Internet banking service quality, e-customer satisfaction and loyalty: the modified e-SERVQUAL model

Syed Ali Raza and Amna Umer

Iqra University, Karachi, Pakistan, and

Muhammad Asif Qureshi and Abdul Samad Dahri

Faculty of Business Administration and Social Sciences,
Mohammad Ali Jinnah University, Karachi, Pakistan

Abstract

Purpose – This study explores the service quality dimensions in Internet banking and their impact on e-customer's satisfaction and e-customer's loyalty. This study tries to inspect the structural association between Internet banking service quality, electronic customer satisfaction and electronic customer loyalty based on separate constructs.

Design/methodology/approach – In this present research, quantitative approach is applied. The data is gathered from 500 bank clients in Pakistan by using structured questionnaires, and the theoretical model is tested by partial least square structured equation modeling (PLS-SEM). Moreover, convergent validity and discriminant validity were assessed.

Findings – Results show that all the dimensions are found to have a positive and significant influence on customer satisfaction while customer's satisfaction has a significant and positive impact on customer's loyalty. Findings indicate that service quality plays a very important role in every society, as it has become the basis for how customers interpret online banking and, in the end, how it interacts and operates with online services.

Practical implications – This research adds up considerably to the literature of bank marketing, and it is also fruitful for the academicians since it demonstrates the way Internet banking service quality determinants predict e-satisfaction of clients which ultimately raises the e-loyalty of clients. This study is useful for those E-retailers and managers who want to grab e-retailing market.

Originality/value – This research suggests a model which ultimately enhances customer loyalty towards Internet banking service quality through customer satisfaction in Pakistan. It involves modified model of E-SERVQUAL (user friendliness, efficiency of websites, personal need, and site organization) which connects it to electronic customer satisfaction and electronic customer loyalty. Therefore, it will assist the Internet banking sector in building effective marketing tactics, establishing long lasting relationships with clients and acquiring the competitive edge in the market.

Keywords Internet banking service quality, Customer satisfaction, Customer loyalty, SERVQUAL

Paper type Research paper

1. Introduction

The advancement in the technology-based system has established an entire new means for organizations to communicate with their clients. With this innovation, the service industry, precisely the banking industry, has faced an enormous revolution while reaching out to their customers. The banking sector has made maximum use of this growth, building a variety of distribution channels to attract tech-savvy customers, boost business prospects and safeguard consumer loyalty. (George and Kumar, 2014). This integration of Internet services has led to the emergence of Internet banking.

Internet banking, a form of electronic banking, is a portal through which clients can utilize various banking services such as making bill payments and investments (Pikkarainen *et al.*, 2004). According to Wang *et al.* (2017) it has emerged to be a most profit-making e-commerce application and many banks have introduced Internet banking in order to provide themselves with the dual benefits of enhanced customer service and reduced cost (Xue *et al.*, 2011). Moreover, this mode of banking will not only benefit banks but eventually it will also satisfy

the need of their customers (Shahzad *et al.*, 2017; Rahi and Ghani 2016). Through Internet banking customers can have access to various banking activities from anywhere and at any time that too with a much lowered handling cost (Yoon and Steege, 2013). Therefore, Internet banking, unlike conventional banking, lets clients interact with the website rather than a representative making the banking system more cost effective and helping to build healthier relations with the clients (Rod and Ashill, 2010; DeYoung *et al.*, 2007). Still, banks are facing complications in optimizing their operations, thus, associating it with customer's reluctance to embrace Internet banking despite its benefits (Rahi and Ghani, 2019). Moreover, banks are facing a lot of competition in attracting and retaining customers and in order to combat that, they have to provide high quality Internet banking service which could lead them to gain competitive advantage (Kandampully *et al.*, 2015; Makanyeza and Chikazhe, 2017).

In Pakistan, Internet banking is considered to be in its early stage. State bank of Pakistan has control over 38 banks categorized as private sector banks, public sector and specialized banks. Out of these 38 banks, 24 banks have incorporated Internet banking having a volume share of 4% of total Internet banking transactions in Pakistan. According to the State Bank of Pakistan's Payment Systems Review for the quarter ended October–December, 2013, 3.9 million transactions occurred with more than one million users of Internet banking. This indicates the volume growth of 5.7% as compared to that of last year. In Pakistan, a squeak growth of only 3 percent has been observed in the implementation of Internet banking as revealed by a report of State Bank of Pakistan (2015).

Regardless of the rise in the number of Internet banking users, its adoption is still below the anticipated levels. This might be due to the inferior service quality and client's dissatisfaction (Li-hua, 2012; Zhao *et al.*, 2010). Consumers have different opinions on the quality of services that Internet banking and conventional banking deliver. Furthermore, user's welcome competitive advancements, yet Internet service quality alone cannot build healthier relationships between banks and consumers. Thus, customer satisfaction and customer loyalty are found to be essential factors in creating stronger relationships (Aldas-Manzano *et al.*, 2009; Chen, 2013; Chen *et al.*, 2012; Dahlstrom *et al.*, 2014). Hence, the aspect of service quality in the banking sector needs to be explored further (Kaura *et al.*, 2015; George and Kumar, 2014). It is also important to recognize key determinants of the quality of Internet banking services, as well as recognizing how clients judge the Internet services provided by banks.

Lately, various studies have been conducted investigating Internet service quality in the perspective of online shopping (Clemes *et al.*, 2011; O'Cass and Carlson, 2012), after sales services (Murali *et al.*, 2016) and even in the banking sector (George and Kumar, 2014; Shankar and Jebarajakirthy, 2019; Hammoud *et al.*, 2018; Rahi and Ghani, 2019) yet a little evidence is found where electronic customer satisfaction (ECS) and electronic customer loyalty (ECL) is assessed by taking the dimensions of Internet banking service quality that too in the context of Pakistan. Hence, this study tries to inspect the structural association between iBSQ, ECS and ELS based on separate constructs.

This research adds up considerably to the literature of the bank marketing and it is also fruitful for the academicians since it demonstrates the way iBSQ determinants predict e-satisfaction of clients which ultimately raises the e-loyalty of clients. In this research, user friendliness, efficiency of websites, personal need, and site organization, are considered as the four components of iBSQ, impacting e-customer satisfaction and e-loyalty. This will help the banking sector to establish effective marketing strategies, build long-term customer relationships and gain a competitive edge on the marketplace.

