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Service Quality of Electronic Banking and its Effect on Customer Satisfaction and Loyalty: Mediating Role of Trust

Abstract

This study explores a mediation effect of trust in the relationship of service quality of e-banking and customer satisfaction and loyalty. The study used a convenience sampling technique for the gathering of data. Total questionnaire links were shared with 450 respondents. Analysis shows that EBSQ has a significant influence on satisfaction and loyalty of customers than trust. In this study, few constructs were studied. In the future, more constructs should be studied to get a better understanding of e-banking. The findings reflect that the higher quality of e-banking services greatly influences customer satisfaction, ultimately contributing to their loyalty.

Keywords: Electronic Banking, Customer Satisfaction, Customer Loyalty and Trust

Paper type: Research

Introduction

Information technology has evolved because of extensive use of the internet, advancement has occurred in the methods of service delivery, and now customized offerings are provided to customers through a portal system which is also used by the banks (Shaikh & Karjaluoto, 2015). Saffu, Walker, and Hinson (2008) commented that enhancement in e-commerce business had rapidly seen in the decade from 1998 to 2008. The foremost benefits of e-business Turban, King, Lee, Warkentin, and Chung (2008) are indicated that it saves time, reduces cost, enhances business opportunities, and facilitates the customer in less time. Now banks are also providing their banking services to customers through electronic mediums. *Online banking* and *internet banking* are also used interchangeably for electronic banking (Ayo, Oni, Adewoye & and Eweoya, 2016; Amin, 2016; Yap, Wong, Loh & Bak, 2010). The banking sector increasingly supported electronic banking around the globe, which results from the combination of traditional banking and web technology. The introduction of IT facilities the division of banking has improved the quality of services and delivery (Dawes & Rowley, 1998). Jayawardhena (2004) inculcates that customers interact through network technology in electronic banking.

Initially, electronic banking was only used for the informational purpose of services of banks, but now e-banking is used for transactional and informational purposes. Similarly, Tan and Teo (2000) argued that e-banking provides various services, including account inquiry, cheque book order, fund transfer, insurance term payment, fixed deposit management, bank statement download, bill payment, and stock investment. It facilitates the customers to get benefits from a wide range of customized services everywhere, and it also assists the banks in providing their services in a cost-efficient manner to a vast number of customers (Amin, 2016; Yoon & Steege, 2013; Narayanasamy, Rasiah & Tan, 2011). The acceptance rate of e-banking service quality. To achieve a competitive advantage, the primary approach is to provide high-quality e-banking services to customers. (Kandampully, Zhang & Bilgihan, 2015; Jayawardhena, 2004; Makanyeza & Chikazhe, 2017; Butt & Aftab, 2013). Parasuraman, Zeithaml, and Malhotra (2005) argued that customer perception about service quality differs from context to context. So, in this way, the customer evaluation and perception of the service quality in traditional banking and e-banking is different (Arcand, PromTep, Brun & Rajaobelina, 2017; Lin, Wang, Wang & Lu, 2014). Surprisingly, it is discovered by examining the relationship that service quality features have no consistent effect on customer

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satisfaction. Hence, customer loyalty and satisfaction are crucial in keeping relationships with customers (Chen, 2013; Dahlstrom, Nygaard, Kimasheva & Ulvnes, 2014; Aldas-Manzano, Ruiz-Mafe, Sanz-Blas & Lassala-Navarré, 2011; Chen, Hsiao & Hwang, 2012). Therefore, the research scholars have established the ESBQ (electronic banking service quality) scale for understanding and measuring what customers expect and think about the service quality of e-banking. However, minimal research had examined the effect of service quality of e-banking on retention, satisfaction, adoption, and loyalty of the customer. So, this research fulfils this gap. Trust is critical in determining the relationships in the process (Singh & Sirdeshmukh, 2000). Anderson and Srinivasan (2003) argued that when the consumers are happy with e-business but lacks trust on the e-business, it reduces their loyalty.

