

Evaluating Service Quality of Digital Banking and Its Impact on Customer Satisfaction in Eastern Province of Sri Lanka

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Abstract. Aims of the study are to examine how service quality of digital banking influence on customer satisfaction of commercial banks in Eastern Province and to examine whether service quality and customer satisfaction of digital banking of commercial banks varies with demographic factors of the users in the province. The research was conducted with positivist research philosophy stands using deductive approach by quantitative method for collecting and analysing data to gain novel insights. Primary data were gathered through questionnaire from 378 digital banking users in the province. Descriptive statistics, correlation, multiple regression, independent sample t test and oneway ANOVA are used to analyse the data. Results of the study reveals that digital banking service quality and customer satisfaction are higher level. Efficiency and privacy of digital banking services are highly contributed to have higher level of service quality whereas compensation is moderate level. Usefulness and Timeliness are highly contributed to the higher degree of customer satisfaction. It is found that digital banking service quality dimensions namely efficiency, responsiveness, fulfilment, privacy and system availability are positively influenced on customer satisfaction while compensation is not significantly influenced on customer satisfaction. Moreover, the service quality as well as customer satisfaction of digital banking are significantly differed among the groups of monthly income and educational qualification. However, the service quality and customer satisfaction of digital banking are not significantly varied within the categories of gender, age and living district. It is concluded that service quality of digital banking offered by the commercial banks influence on customer satisfaction towards digital banking in the province. Findings are vital to policy makers and management of banks to deliver better digital banking quality services.

Keywords: Digital Banking, Service Quality, Customer Satisfaction, Eastern Province

1 Background of the study

Banks play a vital role in the economy of the country with the technological advancements. Due to the technological revolution and to fulfil the increasing customer's expectations, banks migrate channel from their manual banking through the adoption of digital banking services via multi channels like internet, Mobile, ATM, debit and credit cards [1]. Digital banking has delivered both external and internal changes to present banking [2].

Banking sector has transformed to fully technology-oriented industry with the use of telecommunication network to supply variety of value additions to the customers which is

known as digital banking under the concept of paperless banking [3]. Digital banking enables the customers to perform transactions through electronic devices without visiting the financial institutions. Compare to the conventional banking system, digital banking allows the customers to perform secure payments on time with lower cost. Also, e-banking services enable the customers to do cash free transactions with the use of plastic money which helps to easily manage cash.

There is digital banking trend all around the world which has identified as the most convenient financial intermediate by the personal and corporate customers [4]. The increasing trend for the adoption of smart phones, internet and the rapid E-commerce development creates digital penetration within a vast range of new customers in Asia [5].

All these digital banking inventions easily bring the banking to the customers with the high level of service quality and fulfil the customer's desire through the timely and convenient service delivery [6]. As a service sector, consumers are the major stakeholders of banking industry [7]. Digital banking users not only expect the online process of banking but also, they expect better service, good customer experience, brand name, product strength [5]. Handling customers with extreme level of satisfaction rather than providing just a product or service helps to retain the customers and survive the banking industry in the competitive environment for years [6].

Customer feedback can improve the performance and satisfy the customers by implementing needful strategies on time to find out solutions for the problems faced by consumers in digital banking [2]. An important fact to overcome the risks which were associated with system implementation of digital banking services supports to improve the effectiveness and efficiency of the digital banking service quality by which banks can deliver extreme satisfaction to their customers which helps to retain the customers in the competitive market environment. Identify the factors contributing for the usage of digital services by the customers of various banks and find out how it impacts on customer satisfaction is essential to develop the digital banking service quality. Therefore, it is beneficial for banks to identify the digital banking service quality and its impact over customer satisfaction [8].