Additionally, Black *et al.* (2014) explain that service quality has a stronger relationship with customer outcomes when services are inseparable or relational. This situation has led many banks to make a high degree of marketing activity and develop Internet banking technology to boost their customer relationships.

2. Literature review

2.1 Theoretical background

2.1.1 Electronic service quality (e-service quality). Service quality, proliferated from the theory of expectancy disconfirmation, was embraced by earlier researchers Parasuraman *et al.* (1985) and Gronroos (1982, 1984). Furthermore, the model proposed by Mentzer *et al.* (2001) could be used for e-service quality assessment since the customers of e-retailing share similar needs as that of logistic customers, which are to have profound information of quality and convenience of orders together with the precision in the result of online dealings. In reality, the consumer and supplier's physical separation significantly impacts the measures used to assess the service's quality. (Bienstock *et al.*, 1996). Afterwards, Zeithaml *et al.* (2000) created 11 dimensions for e-service quality model and later on various models were developed by analysts according to the consumer experience viewpoint and assessment viewpoints.

Service quality model or e-service quality model is utilized in various studies (Rahi and Ghani, 2018; Raza *et al.*, 2015; Akram and Sultan, 2014; George and Kumar, 2014; Clemes *et al.*, 2011), and it is significant in not only determining the success rate of a business but also it is significant in defining customer's experiences in an interactive virtual setting. E-service quality is regarded as an interactive information facility (Rowley, 2016) allowing organizations to discriminate their services and create competitive advantage, through the provision of a certain mechanism (Santos, 2003). Parasuraman *et al.* (1985) propose that e-service quality is the degree to which a website simplifies an effective transaction and the provision of goods and services. E-service quality could also be explained as the users' complete assessment and appraisal of the quality of the virtual facility given through cyber businesses (Santos, 2003) and therefore, it is important for e-retailers to assess the significance of e-service quality aspect while constructing online publicizing policies. The potential benefits of the Internet are acknowledged through the highest standards of e-service quality. Virtual users can recognize the potential advantages of the internet through the e-service's outstanding efficiency.

This study incorporates the modified model of e-service quality given by Herington and Weaven (2009) and Parasuraman *et al.* (1985) in which four determinants, personal needs, site organization, user-friendliness and efficiency are found to be essential in the determination of Internet service quality in the banking sector and two SERVQUAL variable responsiveness and reliability.

2.1.2 Internet banking service quality (iBSQ). Electronic banking services are referred to providing various electronic network to carry out bank transactions such as Internet, mobile, television and telephone (Lustsik, 2004). Nowadays, the demand and desires of customers for banking services are increasing, and they want to make use of them anywhere, at any time, without any cost-effective time or place constraints (Hammoud *et al.*, 2018).

Factually, the introduction of the first automated teller machine (ATM) in Finland opened up a new channel for banks, which resulted in marking Finland as the leader in electronic banking, way before it was used in any other country (Sharma, 2011). Nowadays, this mode of banking is widely disseminated among consumers owing to the enhancement in Internet facilities and through the competition among banks. (Mahdi *et al.*, 2010). This gave rise to Internet banking service quality which is defined as "customer's perceptions of the outcome of the service along with recovery, perceptions if a problem should occur" (Colier and Bienstock, 2006).

According to Ranganathan and Ganapathy (2002), banks who tend to deliver higher quality to their customers achieve competitive distinction. Owing to its virtual attributes, Internet banking entices clients by the quality of services they provide (Liao and Cheung, 2008). Service quality provided can only be improved when it is measurable. Parasuraman *et al.* (1985) suggest that effective measurement of service quality can be very useful in the allocation of resources and in the segmentation of customers is well documented.

According to Joseph and Stone (2003) the availability of Internet banking service delivery and user friendliness seems to be connected with high customer satisfaction and preservation. In the same way, Asiyanbi and Ishola (2018) and Rod *et al.* (2009) suggest that when overall Internet banking service quality is observed to be high, the customer is more likely to be content with their online service and accordingly will be more satisfied with their banks. For this purpose, Anderson and Srinivasan (2003) propose that ECS is likely to be motivated by site organization features (e.g. ease of use), since the site organization is the principal line between the customer and the firm. Thus, positive customer insights of the quality of the various E-service qualities will result in satisfaction with the E-service provided through the site organization (SO) (Carlson and O'Cass, 2011; Cristobal *et al.*, 2007; Kaura *et al.*, 2015; Raza *et al.*, 2015; Singh and Kaur, 2013). In addition, Bressolles *et al.* (2014) suggest that while electronic customer satisfaction is partial by site organization characteristics, different consumers will be affected differently. Additionally, Black *et al.* (2014) explain that relationship between service quality and customer satisfaction is tougher for those that are less strictly complex of services. In this condition, customers who have data technology skills can easily use the Internet banking service, and they will have higher-satisfaction levels than others (Herington and Weaven, 2009; Ho *et al.*, 2012; Lang and Colgate, 2003; Li-hua, 2012).

2.1.2.1 Site Organization (SO). Yang *et al.* (2004) proposed that website aesthetics, colors, sections and images can improve electronic banking quality and enhance the overall experience and satisfaction of users. According to Gera (2011) site Organization in cyber-banking refers to the outlook and functional management of the website to be visited by web-based users. The site organization can include web designing, proper and well detailed service description. According to Chemengui and Hajer (2013) this is an essential feature which must be monitored by the banks. Flinders (2016) stated that HSBC recently encountered customer dissatisfaction due to technical faults in banking website. Al-Hawari and Ward (2006) also considered the significance of site organization in their research and further argued that it must be considered as a vital factor to enhance computerized banking quality in Australia and to attract customers to this field. Al Motari *et al.* (2013) also adopted site organization as an important determinant of their study and further stated that it contributes towards improved contentment and faithfulness of users. Previously studies have been conducted which show positive and significant result between SO and ECS (Amin,2016; Kaura *et al.*, 2015; Ho *et al.*, 2012; Carlson and O'Cass, 2011; Herington and Weaven, 2009).