Therefore, the research is aiming to find the effect of ESBQ on the loyalty and satisfaction of the customer. This study also inspects the customer role of trust towards service quality of e-banking as a mediator, which contributed to satisfaction of customer and their loyalty. In this study, four interpretations (reliability, privacy, customer service & support and website design) are taken for measuring the impact of ESBQ (electronic banking service quality) on the loyalty of the customer and their satisfaction. Hence, banks may develop strategies to maintain relationships with customers by getting an understanding of their relationships. It helps the banks in achieving a competitive advantage.

Prior studies have examined the general impact of service quality on customer behavior, loyalty, and customer in the context of banking (Butt & Aftab, 2013; Amin, 2016; Ahmad Al-Hawari, 2014). Previous studies give a minimal contribution to services of finance about improving their loyalty and satisfaction of customers. So, this study would help fill this gap regarding the influence of ESBQ on loyalty and satisfaction of consumer through trust.

Theory Building and Hypothesis Development

Lazarus (1991) introduced the theory of Cognitive motivational relational. In this research, for the theoretical foundation, this theory is used to explain a connection between e-banking service quality, satisfaction as well as loyalty of the consumers. The connection between cognitive assessment and emotional response is suggested by CMR theory. When individuals evaluate an environment based on their beliefs, values, and goals, cognitive orientation occurs, resulting in an emotional reaction to the environmental indications. CMR theory is applied to describe an association between quality of service and customer responses like satisfaction, purchase intention of the customer, and loyalty of customer by the researchers (Brady & Robertson, 2001; Sivapalan & Jebarajakirthy, 2017; Nicholls, Polman & Levy, 2012). They argued that customer responses are considered emotional responses, and service quality is related to cognitive evaluations.

So, according to the above argument, ESBQ is a cognitive assessment and satisfaction and loyalty of customer is an emotional response. The dimensions of ESBQ (privacy & security, customer service & support, website design and reliability) are indicators in the settings, and customers assess them cognitively. Their evaluations come in the form of behavioral responses to services of e-banking, such as customer loyalty and customer satisfaction.

Electronic Banking service Quality (ESBQ) and customer satisfaction (CS)

Customer satisfaction is an evaluation of customers about the service of the product whether they satisfy their expectations and need (Bitner & Zeithaml, 2003). Previous studies show an association between the quality of electronic service and customer satisfaction (Taylor & Baker, 1994; Fornel, 1992). The research depicts that if attributes of e-service quality are adequately implemented, it can increase customer satisfaction (Parasuraman, Zeithaml, & Berry, 1988; Gronroos, 1984 Walker, Johnson & Leonard, 2006). Parasuraman, Zeithaml, and Berry (1985) noted that conceptual service quality pinpoints if service quality matches customer standards. It decreases the gap of performance and increases customer perceived value about quality systems. Therefore it results in satisfaction of consumers.

Similarly, Rod, Ashill, Shao, and Carruthers (2009) commented that when customer perceptions about internet service quality are high, they are satisfied with the online service, which automatically leads to high customer satisfaction towards banks. So, it is justified from the above literature that less gap between the perception and expectation of the superiority of e-services ultimately increase satisfaction. Consequently, the hypothesis is derived from the above literature.

H1. Service quality of e-banking impacts customer satisfaction

Electronic Banking service Quality (ESBQ) and Customer Loyalty (CL)

Bowen and Chen McCain (2015) inculcate that customer retention is a complicated process. It is vital for the success of the organization. Customer loyalty is customer propensity for visting the websites of banks regularly, use services of e-banking daily, plus escalate positive words about the services of electronic banking (Amin, 2016; Kaur, Sharma & Mahajan, 2012; Jeong & Lee, 2010). Carlson and O'Cass (2011) commented that the quality of internet service also impacts the customers to revisit their website and conveys positive words of their services to other customers. Amin (2016) argued that banks should focus on loyalty for the maintenance of relationships. It is previously discussed that the service quality of e-banking and the loyalty of the customer. Literature defines the ESBQ dimensions as privacy and support, reliability, customer service & support, and website design (Hussien & Abd El Aziz, 2013; Ho & Lin, 2010; Ayo, Oni, Adewoye & Eweoya, 2016; Jayawardena, 2004; Amin, 2016). Thus, the proposed hypothesis is given below:

H2. Service quality of e-banking impacts customer loyalty.