Compared to other countries, Sri Lankans are highly good in the literacy level. It has been observed that the usage of tech savvy advancements like internet and mobile phones are also high in Sri Lanka. Especially in 2017 the tech savvy usage was around 5Mn. There is a high tendency of tech savvy penetration identified and the annual growth is around 65%. However, the people who carry out the transactions through digital banking channel observed in Sri Lanka are just 10%. This result highlighted that although majority of public know the usage of digital banking in the digital era, they are not ready to perform all the transactions through digital banking due to unidentified reasons in Eastern province. Still, it is unclear. Therefore, identify the problems associates with the usage of digital banking service quality of commercial banks in Eastern province is important to safeguard the data and wealth of customers which directs to customer satisfaction.

2 Problem Statement

All commercial banks are offering almost same products and services with little differences. Customer experience and satisfaction of the product and services can decide the relationship of the customers with the bank. Quality services will bring to extreme customer satisfaction and loyalty [9]. Good customer satisfaction helps to retain the customers with the bank continuously. The time is emerging to identify the importance of digital banking and customer satisfaction.

Payments Bulletin of Central bank of Sri Lanka [10] shows that 4,977 ATM terminals are in use in Sri Lanka and total value of financial transactions during quarter 3 of 2019 was 833 billion. The bank authorities have also introduced to fine as an average charge of Rs.20 for cash withdrawals made at the bank counter below the daily ATM limit, in return banks do expect the increased number of ATM usage which carries a small revenue too. At the same time, customers facilitate to withdraw at the bank counters beyond the ATM per day limit. However, customers prefer to stand on queues in order to complete their financial transactions through getting access through bank counters than using the ATMs. For some customers though the fine fee is comparatively higher than to the ATMs, yet they prefer to go with the bank counters. Some customers complain that they are not aware about using the machine with pin codes, some lose their cards carelessly and come to the counters.

Further, as per the Payments Bulletin of Central bank of Sri Lanka [10] total number of credit card defaulted 137,498 (Rs.12.3 billion) which was increased around 24% compared with 2018. In the meantime, point of sales operation was decreased in terms of volume and value in 2019 as shown in below Fig. 1 and Fig. 2.

Fig. 1

Average Volume of Transactions per POS Terminal

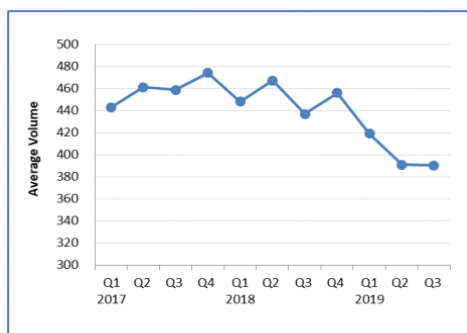
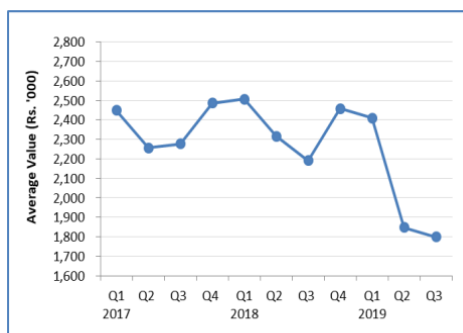


Fig. 2

Average Value of Transactions per POS Terminal



Digital banking has developed and recognized by most of the people and offer range of e-facilities to customers which makes them to feel convenience, safety, cost reduction and save time. Though, most of the people in the country were well known about the services offered by digital banking, they had not been tried all the facilities. The user habit and behaviour of the public is identified as the main barrier for adopting digital banking since, they are struggling to change their traditional banking aspects due to there is a huge difference to perceive the service quality through web based digital banking which is completely different from the conventional banking [11]. They do only the routine transactions like balance inquiry and fund transfers through online banking and mobile banking. Checking account balances and withdrawing cash through ATMs. For all other services customers visit the branches and carryout the transactions in the same traditional method of banking [12]. Therefore, it is important to identify how digital banking service quality influence on customer satisfaction of commercial banks in Eastern province.

Although most of the bank's annual reports in Sri Lanka reveal that the customer's tendency to move towards digital banking is continuously increasing within the recent years, following complaints from customers are identified in the pilot study regarding the digital banking.