2.1.2.2 Responsiveness (RESP). Responsiveness (RESP) is also a major variable which can be used to evaluate service quality of banks. According to Sheng and Liu (2010) responsiveness refer to the promptness of reply provided by operators of cyber-banking to users of the service. According to McNesh (2015); Ali and Raza (2017) responsiveness can retain the interest of users and prompt response can help in enhancing user satisfaction and faithfulness. Chen (2013) users are most likely to retain when their complaints are answered and demands are met timely. Suleman *et al.* (2012) conducted a research while considering responsiveness as a significant determinant of digital banking quality to find its impact over user loyalty and satisfaction. Suleman *et al.* (2012) further stated that responsiveness ensure that prompt services are delivered to users and increases loyalty and satisfaction altogether. According to Hammoud *et al.* (2018) responsiveness can be categorized into four steps. First, Internet banking system can regulate and function the service appropriately; second, Internet banking network can properly guide customers towards proceeding if any failure occurs; third, it can provide a quick way out to handle any error in Internet banking transactions; and fourth giving quick response any clients' query. Evidence suggests that RESP has positive and significant impact on electronic customer's satisfaction (Hammoud *et al.*, 2018; Parasuraman *et al.*, 2002).

2.1.2.3 Reliability (REL). Reliability (REL) is the capability to complete an agreed task unfailingly and correctly. According to Singh and Kaur (2013) the banks are known for their reliability and consistency in performing the banking tasks, however, it is important to portray this dependability through web-based services as well. Chemegui and Hajer (2013) further stated in his work that reliability over the online task can increase the user involvement in the service and compel the user to avail the service again. According to Rudgard (2016) HSBC cyber-bank site came under cyber assault, which greatly resulted in discontent of users. Therefore, these aspects of protection and confidentiality are deemed secure. Some investigators also consider reliability as a significant determinant of the digital banking performance. Sokhaei and Afshari (2014) stated that in order to utilize any service provided by online source, the user first require to be certain that the source is secure, liable and his/her personal data is made sure to be kept confidentially. According to Cheng and Chan (2009) digital banking necessitate exchange of private and confidential data therefore it is imperative that site of the bank must be dependable, trustworthy and secure. Therefore, the feature is perceived as a significant factor in this study to analyze the effect of e-banking on the contentment and faithfulness of customers. Previous studies suggest a positive and significant relationship between reliability and ECS (Hammoud et al., 2018; Kettinger and Lee, 2005; Tan and Teo, 2000).

2.1.2.4 User's friendliness (USFR). According to Wu and Chang (2013), user's friendliness (USFR) is essential for a large number of users are elderly people, thus it is necessary to ensure ease of service use. Acohido (2009) stated that Amazon has introduced user friendly plug-ins for the impaired or physically disabled users of its online e-book which has significantly increased its customer satisfaction. Not only can such a strategy favor the consumer but it can also help to achieve a competitive advantage. Furthermore, according to ANZ introduced a new USB feature which claimed to make the cyber-bank website more user-friendly for users. According to Mahadin et al. (2020); Mahapatre and Khan (2009) many users of automated banking in India are discontented due to lacking of user friendliness. Therefore, it is prominent that the feature has a great impact over user fulfillment and faithfulness. Thus, it is considered as an important variable of this research. According to Rajaobelina et al. (2019), user friendliness and customer satisfactions is highly correlated with each other in banking sector Amin (2016) found a positive and significant relationship between USFR and ECS.

2.1.2.5 Personal Needs (PENE). According to Grönroos (2007) the bank must consider personal needs of its users. Having sufficient data about the personal needs (PENE) of users can help cyber-banks to initiate new features to increase fulfillment and faithfulness of users. According to Yoon (2010); Keskar et al. (2020), it further helps banks in acknowledging the age, sex, lifestyle and preferences of cyber users. Thus, the personal needs of users can be analyzed to propose offers and meet the accurate demands of users (Hamadi, 2010). There are different types of significant needs of humankind which are also highlighted in Maslow's Hierarchy. Some needs which may contribute to the perception of digital banking include safety, belongingness and preference needs. According to Amin (2016) personal needs have a significant relation with users and therefore it is perceived as a significant variable of this investigation. The study carried out by Amin (2016) show positive and significant relationship between PENE and ECS.

2.1.2.6 Efficiency (EFFE). Efficiency (EFFE) is also a vital factor in maintaining user faithfulness and ensuring user fulfillment. According to the user require their transaction to be completed through cyber-banking and efficiency means that maximum transactions are completed. According to Kheng et al. (2010), when their maximum demands are fulfilled with efficiency, the user tends to become happy and faithful to the cyber-bank service. User needs and answers need to be handled efficiently through the website system for the banking. Efficient response not only involves a financial institution fax or e-mail address but also

demonstrates the website's effectiveness in this study. According to Ranchi and Khudjanov (2011) Website efficiency in digital banking refers to the percentage of concluding banking transactions over terminated banking transactions. The users tend to be more loyal and satisfied when their transactions are completed every time with efficiency. Moreover, the study carried out by Amin (2016) suggest that efficiency is the most important factor, among others, of iBSQ. Furthermore, previous literature shows that efficiency influences ECS positively and significantly (Amin, 2016; Hammoud et al., 2018).

2.1.2.7 Electronic Customer Satisfaction (ECS). Customer's satisfaction conceptualized as the assessment of sentiments, is regularly being utilized over the time. User satisfaction is considered to be the extent to which a user thinks that the custody or utilization of the facility induces optimistic emotions (Rust and Oliver, 1994). According to Cheng and Chan (2009), e-service can be categorized into two aspects, one could be referred as transaction specific in which the contentment is regarded as a sentimental response towards the performance on particular characteristics of a service while the satisfaction depending on the variables which occur due to the repetitive transactions is referred as cumulative result or overall satisfaction (Shankar et al., 2003). Researchers (Taylor and Cronin, 1994; Parasuraman et al., 1985) regard the overall satisfaction to be an integral part of perceived service quality since it echoes the users' cumulative impact occurring from the facility performance of an organization and this in turn acts an interpreter of user's loyalty. Alternatively, satisfaction is defined as a review of the user's mental state created by combining feelings about the dis-confirmed anticipations with the user's earlier feelings about their experience of use (Oliver, 1980). In other words, satisfaction is the feeling of happiness or displeasure that arises in an individual due to the comparison of a product's actual and expected performance. In the context of Internet banking service quality, e-satisfaction is users' gratification concerning their previous transaction or dealing experiences with a particular bank (Anderson and Srinivasan, 2003). Moreover, service quality and customer satisfaction is supposed to have a robust association (Parasuraman et al., 1988). This association is concluded by Jain ad Gupta (2004) who suggest that user satisfaction greatly depends getting improved quality.