The Mediating Role of Trust (T)

"Trust refers to customer confidence in the quality and reliability of the services offered" (Garbarino & Johnson, 1999, p. 71). According to Grönroos (2001), the aspects of an e-service directly affect trust, as these elements communicate trust indications to clients, such as the websites' and systems' trustworthiness. Grabner-Kraeuter (2002) even interprets the e-quality by using trust as a determinant. Ganesan (1994) identified a positive relation among trust of customers and their satisfaction. They identified that trust is crucial in customer satisfaction (Kim, Ferrin & Rao, 2008; Pavlou & Fygenson, 2006; Ribbink, Van Riel, Liljander & Streukens, 2004).

H3. Service quality of e-banking impacts trust.

H4. Trust impacts customer satisfaction.

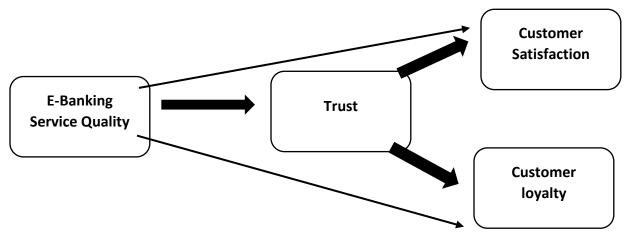
H5. Trust mediates an association between the service quality of e-banking and customer satisfaction.

In this banking face to face, interaction is not there, so that is why initial trust is vital for helping the customers reduce their perceived risks (Zhao, Koenig-Lewis, Hanmer-Lloyd & Ward, 2010). Hong and Cho (2011) noted that trust is a significant precedent of customer loyalty in e-banking and serves as a basis for maintaining everlasting relationships with customers. Trust improves relationships with customers and their long-term commitment. Therefore, it enhances customer loyalty (Sanchez-Franco, 2009; Kassim & Asiah Abdullah, 2010; Butt & Aftab, 2013). So, in this study trust acts as a mediator for a link between e-banking service quality and customer loyalty.

H6. Trust impacts customer loyalty.

H7. Trust mediates an association between the service quality of e-banking and customer loyalty.

The conceptual model has been given based on previous research, which acts as a model's base.



Conceptual Model

Methods

Sample and Procedures

The study comprises a four-factor model Electronic banking service quality (ESBQ), Trust (T), Customer Satisfaction (CS), Customer loyalty (CL). For the collection of data, a structured questionnaire was used. For ESBQ, T, CS, and CL, data was collected from e-banking customers. Questionnaires were distributed via Google Forms in an online method. The respondents were asked to complete the survey without any compensation. Assurance was given that their responses will only be utilized for research. A convenience sampling technique of non-probability was operationalized for the collection of data from respondents. The data were collected between May 2020 and August 2020. The survey questionnaires were comprised of two portions. The first section of the survey questionnaire asked respondents for personal information such as gender, age, education, occupation, and how often they utilized the internet. The second section was comprised of 30 items regarding the variables of the study.

The planned sample size was 300, based on the rule of ten responses for each measured item. A structured questionnaire was distributed to 450 respondents, out of which 334 respondents filled the questionnaires. Thus, the response rate was 0.74 percent. All the statistical analyses has been performed using "IBM SPSS® Version 23".

Measures

The data was collected using the Likert scale of five-point ranging from "1=strongly disagree to 5= strongly agree".