Online banking transactions can be access for 7 days 24 hours. However, certain banks have restrictions on time and transaction amount for fund transfers. Especially the fund transfers carry out in late night and holidays through online banking are effect on the next working day. Most of the customers raising complaints that they could not reach the helpline services or call centres of the bank on immediate effect. Digital banking mobile Apps are convenience to customers, however these Apps are designed in English. The language barrier is a threat to use these Apps by all customers. Customers are fear about the data hacking and cyber-attacks in the telecommunication devices which deliver the digital banking services to the customers. There are customers though they have the digital banking facilities they contact the bank by telephone or branch visit to inquire balances and get to know the cheque details. Since they expect the personal assistance which digital banking do not facilitate. Moreover, customers raise complaints while they withdrawing cash through ATM in some instances due to communication errors, they could not withdraw the cash though their account has been debited. It also noted that banks cannot redeposit the cash on the same day to the customers.

Further, ‘usefulness’ was not included to measure customer satisfaction in the previous researches [13] [14]. In order to evaluate the customer satisfaction of digital banking services, ‘Usefulness’ should be accommodated in the model. Moreover, few researches were conducted only selected coverage such as ATM usage [15] or smart phone online banking application [16] or electronic banking [14]. There are lack of study holistically focussing all means of electronic devices [internet, Mobile, ATM, debit and credit cards and quick response (QR) code] as a digital banking, particularly in Eastern province.

As stated in the research problem, objectives of the research are; (i) to identify the level of service quality of digital banking of commercial banks in Eastern Province, (ii) to identify the level of customer satisfaction towards digital banking of commercial banks in Eastern Province, (iii) to examine how service quality of digital banking influence on customer satisfaction of commercial banks in Eastern Province, (iv) to examine whether service quality of digital banking as well as customer satisfaction towards digital banking of commercial banks varies with demographic factors in Eastern Province.

3 Literature Review

3.1 Digital Banking

Digital banking can be explained the offering of banking services to the customer’s door step through electronic devices in a secured and fastest way [17]. Customers can perform innovative services through digital platform which will lead to better experiences. It can deliver better quality services to cater the customer aspirations by fastest and convenience transactions 24/7 access. This can fulfil unmatched customer satisfaction than the traditional banking system and routed to long term customer relationship by providing accurate information [18].

3.2 Theory of Technology Acceptance Model for Digital Banking

Technology Acceptance Model (TAM) was developed by Fred Davis and Richard Bogosi from the theory of reasoned action [19]. TAM enlightens how users accept and use a technology. TAM has extensively been used in several pragmatic studies that focused the users’ tendency to accept and adopt new technologies. As per the TAM model, perceived

usefulness, perceived ease of use and attitude towards using are main factors in determining behavioral intention to use technology and it leads to actual system use. Many research scholars have used Technology Acceptance Model (TAM) to examine the acceptance and adoption of online banking usage. Technology Acceptance Model has been proved to predict technology adoption behaviour of customers. Usefulness and ease of use are derived from the TAM [20] [21].

3.3 Customer Satisfaction

The overall experience of the customer about a product or services they purchase compare with their expectation is known as customer satisfaction. Kottler [22] defined customer satisfaction as “a person’s feelings of pleasure or disappointment resulting from comparing a product’s perceived performance or outcome in relation to his/her expectations”. Customer satisfaction is an important tool used by the banks for stand out for years by delivering pleasurable customer experience in the competitive market. Rather than offering new, innovative products and services which fulfil the customer needs, a good customer relationship matters a lot for customer satisfaction. Customers expect a consistent experience through Omni channels and it’s the bank’s responsibility to deliver the services without resistance. Though banks introduce new products customers concern how they response to them and how they solve the problems in relation to the services they access [23].

Content, Ease of Use, Accuracy, Timeliness and Safety are used by previous researchers in order to evaluate the customer satisfaction of digital banking services [13][14]. But, ‘usefulness’ was not included to measure customer satisfaction in the previous researches. Therefore, this study also accommodates ‘Usefulness’ as one the dimensions to measure the Customer satisfaction.