According to Lee and Suami (2009), customer's satisfaction or fulfillment in Internet banking is the appraisal of how the service provided by Internet banks has met the customer expectations. Osman (2014) stated in their article that the skill deliver superior quality service to users is helpful in building a reputation, increasing user base and pulling new potential users to the cyber bank website. Thus, superior quality of service improves the degree of user satisfaction. According to Banerji (2012) customers who are constantly satisfied with the cyber banking service tend to be loyal to it and utilize the service again in the future. It shows that the more customers are satisfied with the Internet banking services, the more secure and long-term relationships they will have with them and, ultimately, the more loyal behavior they will exhibit (Al-alak, 2014; Levy, 2014; Gounaris et al., 2010).

Furthermore, literature shows a positive and significant association between customer satisfaction and customer loyalty (Kashif et al., 2015; Aksoy, 2014; Sharifi and Esfidani, 2014; Thaichon et al., 2014; Amin et al., 2013; Bloemer et al., 1998; Kassim and Abdullah, 2010). Also a significant relationship has been found between ECS and electronic customer loyalty (Amin, 2016; Ramseook-Munhurrun and Naidoo, 2011).

2.1.2.8 Electronic Customer Loyalty (ECL). The importance of Internet in banking increases as more people use the internet as their main channel in contacts with their bank. Consumer loyalty was primarily concerned with keeping consumers online by addressing their questions and issues with online banking. If the user enjoys Internet banking, the level of customer service is immediately lifted to their level. To create customer loyalty all the variables which were used in our study plays a vital role. According to Bhatty et al. (2001), true customer loyalty are driven by a strong, trusting relationship between the customer and the business. According to Aghdaie et al. (2015), customer satisfaction and loyalty increases

when system quality and information quality is remarkable in the banking industry. The authors further mentioned that Internet banking allows customers to be more flexible as they can access products and services 24/7 without any difficulty.

Along with this, Internet banking also provides benefits to both institution and customers. Internet banking provides ease, less service costs, more manageable bank account details, and an eye-catching variety for busy people, as time is saved. The study further mentioned that customer loyalty increases through Internet banking as evidenced by frequent utilization and transactions (Nguyen and Singh, 2004). Notification of clients is being generated through rapid services, reasonable service charge and assistance in depositing and withdrawing money, ATM booths, online bank statement over and no errors. Along with this, Musiime and Ramadhan (2011) also found a directly proportional relationship between Internet banking and customer loyalty.

2.2 Development of hypotheses

H1. Site Organization significantly impacts electronic customer satisfaction.

H2. Responsiveness significantly impacts electronic customer satisfaction.

H3. Reliability significantly impacts electronic customer satisfaction.

H4. User's Friendliness significantly impacts electronic customer satisfaction.

H5. Personal Need significantly impacts electronic consumer satisfaction.

H6. Efficiency significantly impacts electronic customer satisfaction.

H7. Electronic customer satisfaction significantly impacts electronic customer loyalty.

3. Methodology
The conceptual framework utilized in this research is depicted through Figure 1. The model is constructed by using factors of e-service quality model: Site Organization, User Friendliness,
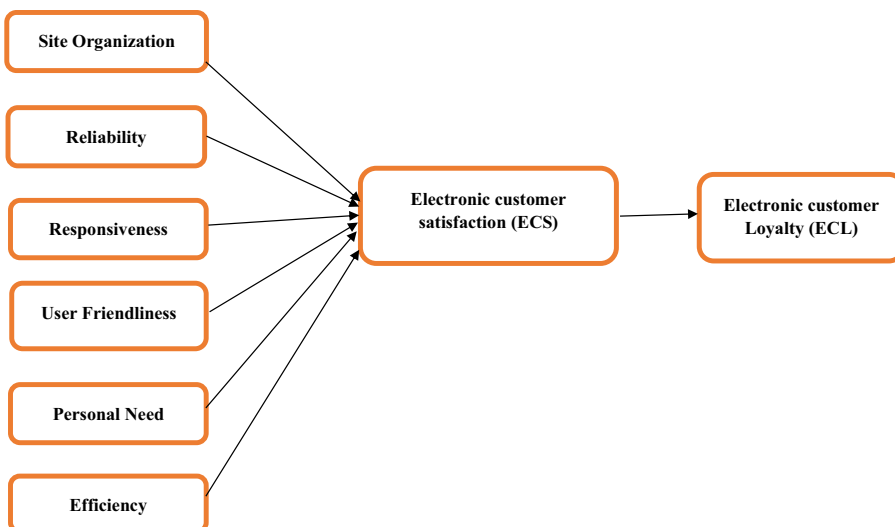

Figure 1.
Pictorial results of path analysis

Personal Need, Efficiency, Reliability, Responsiveness, and two more variables e-satisfaction and e-loyalty. This research focuses on the quality of Internet banking services and contributes to e-satisfaction and e-loyalty among students at Karachi's higher education institutions.

3.1 Measurement instrument

The instrument was, at first, validated by educationalists and this was followed by pilot testing which further validated the questionnaire. The sample for this study majorly consists of 500 banking clients, who have experienced online transaction and e-services. The sample of respondents fulfills the particular criterion, hence were requested via email to contribute to the study. The research tool was constructed on a five-point Likert scale varying between strongly disagree (1) and strongly Agree (5). The items for site organization, user friendliness, personal need, efficiency, reliability, responsiveness, and two more variables e-satisfaction and e-loyalty were adapted from Lee and Lin (2005) and Amin (2016). Moreover, data were collected along with the sample attributes such as age, gender, education level, occupation, experience of using mobile banking, marital status, monthly income, number of bank accounts and usage of the Internet through a non-probability sampling technique (convenience sampling). In convenience sampling, the selection of units from the population is based on easy availability and/or accessibility. While, in random sampling each unit from the sampling frame has an equal probability of being included in the sample. Therefore, in this we used convenience because we collected the data from users who were available at that time and it was easy for us to access them. According to researchers (Comrey and Lee, 2013; Ali and Raza, 2017; Raza *et al.*, 2018) as a sample of 50 is considered to be poor while the sample of 300 and 500 is considered good and excellent respectively, in factors analysis. Hence, 525 respondents were targeted initially, through social networking sites and emails, but after the removal of missing responses, the data were reduced to 500 respondents. The instrument also fulfills the criteria of containing no less than 25 items (Hair *et al.*, 2006). Ethical considerations were made by ensuring the respondents that their information would be kept private and also it was made sure that the responses given by them were voluntary.