Electronic Banking Service Quality

The study used a 16 items scale of Shankar and Jebarajakirthy (2019) to measure the Electronic Banking Service Quality (Website design, security, privacy, customer service & support, and reliability). A sample item includes, "e-banking website provides the services exactly as promised".

Trust

The study adopted a six-item scale from (Jaruwachirathanakul & Fink, 2005; Gupta & Kamilla, 2014; Yoon, 2010) to measure trust. A sample item includes, "the reputation and size of the bank assure online banking integrity".

Customer Satisfaction

Previous studies used four items scale by Rod, Ashill, Shao and Carruthers (2009), and the same scale was used to measure customer satisfaction. A sample item includes, "I am satisfied with the transaction processing in the online banking website".

Customer Loyalty

This study adopted a four items scale of Amin (2016); Filieri and McLeay (2013) to measure customer loyalty. Sample items include, "I will recommend e-banking to other people".

Data analysis and results

All the statistical analyses were performed using a statistical software "IBM SPSS® Version 23".First of all, preliminary tests were conducted, including missing values, outliers, normality, and reliability as they hamper the results (Hair, Black, Babin, Anderson & Tatham, 2006; Islam, Ahmad, Ahmed & Ahmer, 2019). There are no missing values in the data because data is collected through Google forms and all questions were mandatory to fill. Similarly, according to Byrne (2010), if values of skewness (±1) and kurtosis (±3) falls within this range, then data is normally distributed. Hence, the data distribution is normal as skewness and kurtosis values were seen lying within the limit. The next test consisted of outliers; 17 outliers were found in the data using stem and leaf tests and removed from the data. Cronbach's α measures the reliability of the data. According to Hair *et al.* (2006: 2010), if the value of (α) Cronbach's Alpha is ≥ 0.7 , the scale is reliable. Table 1 shows the values of α ranging from 0.91 to 0.83, which is ≥ 0.7 . So the scale is considered to be reliable. Descriptive statistics (mean & standard deviation) is also presented in Table 1. Values of the mean of observed variables ranging from 3.93 to 4.20, which explains respondents agree with the variables. Moreover, standard deviation values ranging from 0.60 to 0.63. Then multicollinearity was examined before testing the hypothesis by using values of correlational. The correlational

among variables is also presented in Table 1 which displays that electronic-banking service quality is positively correlated with trust (r=0.78, p < 0.01), customer satisfaction (r=0.75, p < 0.01) and customer loyalty (r=0.65, p < 0.01). Trust is also positively associated with customer satisfaction (r=0.77, p < 0.01) and customer loyalty (r=0.71, p < 0.01). Customer satisfaction is correlating with their loyalty positively (r=0.75, p < 0.01). All correlational findings are ranging from 0.65 to 0.78. All are less than 0.90. Therefore, no multicollinearity among the constructs (Tabachnick & Fidell, 2012).

Variables	Mean	SD	α	1	2	3	4
1-ESBQ	3.93	0.60	0.91	1			
2-T	4.00	0.63	0.85	0.78**	1		
3-CS	4.10	0.63	0.83	0.75**	0.77**	1	
4-CL	4.20	0.65	0.85	0.65**	0.71**	0.75**	1

Table 1: Mean, Standard Deviation, Reliability and Correlation

Note: "ESBQ = Electronic-Banking service Quality, T = Trust, CS = Customer Satisfaction, CL = Customer Loyalty, SD = Standard Deviation, $\alpha = Cronbach's alpha$, **P < 0.01"

The personal information of respondents is presented in Table 2. The majority of the respondents of the study are female (54.3%) within the age limit below 25 (61.5%), having bachelor's degrees (58.4), and are students (56.2%). Moreover, the frequency of use of the internet is (34.7%).