3.4 Service Quality

Digital banking service quality is explained by the overall judgement of the quality of services consumed by the customers through the digital banking network [24]. E-satisfaction is the pleasant and positive experience of the customer from the E-service delivery of the banks and financial institutions. Service quality and web site designs are the main two factors influence on e-customer satisfaction [25].

As per the E-SERVQUAL Model of Parasuraman [26], Efficiency, System Availability, Fulfilment, Privacy, Responsiveness and Compensation are considered to evaluate Service Quality of Digital Banking in the Eastern province.

3.5 Digital banking service Quality and customer satisfaction

E- service quality is the initial step which develops customer satisfaction [27]. According to the research conducted in Pakistan on impact of e-banking on customer satisfaction based on the key dimensions of SERQUAL model and emphasizes that people evaluate e-banking service quality mainly on three key dimensions: Responsiveness, Reliability and Assurance [28]. Some researches point out that e-banking services helps to retain customers with good customer satisfaction [29]. A research study carryout by [30] verified that quality services retain the customers with the bank and illustrated there is a direct relationship between electronic service quality and customer satisfaction.

In Sri Lanka Most of the previous researches focused the customer satisfaction only for the usage of internet and mobile banking. There are several researches conducted to identify the factors influencing the adoption of internet banking [31] mobile banking and the impact of internet banking on customer satisfaction [32]. E-banking service quality influences highly on customer satisfaction in Batticaloa [14].

4 Theoretical framework and Hypotheses

Theoretical framework (Fig. 3) is developed to examine the impact of digital banking service quality on customer satisfaction according to the TAM, E-SERVQUAL Model and previously used Customer Satisfaction dimensions.

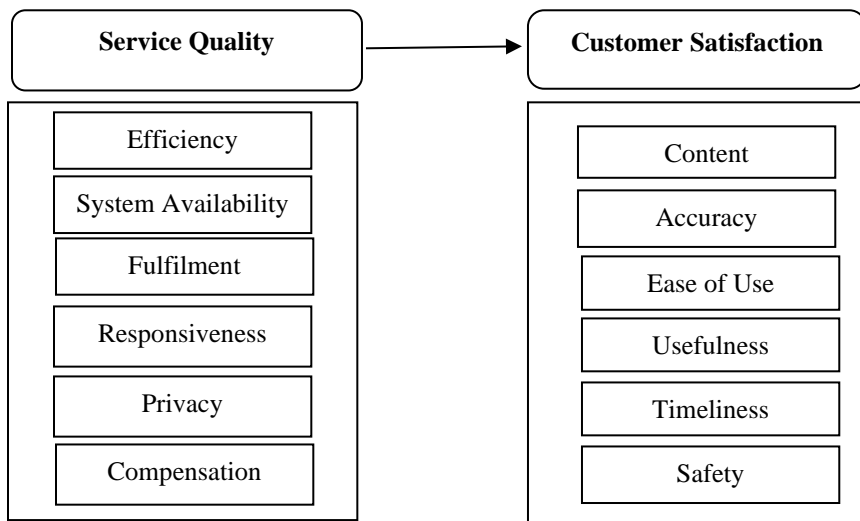


Fig. 3: Theoretical Framework

Source: E-SERVQUAL Model [26], Customer Satisfaction Model [13] [20] [21] [19]

4.1 Hypotheses

Efficiency. It refers the ability of accessing the system easily and tries to find out the preferred services and information without spending too much of time and struggle [24]. Previous studies highlighted that efficiency has significant impact on customer satisfaction [33]. Therefore, the following hypothesis is formulated,

H1: There is a significant positive relationship between efficiency and customer satisfaction in digital banking in Eastern Province.

System availability. It refers how the website or system is organized for business with correct technical functions and the operating ability of the website. Also, it concerns the features available in the site which enable the customers to perform the transactions easily [9]. Kumbhar [34] concluded that system availability enhances the customer satisfaction. Therefore, the relevance of system availability in digital banking hypothesizes that,

H2: There is a significant positive relationship between system availability and customer satisfaction in digital banking in Eastern Province.