3.2 Demographics

The sample depicts the responses of students belonging to various higher education institutions. The characteristics of the sample are represented in Table 1. in which the total number of respondents, with the exclusion of outliers, is 500 As shown in table of demographic 71.2% of respondent under the age group of 21–30. 18.4% respondent lying under the age group of 31–40. Age group of 41–50 consist 6.6% of respondent and 3.8% were under the age group of above 50.

We consist male and female, both respondent in which 45.2% were male and 54.8% were male. Education level: under graduate respondent was 39.4%, graduated respondent was 40.4% and 20.2% respondent were post graduates. Occupation; we used private sector in which 45.2% respondent was participated, 17.0% respondent are from the public sector, 14.4% respondent were in semi-private sector and self-employed were 23.4%. 58.4% respondent used less than 1-year mobile Internet. 1–3 years, 25.8% respondent have experience of using Internet banking and 8.4% respondent has experienced of Internet banking more than 3 years. 61.8% respondent was single and 38.2% were married. The monthly income of respondent as shown in the table, i.e.; 52% earns 15,000–35,000, 16.6% respondent monthly income was 35,000–75,000, 18.6% respondent earn 55,000–75,000 and 12.8% respondent earn more than 75,000. 59.8% Respondent has one bank account, 24.0% respondent uses two bank accounts and more than two respondents that have bank accounts were 16.2%. As seen from demographic point 11.0% respondent use Internet banking daily,

Demographics	Frequency	%
Age		
21–30	197	39
31–40	205	41
41–50	58	12
Above 50	40	8
Gender		
Male	276	55
Female	224	45
Education level		
Under Graduate	94	19
Graduate	203	41
Post Graduate	201	40
Occupation		
Private Sector	226	45
Public Sector	85	17
Semi-Private Sector	73	14
Self-Employed	116	23
Experience of Using Mobile Banking		
less than 1 year	292	58
1–3 year	129	26
More than 3 years	79	16
Marital status		
Single	309	62
Married	191	38
Monthly income		
15,000–35,000	261	52
35,000–55,000	82	16
55,000–75,000	93	19
more than 75,000	64	13
How many bank accounts do you have?		
One	299	60
Two	120	24
more than two	81	16
How Long Have You Been Using Internet Banking?		
Daily	55	11
Weekly	112	22
Monthly	208	42
Yearly	125	25

Table 1.
Profile of respondent
(*N*-500)

weekly Internet banking used by 22.4% respondent. 41.6% respondent use monthly Internet
banking and 25.0% used yearly Internet banking.

4. Data analysis and results
This research utilizes SEM as a part of Smart PLS 3.2. (Sarstedt *et al.*, 2014), by utilizing a
bootstrap resampling methodology of 5,000 (Hair *et al.*, 2011). This technique is used to
evaluate both the estimation and structural model. Analysts (Hair *et al.*, 2011; Henseler *et al.*,
2014; Raza *et al.*, 2018) suggest that, PLS-SEM is very rational and effective to use for

breaking down complex models. Moreover, the incorporation of two developmentally measured constructs of the research model makes the utilization of PLS, i.e. Partial least squares, in the light of the fact that it can give assessments to the model, rather than SEM, structural equation models which are unable to assess complex models (Hair *et al.*, 2011; Hair *et al.*, 2012).

PLS, introduced by Wold (1975, 1980) and Joreskog and Wold (1979), is capable of explaining the connection between dormant variables. According to Aibinu and Al-Lawati (2010), a latent variable is an unnoticed variable which is connected with the other identifiable factors. Hence, this technique has the ability to function with the unnoticed factors and to determine the measurement error in the improvement of such unnoticed variables (Chin, 1998).

This research involves perception-based items whose distribution and normality are unobserved and the items are constructed on a Likert scale. In order to assess the effectivity of the model two methods, convergent validity (Cook and Campbell, 1979) and discriminant validity (Campbell and Fiske, 1959), are used. The assessment of single item reliability is done by evaluating simple correlation (standardized loadings). According to Tabachnick and Fidell (2007), items are considered to be reliable when their value is above 0.55 and according to Table 2, all the items are regarded as reliable.

Furthermore, convergent validity is determined by using two methods given by (Fornell and Larcker, 1981):

(1) Cronbach's alpha and Composite reliability,

(2) Average variance extracted (AVE).

Constructs	Items	Loadings	Cronbach's α	Composite reliability	Average variance extracted
ECL	ECL_1	0.890	0.886	0.929	0.815
	ECL_2	0.910			
	ECL_3	0.911			
ECS	ECS_1	0.890	0.853	0.911	0.773
	ECS_2	0.863			
	ECS_3	0.885			
EFFE	EFFE_1	0.899	0.880	0.926	0.806
	EFFE_2	0.892			
	EFFE_3	0.904			
PENE	PENE_1	0.881	0.880	0.926	0.806
	PENE_2	0.909			
	PENE_3	0.905			
RELI	RELI_1	0.769	0.838	0.892	0.675
	RELI_2	0.855			
	RELI_3	0.849			
	RELI_4	0.813			
RESP	RESP_1	0.747	0.762	0.863	0.678
	RESP_2	0.842			
	RESP_3	0.878			
SO	SO_1	0.895	0.733	0.882	0.790
	SO_2	0.883			
USFR	USFR_1	0.781	0.842	0.888	0.617
	USFR_2	0.832			
	USFR_3	0.839			
	USFR_4	0.639			
	USFR_5	0.822			

Table 2.
Measurement model results

Note(s): ECL = Electronic Customer Loyalty, ECS = Electronic Customer Satisfaction, EFFE = Efficiency, PENE = Personal Need, REL = Reliability, RESP = Responsiveness, SO = Site Organization, USFR = User Friendliness

By referring to Table 2, it can be realized that all the variables are reliable as they meet the criteria of both Cronbach's alpha, given by Tabachnick and Fidell (2007), and Composite reliability, set by Nunnally *et al.* (1967). According to these criteria, the Cronbach's alpha should exceed 0.55 the value of Composite reliability should exceed 0.7.

