which makes service quality definition and measurement difficult to obtain its simultaneous production and consumption. Zeithaml (1981) also suggested that the heterogeneous nature of service hinders the consistency of service delivery and thus, assessment of service quality. Therefore, an instrument to measure service quality must have adequate means of assessing patrons' perceptions of service quality during these service encounters. Such an instrument needs to accommodate the difficulties raised above and recognize that the quality of services is more difficult for customers to evaluate than the quality of goods, and that quality assessments are made not only on the service outcome, but also on the process of service delivery (Parasuraman et al., 1985). These argument on service quality has enriched future researcher to examine service quality construct more appropriate especially on the evolution of service quality with technology.

2.2 Service Quality of Self-service technology

The role of self-service technologies in service delivery can be traced back to early research on self-service emphasizing the significant advantages of customer co-production (Chase, 1978; Lovelock and Young, 1979; Mills, Chase, and Margulies, 1983). Self-service technologies are technological interfaces that enable customers to use a service independent of direct service-employee involvement (Meuter et al., 2000). The benefits of using self-service technologies are quite evident in terms of productivity and cost-saving for firms (Dabholkar, 1996). Yet, the role of technology in service delivery have only started to investigate recently (Dabholkar, 1996; Meuter et al., 2000; Meuter et al., 2003). Areas of self-service technologies research include the elaboration of profiles for the distinct self-service technologies users based on demographic characteristics (e.g. Dabholkar, 1994; Meuter et al., 2003), classification schemes for new technologies (Dabholkar, 1994; Meuter et al., 2003), the role of technology in enhancing service quality (Dabholkar, 1996), and the developing attitudes toward technology (Taylor & Todd, 1995). The adoption of self-service technology have seen advances to respond both to consumers' preferences and retailers' needs (Zhu et al., 2013; Renko and Druzijanic, 2014), such as touch screen displays, smart mirrors, mobile applications, automatic payment modalities, or radio frequency identification (Kallweit et al., 2014; Pantano and Viassone, 2014). The measurement of service quality has been measured in different scales over the past decade. Among various scale, SERVQUAL Parasuraman Zeithaml, and Berry (1988) serves as a global template for service quality measurement in the customer–employee interaction context. However, researchers argue that this scales are not appropriate for customer-technology interaction context. In correspond to current trend, the measurement of service quality scales have been extended from previous theory and proposed with a number of empirical studies. Yoo and Donthu (2001) proposed SITEQUAL as an instrument to measure service quality of an Internet shopping site. The scale includes ease of use, aesthetic design, processing speed, and security. Watson et. al. (2003) argue that with a slightly different instrument, WebQual where the scales are usefulness, ease of use, entertainment, complementary relationship. With the development of Internet, Parasuraman, Zeithaml; Malhotra (2005) proposed E-S-QUAL (efficiency, system availability, fulfillment, privacy) to measure online shopping service quality.

Despite focusing service quality of SSTs on e-service, Dabholkar et. al, (1996) suggested its attribute-based model (speed, ease of use, reliability, enjoyment and control) as the five most important attributes to measure SSTs service quality. The model is then extended with additional attribute namely attitudes and personal interaction. (Dabholkar et.al, 2003). Weijters et al.(2007) proposed Technology Acceptance Model (TAM) when the study of technology acceptance become more focusing. The scale of the measurement also adopted from previous study which are usefulness, ease-of-use, reliability and fun. However, the study has included some mediator such as customer demographics. Accordingly, Lee et. Al (2009) offered a scale to measure self-service kiosk service quality in retail. Lin and Hsieh (2011) proposed SSTQUAL (functionality, enjoyment, security/privacy, assurance, design, convenience and customization) to measure SSTs as well. More recent, Orel and Kara (2014) measures SSTs service quality with 7 dimensions from Lin and Hsieh (2011) and the relevant attributes of service quality only includes functionality, enjoyment, assurance, design and convenience. Of all the topics related to SSTs, we argue that the attribute based theory from Dabholkar et. al (1996) is still remain important in evaluating SSTs. Therefore, we believe that adaptation theory from the most previous and recent studies is best fit to measure service quality of self-service interactive kiosk system in supermarket.

2.3 Attributes of Service Quality

2.3.1 Speed

Speed of transaction is defined as the time it takes to actively complete a transaction via a SST (Dabholkar, 1996) and has been mentioned since the earliest studies on SST (e.g., Langeard et al.,1981; Bateson, 1985) as an important consideration for customers (Collier and Kimes, 2013). Lovelock and Young (1979) posited that on certain occasion customers has a strong liking to carry out the service by themselves. This statement proved that it is particularly justified by the willingness of the customers to up the speed of delivery. Hence, SST can be considered as an alternative channel for customers who want to reduce service delivery time (Lee et al.,

2013). Langeard et al. (1981) discovered also that time was a significant factor for individuals in using a new service or technology. SST can be used to overcome the perceived time and location constraints of a full service offering and can be the deciding factor on which service channel to use (Collier and Sherrell, 2010). The speed of service delivery provided by this technology results in time savings (Ding et al., 2007) and reduced waiting time for consumers (Walker et al., 2002; Beatson et al., 2007). SST studies mention speed of transaction as one of the most influential factors leading to customer satisfaction (e.g., Meuter et al., 2000; Howard and Worboys, 2003; Collier and Kimes, 2013). The longer consumers have to wait for a service, the less satisfied they will be with the service itself. Conversely, if customers expect that a service will be delivered speedily, they are likely to evaluate the service more highly (Dabholkar, 1996) which may affect their overall satisfaction (Collier and Sherrell, 2010).

2.3.2 Ease-of-use

Ease-of-use has been defined as the degree to which a person believes that using a particular system would be free of effort (Davis, 1989). Customers may associate ease-of-use with less effort spent, on the one hand, and reduced social risk, on the other (Dabholkar, 1996). Hence, the efforts a customer needs to make in order to effectively use the new service process and enjoy its expected advantage is the ease of use. (Timmor and Rymon, 2008). However, a customer who tends to avoid self-service may feel anxious over expected extra efforts in terms of physical and mental exertion, since people in general are not equipped with the necessary skills and confidence (Lee et al., 2013). Ease-of-use reflects to the extent to which customers expect SST to be easy to learn and use, and is positively linked to customers' willingness to reuse SST (Davis and Wiedenbeck, 2001). Studies in several domains through online shopping, online banking and health services have shown positive relationships between ease-of-use, adoption of and satisfaction with a new service (DeJong et al., 2003; Lim and Dubinsky, 2004; Curran and Meuter, 2005). Those studies considered SST effort perceptions may be influenced by the physical location,