Fulfilment. Ability to offer services consistency with the same expected standards. The accuracy of the promised services which fulfil the expectations of customers within a time frame is known as fulfilment [24]. Fulfilment has been identified as an essential predictor for customer satisfaction [34]. Hence, this research study hypothesizes that,

H3: There is a significant positive relationship between fulfilment and customer satisfaction in digital banking in Eastern Province.

Privacy. Data governance and data security are essential for digital banking and customers have to believe that banks have the ability to maintain their financial and personal information confidentiality while they doing the transactions through electronic devices [35]. Privacy assures to perform safety transactions with specific passwords. Maintaining confidentiality and allowing customers to perform secured transactions will lead to customer satisfaction and trust. Previous researcher emphasized that privacy and security have a positive influence towards customer satisfaction [14]. Hence, the following hypotheses is developed,

H4: There is a significant positive relationship between privacy and customer satisfaction in digital banking in Eastern Province.

Responsiveness. An immediate response to the customer need is known as responsiveness. It can be explained, the tendency of responding customers in order to provide timely services [36]. Several researchers concluded that responsiveness has the ability to exceed the level of customer satisfaction [37] [34] [38]. Hence, the relevance of responsiveness hypothesizes that,

H5: There is a significant positive relationship between responsiveness and customer satisfaction in digital banking in Eastern Province.

Compensation. The bank's ability to compensate the losses occurred to the customers due to inconvenience and unexpected problems arise while performing transactions through digital channels [34]. And it has been proved in several researches [26] [33]. Therefore, the following hypothesis developed,

H6: There is a significant positive relationship between compensation and customer satisfaction in digital banking in Eastern Province.

5 Research Methodology

It is imperative to identify methodological assumption prior to selecting research methods. The selection of research methods is determined by a combination of philosophical views of the researcher and research problem to be studied. Each and every action in the world is based on assumption. In order to understand the reality behind the assumption, proper methodology and method should be applied. Veal [39] stated that a paradigm:

... is a shared framework of assumptions... it reflects a basic set of philosophical beliefs about the nature of the world... it therefore provides guidelines and principles concerning the way research is conducted (p. 24).

Considering the philosophical discourses and practicability of the nature of the research, the research is conducted with Positivist research philosophy stands using deductive approach by quantitative method for collecting and analysing data to gain novel insights.

Research design: Nature of the study was descriptive and hypothesis testing. It was carried out to identify the main characteristics of the research variables. The extent of researcher interference was minimal and study setting was non contrived (natural). Time horizon was cross sectional where data collection was done over a period of several weeks. Unit of analysis was digital banking users.

Population and Sample: The population selected for this research study is the customers who use any type of digital banking services provided by state and private commercial banks in Eastern province namely Batticaloa, Trincomalee and Ampara districts. Banks do not provide details of customers about digital banking users. Therefore, Convenient sampling method used to select the respondents as like previous researches [40] [41] Since population is larger, 378 digital banking customers, who are above 18 years old, are determined based on the table of sample size for a given population size [42].

Data Collection and Data analysis: The primary data were collected through a set of structured questionnaires manual and google form and measured by using five-point Likert scale. In this research study descriptive analysis, multiple regression, correlation, independent sample t test and oneway ANOVA were used to analyse the primary data collected from the respondents.

Mean value and standard deviation were used to evaluate the average respondent's agreement. The mean value (X) ranges and decision attributes are as follows,

$1.0 \leq X < 2.5$	Lower level of service quality / customer satisfaction
$2.5 \leq X < 3.5$	Moderate level of service quality / customer satisfaction
$3.5 \leq X \leq 5.0$	Higher level of service quality / customer satisfaction

The following multiple regression model was developed.

$$CS_{it} = \beta_0 + \beta_1 EF + \beta_2 SA + \beta_3 FU + \beta_4 PR + \beta_5 RE + \beta_6 CO + e$$

Where

CS	Customer satisfaction
EF	Efficiency
SA	System Availability
FU	Fulfilment
PR	Privacy
RE	Responsiveness
CO	Compensation

e error term

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are coefficient of the variables

6 Results

6.1 Profile of Respondents

Data were collected from 378 respondents. Table 1 shows profile of respondents where male and female use the digital banking services. Young generation mostly uses digital banking as finding shows that majority of digital banking users fall in the age categories between 26 to 35. Without the income level variation, all income level of categories of people use the digital banking. It also noted that graduates and postgraduate highly apply digital banking as affirmed by more than 89% of respondents are graduates and above educational level.