The determination of convergent validity is set up for a construct if the (AVE) i.e. The average variance extracted is above 0.5 (Fornell and Larcker, 1981) and all the constructs meet this standard, which is acceptable, as seen in Table 2.

To ascertain discriminant validity, cross-loadings, square root of the average variance extracted and heterotrait-monotrait ratio of correlations (HTMT) is analyzed. The matrix of correlation in Table 3 demonstrates that for every pair of constructs, the correlation among latent variables is lower than the square root of the average variance extracted (AVE) of every construct. Hence, the results follow the criterion given by Fornell and Larcker (1981). Furthermore, Table 4 shows cross loadings of each item and it demonstrates that all the loadings are higher on their particular constructs comparing to their corresponding constructs and the differences between cross loadings is higher than the recommended standard limits 0.1 (Gefen and Straub, 2005; Raza *et al.*, 2018).

The heterotrait-monotrait proportion of correlations (HTMT), represented in Table 5, shows that all of the construct values are above the standard of 0.85 suggested by Henseler *et al.* (2015). Hence, discriminant validity is confirmed as all three criteria are met.

The explanatory power of the model is evaluated by estimating the extent of inconsistency in dependent variable. R^2 is significant for the evaluation of a structural model (Breiman and Friedman, 1985). Figure 2 demonstrates R^2 for the e-customer's satisfaction is 70% and for e-customer's loyalty is 69%.

4.1 Path Analysis

The Path analysis is shown in Table 6, in which the correlation of each path with the hypothesis is displayed. The coefficient values display the degree to which independent variables effect dependent variables while their sign, size and significance determine the hypotheses between these variables. Furthermore, the significance of hypotheses is determined by the *p*-values should not be greater than 0.1, in case of this study. Hence, Table 2 suggest that all the hypotheses are accepted with all the coefficients being positive. (see Table 7).

	ECL	ECS	EFFE	Correlation matrix PENE	REL	RESP	SO	USFR
ECL	0.904							
ECS	0.830	*0.880*						
EFFE	0.730	0.780	*0.898*					
PENE	0.757	0.764	0.814	*0.898*				
REL	0.701	0.689	0.699	0.712	*0.822*			
RESP	0.701	0.694	0.723	0.702	0.789	*0.824*		
SO	0.641	0.590	0.638	0.624	0.671	0.630	*0.889*	
USFR	0.717	0.746	0.781	0.808	0.731	0.736	0.642	*0.786*

Note(s): ECL = Electronic Customer Loyalty, ECS = Electronic Customer Satisfaction, EFFE = Efficiency, PENE = Personal Need, REL = Reliability, RESP = Responsiveness, SO = Site Organization, USFR = User Friendliness
The diagonal elements (bold) represent the square root of AVE (average variance extracted)

Table 3.
Summary statistics

		ECL	ECS	EFFE	PENE	REL	RESP	SO	USFR
ECL_1	I Will recommend to use the online banking service to other people	*0.890*	0.760	0.631	0.665	0.632	0.607	0.578	0.627
ECL_2	I would like to say positive things about online banking to other people	*0.910*	0.743	0.664	0.695	0.638	0.628	0.570	0.645
ECL_3	I intend to continue using the online banking	*0.911*	0.748	0.684	0.691	0.629	0.665	0.590	0.673
ECS_1	I am generally pleased with this bank's online services	0.753	*0.890*	0.712	0.695	0.646	0.655	0.525	0.680
ECS_2	The website of online banks is simple to use	0.692	*0.863*	0.670	0.616	0.549	0.560	0.479	0.610
ECS_3	I am satisfied with overall online bank's products and services	0.745	*0.885*	0.676	0.702	0.620	0.612	0.551	0.676
EFFE_1	It is easy to find what I need on the website of online banks	0.630	0.679	*0.899*	0.746	0.624	0.603	0.582	0.701
EFFE_2	It is easy to get anywhere on the website of online banks	0.631	0.657	*0.892*	0.711	0.577	0.653	0.553	0.689
EFFE_3	I can complete a transaction quickly on the website of online banks	0.702	0.759	*0.904*	0.737	0.677	0.688	0.584	0.714
PENE_1	I feel completely safe when making transactions on the website of online banks	0.676	0.655	0.696	*0.881*	0.623	0.614	0.558	0.729
PENE_2	I feel that my personal needs have been met when using the website of online banks	0.691	0.697	0.716	*0.909*	0.641	0.648	0.536	0.712
PENE_3	The website of online banks provides me with information and products according to my preferences	0.672	0.707	0.780	*0.905*	0.655	0.631	0.586	0.737
RELI_1	Transactions with the online banking are error-free	0.589	0.574	0.597	0.622	*0.769*	0.622	0.521	0.616
RELI_2	The online banking has adequate security	0.584	0.583	0.559	0.590	*0.855*	0.631	0.568	0.592
RELI_3	The online banking should perform the service right the first time	0.573	0.548	0.560	0.561	*0.849*	0.685	0.594	0.596
RELI_4	The online bank should provide services at the time it promises to do so	0.555	0.559	0.581	0.566	0.813	*0.656*	0.522	0.596

Table 4.
Loadings and cross loadings

(continued)