Table 2: Demographical Characteristics of Respondents					
Demographics N %					
Gender	Male	145	45.7		
Ochider	Female	172	54.3		
	Below 25 years	195	61.5		
Age	25-35 years	112	35.3		
50	36-45 years	7	2.2		
	Above 45 years	3	0.9		
	High School	12	3.8		
Qualification	Bachelors	185	58.4		
	Masters	117	36.9		
	PhD	3	0.9		
Profession	Student	178	56.2		

Table 2: Demographical Characteristics of Respondents

	Employee	101	31.9
	Businessman	27	8.5
	Other	11	3.5
	1 hour below	17	5.4
	1-3 hours	34	10.7
Frequency used internet	3-5 hours	87	27.4
	5-7 hours	69	21.8
	7 hours above	110	34.7

Note: n = 317

Further, the study examined the basic assumptions Baron and Kenny (1986) in which "(1) significant association between the independent and dependent variable, (2) significant association between independent and mediating variable, (3) significant association between mediating and dependent variable, (4) the relationship between independent and dependent variable after adding mediator." Regression analysis of the study is shown in Table 3. The results show a positive and significant impact of ESBQ on CS ($\beta = 0.78$, P < 0.01), CL ($\beta = 0.70$, P < 0.01) and T ($\beta = 0.82$, P < 0.01) accepts (H1), (H2) and (H3) of study. Similarly, results also identifies that T is positively impacting CS ($\beta = 0.76$, P < 0.01) and CL ($\beta = 0.73$, P < 0.01) which accepts fourth (H4) and sixth (H6) of study.

Table 3: Regression Analysis					
Hypotheses	В	R^2	Р	Results	
EBSQ>CS	0.78	0.56	0.00	Accepted	
EBSQ>CL	0.70	0.42	0.00	Accepted	
EBSQ>T	0.82	0.61	0.00	Accepted	
T>CS	0.76	0.59	0.00	Accepted	
T>CL	0.73	0.5	0.00	Accepted	

Note: "EBSQ= Electronic banking service quality, T=Trust, CS=Customer Satisfaction, CL=Customer loyalty."

This study also established an indirect association between ESBQ and CS with the intervening role of T through the hierarchal regression method (Table 4). The study followed Baron and Kenny (1986) techniques. The study investigates the mediating role of T between an association of EBSQ and CS by using three steps hierarchal

regression method. Firstly, all demographical variables are added to control their effect. Secondly, independent variable was (EBSQ) added and identified its significance ($\beta = 0.56$, p < 0.01). Moreover, thirdly mediating variable (T) was added the effect of the independent variable (ESBQ) becomes significant ($\beta=0.38$, p < 0.01). So, results identified that trust (T) partially mediates an association between ESBQ and CS, confirming the fifth (H5).

Table 4: Hierarchal Regression for Mediation					
Variables	M1(β)	M2(β)	M3(β)		
Control Variables					
Gender	-0.05	-0.03	-0.04		
Age	0.08	0.01	-0.01		
Qualification	0.10	0.00	0.01		
Frequency used to internet	0.03	0.01	0.03		
R^2	0.02				
Independent Variable					
EBSQ		0.78**	0.38**		
R^2		0.56			
ΔR^2		0.54			
Mediating Variable					
Т			0.48**		
R^2			0.65		
ΔR^2			0.09		

Note: EBSQ "Electronic Banking Service Quality, T= Trust" For dependent Variable: CS "Customer Satisfaction."

Similarly, the study also investigated an intervening effect of T in the association of EBSQ and CL in Table 5. So, the results identified that trust (T) partially mediates the association between ESBQ and CL, which confirms the seventh (H7) hypothesis of the study ($\beta = 0.23$, p < 0.05).

Table 5: Hierarchal Regression for Mediation				
Variables		Μ1(β)	Μ2(β)	M3(β)

Control Variables

Gender	-0.14	-0.13*	-0.14*
Age	0.04	-0.03	-0.05
Qualification	0.12	0.03	0.04
Frequency used to internet	0.02	0.00	0.02
R^2	0.03		
<u>Independent Variable</u>			
EBSQ		0.70**	0.23*
R^2		0.43	
XR^2		0.40	
Mediating Variable			
Т			0.55**
\mathbf{R}^2			0.54
XR ²			0.11

Note: EBSQ "Electronic Banking Service Quality, T= Trust" For dependent Variable: CL "Customer Loyalty."