Table 2 depicts that most of the of respondents use digital banking in government banks than private banks. Results portray that many users started to use less than 4 years. They mainly use mobile banking to carry out the digital banking services. Notably, around 34% of digital banking users use fund transfer services. Next to that is cash withdrawal.

Table 1. Profile of Respondents

Demographic Factors	Category	Number	Percentage
Gender	Male	211	55.8
	Female	167	44.2
Age	18 - 25	41	10.8
	26 - 35	227	60.1
	36 - 45	95	25.1
	46 - 55	15	4.0
District	Ampara	92	24.3
	Batticaloa	177	46.8
	Trincomalee	109	28.8
Monthly income	Below 25,000	82	21.7
	25,000-49,999	66	17.5
	50,000-74,999	58	15.3
	75,000-99,999	75	19.8
	100,000-149,999	58	15.3
	150,000 and above	39	10.3
Educational Qualifications	A/L	20	5.3
	Graduate	226	59.8
	Postgraduate/ Masters	99	26.2
	PhD	12	3.2
	Others	21	5.6

(Source: Survey data, 2020)

Table 2. Usage of Digital Banking (DB)

Digital Banking	Category	Number	Percentage
Bank Account DB	BOC	166	43.9
	Commercial bank	29	7.7
	DFCC	3	0.8
	HNB	44	11.6
	NDB	12	3.2
	NTB	6	1.6
	Peoples Bank	81	21.4
	Sampath Bank	12	3.2
	Seylan Bank	6	1.6
	Others	19	5
Length of DB usage	1-2 years	105	27.8
	3-4 years	125	33.1
	5-6 years	67	17.7
	6-8 years	40	10.6
	8-10 years	20	5.3

Frequency of DB usage	Above 10 years	21	5.6
	Daily	118	31.2
	Weekly	176	46.6
	Monthly	72	19
	Less often	12	3.2
Most preferred DB	ATM	85	22.5
	Internet banking	124	32.8
	Mobile banking	169	44.7
Financial Services			
	Balance Inquiry	44	11.6
	Cash Withdrawal	61	16.1
	Fund Transfer	129	34.1
	Online Purchasing	12	3.2
	Transaction History	30	7.9
	Utility Bill Payments	102	27

(Source: Survey data, 2020)

6.2 Reliability Analysis and Descriptive Analysis of Research information

Internal reliability of the items is checked by using Cronbach's alpha reliability test. The overall Cronbach's Alpha is found as 0.964 and Cronbach's Alpha of each dimension is revealed in Table 3. According to George and Mallery [43], Internal reliability is high as values are above 0.7.

Table 3. Reliability Analysis and Descriptive Analysis of Research information

Research Information	Mean	Std. Deviation	Cronbach's Alpha
Service Quality	3.84	0.47	
Efficiency	4.12	0.52	0.815
System Availability	3.77	0.59	0.734
Fulfilment	3.90	0.55	0.847
Privacy	4.00	0.65	0.839
Responsiveness	3.83	0.56	0.784
Compensation	3.42	0.71	0.886
Customer Satisfaction	4.05	0.49	
Content	3.83	0.74	0.843
Accuracy	3.96	0.63	0.889
Ease	4.09	0.53	0.860
Usefulness	4.19	0.55	0.894
Timeliness	4.24	0.54	0.784
Safety	4.00	0.66	0.818

(Source: Survey data, 2020)

According to Table 3, digital banking service quality and customer satisfaction are higher level due to mean values are higher than 3.5. Reasons for customers perceived higher service quality due to Efficiency and Privacy of digital banking services. However, one of the service quality dimensions, compensation is moderate level as mean falls between 2.5 and 3.5. Customers moderately agree one of the compensation statements that digital banking website

always compensates when the transaction is not completed on time. Usefulness and Timeliness are highly contributed to the higher degree of customer satisfaction.