		ECL	ECS	EFFE	PENE	REL	RESP	SO	USFR
RESP_1	I think the online banking gives prompt service	0.504	0.463	0.480	0.495	0.513	*0.747*	0.446	0.535
RESP_2	I believe the online banking server is not too busy to respond to customer requests	0.570	0.562	0.603	0.566	0.712	*0.842*	0.547	0.611
RESP_3	The online banking should inform customers exactly when services will be performed	0.646	0.666	0.681	0.658	0.704	*0.878*	0.556	0.664
SO_1	The online banking is visually appealing	0.563	0.538	0.567	0.568	0.584	0.538	*0.895*	0.570
SO_2	The user interface of the online banking has a well-organized appearance	0.577	0.511	0.569	0.540	0.609	0.583	*0.883*	0.570
USFR_1	The website of online banking is user-friendly	0.580	0.612	0.639	0.632	0.592	0.649	0.553	*0.781*
USFR_2	Navigation on the website of online banks is easy	0.565	0.637	0.662	0.649	0.576	0.593	0.505	*0.832*
USFR_3	The website of online banks launches and runs right away	0.582	0.613	0.650	0.682	0.648	0.592	0.583	*0.839*
USFR_4	Pages at the website of online banks do not freeze	0.403	0.414	0.408	0.434	0.389	0.406	0.342	*0.639*
USFR_5	I strongly recommend that others use the online banking	0.660	0.622	0.667	0.737	0.629	0.620	0.506	*0.822*

Note(s): ECL = Electronic Customer Loyalty, ECS = Electronic Customer Satisfaction, EFFE = Efficiency, PENE = Personal Need, REL = Reliability, RESP = Responsiveness, SO = Site Organization, USFR = User Friendliness

Table 4.

	ECL	ECS	EFFE	PENE	REL	RESP	SO	USFR
ECL								
ECS	0.753							
EFFE	0.823	0.806						
PENE	0.816	0.810	0.723					
REL	0.811	0.812	0.810	0.827				
RESP	0.804	0.815	0.768	0.748	0.775			
SO	0.794	0.744	0.793	0.775	0.755	0.837		
USFR	0.822	0.809	0.795	0.728	0.759	0.705	0.807	

Note(s): ECL = Electronic Customer Loyalty, ECS = Electronic Customer Satisfaction, EFFE = Efficiency, PENE = Personal Need, REL = Reliability, RESP = Responsiveness, SO = Site Organization, USFR = User Friendliness

Table 5.
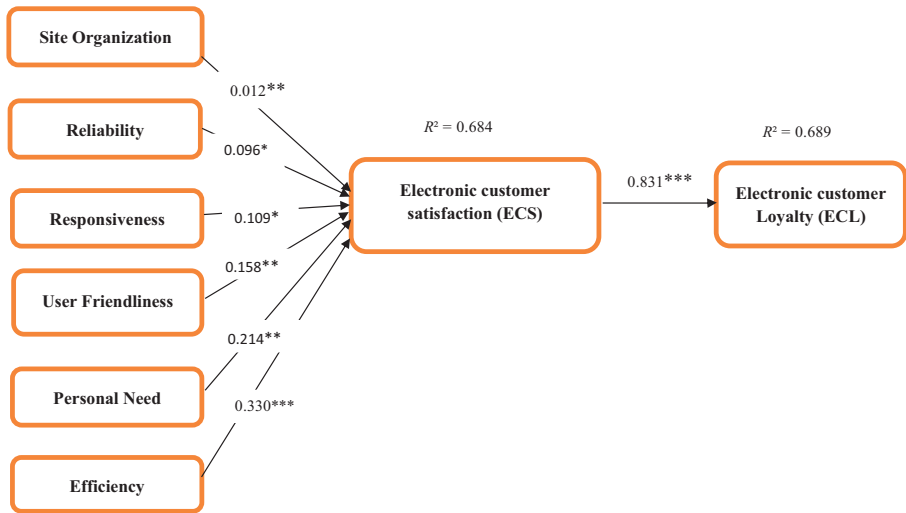Heterotrait-monotrait
ratio (HTMT) results

Figure 2.
Pictorial results of path
analysis

Note(s): *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

Hypothesis	Regression path	Effect type	SRW	Remarks
H1	SO → ECS	Direct effect	0.012**	Supported
H2	RESP → ECS	Direct effect	0.096*	Supported
H3	REL → ECS	Direct effect	0.109*	Supported
H4	USFR → ECS	Direct effect	0.158**	Supported
H5	PENE → ECS	Direct effect	0.214***	Supported
H6	EFFE → ECS	Direct effect	0.330***	Supported
H7	ECS → ECL	Direct effect	0.831***	Supported

Note(s): ECL = Electronic Customer Loyalty, ECS = Electronic Customer Satisfaction, EFFE = Efficiency, PENE = Personal Need, REL = Reliability, RESP = Responsiveness, SO = Site Organization, USFR = User Friendliness
SRW = Standardized regression weight
***$p < 0.01$, **$p < 0.05$, *$p < 0.10$

Table 6.
Standardized
regression weights for
the research model

S. No	Variables	Short forms
1	Site Organization	SO
2	Reliability	REL
3	Responsiveness	RESP
4	User Friendliness	USFR
5	Personal Need	PENE
6	Efficiency	EFFE
7	Electronic customer satisfaction	ECS
8	Electronic customer Loyalty	ECL

Table 7.
Variables

4.2 Discussion

The aforementioned outcomes suggest that all the hypotheses are supported as they all are significant. The relationship of site organization (SO) with electronic customer satisfaction (ECS), represented by H1 ($\beta = 0.012$, $p < 0.05$), is positive and significant. This result is consistent with past studies (Amin, 2016; Jiang *et al.*, 2016). Site organization is the first attribute of iBSQ to attract the clients hence, the more attractive and well organized a website it, the more convenient will it be for the clients to use it and the more satisfied they will become.

The relationship between responsiveness and e-customer satisfaction, represented by H2 ($\beta = 0.096$, $p < 0.1$), is positive and significant and so it is accepted. These results are similar to the results of Hammoud *et al.* (2018) and Amin (2016). Banks tend to give good response to their customers and provide services according to customer's satisfaction. The more the Internet banking, which maintains the responsiveness standard by answering the user's query positively and quickly, the more the level of increase in customer satisfaction.

H3 ($\beta = 0.109$, $p < 0.1$) representing the relationship between reliability and e-customer satisfaction, is positive and significant hence, the hypothesis is accepted. These findings are in line with the studies of Hammoud *et al.* (2018); Kettinger and Lee (2005) and Tan and Teo (2000) This outcome indicates that by maintaining the reliability, Internet banking can elevate the satisfaction level of clients as the most accurate and reliable is the information the greater are the clients satisfied with the service.