Discussions on Findings:

Various researches have emphasized the relationship of service quality with satisfaction and trust. However, the goal of this study was to find an association between service quality of electronic banking, customer satisfaction & loyalty and trust. By collecting a sample from the users of electronic banking, this study has determined the mediating role of trust between ESBQ, CS and CL. Results have shown that the quality service of electronic banking is positively related to customer satisfaction. These results are similar to previous findings (Herington & Weaven, 2009; Carlson & O'Cass, 2011). However, banks should give attention to all the four constructs of ESBQ to

maintain the high service quality of electronic banking. According to Lazarus (1991), electronic banking service has an association with the loyalty of customers, so these findings are also aligned with the cognitive, motivational relational theory he presented. Thatchon et al. (2014) also inculcate that improving the service quality ultimately leading towards loyalty and satisfaction of consumers. For instance, when the experience of the customer related to the interactivity or operations of a website a of electronic banking is negative, then it is more likely that the customer draw conclusion on the overall quality of the electronic banking service beforehand finishing of the transaction. So, banks should focus to improve the quality of e-banking services. It can be enhanced by paying attention to the website's efficiency, reliability of the service and customer service & support and concern about privacy & security issues of customers. In order to sustain their customer relationships, managers should focus on improving the usability of their navigation interface and focusing on privacy and security issues (Bressolles et al., 2014). Mediation can be partial or full. This study shows partial mediation, which means that trust affects the relationship of service quality and consumer satisfaction, loyalty. However, there is also a direct association between quality service and satisfaction and loyalty of customers. These results are aligned with Kundu & Datta (2015). Undoubtedly, if electronic banking consumers dubious that transactions are not unsafe, they will leave the website even before completing them. The provider of services must be cautious for protecting the customers' information. They should incorporate the extra level of authentication verification to lessen fraudulent activities and make customers feel more secure in the environment of electronic banking. So, banks need to maintain customer trust, which ultimately affects their satisfaction and loyalty. For this purpose, service quality may also improve, which is also vital for the success of an organization (Thaichon et al., 2014).

Implications

The present study has academic contributions as well as practical implications. Firstly, in this study, the model examines how the quality of service affects the satisfaction and loyalty of its customers with the explanatory role of trust in electronic banking. These two dependent variables, i.e., customer satisfaction and customer loyalty, are not taken altogether with mediating role of trust. They were taken separately in the previous research. So this research fulfils this gap by exploring them all together with trust. Secondly, the findings support the hypotheses of the study. Thirdly, results also support the cognitive, motivational relational theory that suggests the link between quality service of e-banking and satisfaction and customer loyalty. Therefore, banks can improve their services for an enhancement of satisfaction of customers and loyalty of customers.

This study provides insights and contributes to the literature of service marketing, customer behavior, especially in the context of marketing of financial services. So, this study is helpful for the researchers who want to explore more in this context. It also helps an organization make strategies to improve the services of e-banking which enhances the satisfaction of customers and loyalty of the customer.

This study is contributing to academia the practical insights and providers of e-banking to enhance their satisfaction and loyalty by providing quality services.

Limitations and Recommendations

Although the study has tried covering several concepts, there are some limitations. According to Poon (2004), longitudinal studies are better ideal for measuring causal pathways of research variables. However, data is acquired all at once in study, indicating that it is cross-sectional. Secondly, data is collected through survey-based questionnaires from users of e-banking. Future studies should collect the data by conducting interviews and questionnaires to know how customers use electronic banking and how its service quality will impact their customers in terms of their satisfaction and loyalty. For further research, resreacher can take up more dimensions for measuring service quality of electronic banking.

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