The association of user's friendliness and e-customer satisfaction, shown by H4 ($\beta = 0.158$, $p < 0.05$), is positive and significant and so the hypothesis is accepted. These outcomes are similar to the results of Amin (2016). The findings suggest that user friendly website allows consumers to easily and conveniently access the online banking and by doing so clients are contended. Whereas, another study of Mahadin *et al.* (2020) also portray same results but this study was conducted for the website of tourism. However, it can be seen that consumers prefer user friendliness in all aspects.

The link of personal needs and ECS, exhibited by H5 ($\beta = 0.214$, $p < 0.01$), is positive and significant, indicating that a when bank fulfills the demands of customers and provide them with services according to their demand, customers are in turn satisfied with the service. These results are consistent with the studies of Amin (2016) and Keskar *et al.* (2020). The results are same but if we do comparison so both studies have been conducted in different context but still depicts the same results. Moreover, Keskar *et al.* (2020) incorporated customer satisfaction index (CSI) models in the study.

H6 ($\beta = 0.330$, $p < 0.01$) shows the positive and significant relationship between efficiency and electronic customer satisfaction (ECS) hence, accepting the hypothesis. These results are in line with the results of Hammoud *et al.* (2018); Herington and Weaven (2009) and Sohail and Shaikh (2008) who stated that efficiency of website is the of Efficiency is the key driver to measure Internet banking service quality, therefore, more efficient is the website through which e-clients interact with the bank, the more will they be satisfied.

The positive and significant impact between electronic customer satisfaction (ECS) and electronic customer loyalty (ECL) is shown by H7 ($\beta = 0.831$, $p < 0.01$). These results are in line with the studies of Amin (2016); Ramseook-Munhurrun and Naidoo (2011). Once customers have a deep relationship with Internet banking services, they are regular and dedicated Internet banking clients. As a result, customers who are satisfied in using Internet banking become loyal customers. Moreover, Ramseook-Munhurrun and Naidoo (2011) conducted this research in Mauritius. Stated that the capability of Internet banking to manage its service quality, increase customer's satisfaction and ultimately loyalty. According to Thaichon *et al.* (2014), elevating the service quality can sway client's satisfaction, worth, expectation and loyalty which are imperative for companies' long-standing sustainability.

5. Conclusion and implications

The objective of the study is to find out the link between services and customers. Impact of Internet banking on ECS and ECL is taken into consideration. The sample size was 500 who were the users of online banking. The independent variables were set as responsiveness, personal needs, customer's reliability, user friendliness, site organization and efficiency. Whereas, dependent variables were customer's satisfaction and electronic customer loyalty. After the research, we have found that there exists a positive relationship between dependent and independent variable.

Based on the findings, it can be concluded that the customers in the Pakistani online banking and e-service markets, build their perceptions based on the interactivity of the web page. Service quality plays a very important role in every culture, as it has become the basis for how customers view online banking and, eventually, how it interacts and behaves with online services. This study is useful for those e-retailers and managers who wants to grab e-retailing market. The determinants of Internet banking service quality associated with the banking industry is found to be essential hence, banks should take care of all four factor in regard to sustain an elevated level of service quality. According to the findings of this study, the efficiency along with site organization, responsibility, reliability, users' friendliness, personal need are important features of iBSQ. This shows that customers are more attracted to banks that allow faster transactions via online portals, which are easily available. Conversely, clients lay more stress in the effectiveness of the website while associating themselves with these financial institutes owing to which banks should concentrate tactically on enhancing client's awareness regarding the acceptance of new technology (online banking system). In this way banks will be able to achieve competitive edge. Moreover, clients want their transactions to occur accurately, timely and quickly, in an online banking setting and high quality of services provided by the bank can drive clients' gratification, value, faith and obligation and so online banking should take actions to fulfill these demands of customers. It is recommended that banks should deliver their clients an effective website with an appropriate setting and upgraded technological development in order to deliver first-class condition of services. Furthermore, greater emphasis is placed on the physical (system, functions and interface) and psychological attributes (services, information, attitudes) in comprehending the changing aspects of virtual clients' behavior. Today, clients are provided with numerous different banking portals which can make them switch to other banks hence, bank's websites should focus more on improving their functionality and user interface and also make their online portals attractive. It is recommended that Pakistan banks should invest more on the efficiency dimension as it is the strongest predictor of electronic customer satisfaction and when consumers are satisfied so ultimately it boosts electronic customer loyalty. Moreover, to make positive relationship between electronic customer satisfaction and electronic customer loyalty, Internet banking should give first priority to customers' needs and satisfaction so they can more loyal to Internet banking service. Additionally, competition is high, their Internet banking system should be designed with a fast processing time for customer requests and issues in order to attract and retain customers of banks. It is recommended to make the app simple to use and user friendly while the services should be reliable and secure. In the context of Pakistan, customers are reluctant to trust online services easily but it is observed that when customers perceived quality factors so definitely they will likely to adopt such technology. Moreover, another strong influencer is personal needs so higher authorities and banks of Pakistan should pay serious attention towards the personal needs of customers that what do they want and how they can fulfill their needs. Hence, as customers want quick services so design the Internet services in such ways that it will fulfill the needs of all types of customers.

Even though this research provides fruitful insights, it faces some constraints as well. First, the data collected is from the students of the University only showing similar lifestyles

and more or less similar preferences. However, people belonging to different backgrounds, geographic regions and demographics might exhibit variant stance and viewpoint towards Internet banking service. Moreover, data was collected by using convenience sampling technique that is somewhat comparable to a random sample. Therefore, for future research, it is suggested that data should be collected from individuals belonging to various regions of the country or the world which will provide a more detailed outcome. Additionally, in future, researchers can adopt other techniques to have in-depth analysis. Second, this study incorporates a second-order factor and might be ignoring some other variables which could impact the e-loyalty of customers, thus, it is recommended to incorporate other variables like product characteristics or incentives. Additionally, prospective researchers may examine certain online service classifications, such as the amount of sales or the type of products purchased. It also recommends future research can focus on other background like technological speediness, interface quality, perceived usefulness, compatibility and their relation with the customers, decision to use Internet banking and building trust is also important to adopt online banking through the exposure of the wireless networks. Furthermore, a research is also required to study the human values in the times of the electronic banking system, to meet the increased demand so banks are expected to increase their spending on Internet banking technology.

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Corresponding author
Syed Ali Raza can be contacted at: syed_aliraza@hotmail.com