6.3 Correlation Analysis

Table 4 portrays that the correlation between digital banking service quality and customer satisfaction is 0.825, which indicates there is a high positive significant association at 1% significant level in Eastern province. When it is analysed in detail, Efficiency ($r=0.767$), Fulfilment ($r=0.749$) and Responsiveness ($r=0.734$) are positively highly correlated with customer satisfaction in digital banking at the 1% significant level. However, the relationship between compensation and customer satisfaction in digital banking is a weak positive as correlation value is less than 0.5 ($r=0.496$) at the 0.01 significant level. System Availability ($r=0.593$) is moderately correlated with customer satisfaction in digital banking at the significant level of 0.01. The association between privacy and customer satisfaction reveals a positive moderate significant as correlation value is 0.658 at 1% significant level.

Table 4. Correlation between Digital Banking and Customer Satisfaction

Dimensions	Content	Accuracy	Ease	Usefulness	Timeliness	Safety	Customer Satisfaction
Efficiency	0.529*	0.590*	0.674*	0.633*	0.662*	0.646*	0.767*
System Availability	0.520*	0.470*	0.437*	0.429*	0.499*	0.488*	0.593*
Fulfilment	0.473*	0.670*	0.629*	0.629*	0.638*	0.611*	0.749*
Privacy	0.444*	0.587*	0.576*	0.461*	0.558*	0.565*	0.658*
Responsiveness	0.523*	0.662*	0.662*	0.538*	0.551*	0.614*	0.734*
Compensation	0.464*	0.322*	0.440*	0.389*	0.288*	0.464*	0.496*
Service Quality	0.615*	0.679*	0.706*	0.634*	0.655*	0.702*	0.825*

*. Correlation is significant at 0.01. level. N = 378.

(Source: Survey data, 2020)

6.4 Regression Analysis

Simple regression is reported from Model 1 to Model 6 in Table 5. It is noted that all dimensions of service quality are positively influenced on customer satisfaction at the significance value is 0.000.

As per the findings of multiple regression (model 7) in Table 5, the 'F' value of 154.250 conveys that data used in the model is best fit to recognize the influence of digital banking service quality on customer satisfaction at 1% significant level. The value of R square is 0.714 explaining that based on the selected sample of the survey, 71.4% variation of dependent variables of customer satisfaction in digital banking can be explained by the independent variables of digital banking service quality.

It also illustrates that how far the digital banking service quality dimensions of efficiency, system availability, fulfilment, privacy, responsiveness and compensation are having influence on the level of customer satisfaction. The significant value is below 0.05 for efficiency, fulfilment, privacy and responsiveness indicate a significant positive impact on customer satisfaction on digital banking. Out of these four variables, efficiency highly

influences on customer satisfaction of digital banking services. Next, responsiveness is also having a high impact on customer satisfaction. Nevertheless, system availability is significant at 10% level while compensation does not have a significant impact on customer satisfaction as the significant value is above 0.1.

Table 5. Regression Analysis

Independent Variables	Dependent Variable - Customer Satisfaction						
	Separate Regression						Multiple Regression
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
B	1.081*	2.191*	1.444*	2.077*	1.597*	2.880*	0.644*
	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	[0.129]	[0.132]	[0.120]	[0.118]	[0.118]	[0.108]	[0.115]
Efficiency (EF)	0.722*						0.262*
	0.000						0.000
	[0.031]						[0.045]
System Availability (SA)		0.494*					0.057
		0.000					0.069
		[0.035]					[0.031]
Fulfilment (FU)			0.669*				0.214*
			0.000				0.000
			[0.030]				[0.043]
Privacy (PR)				0.494*			0.070*
				0.000			0.023
				[0.029]			[0.031]
Responsiveness (RE)					0.642*		0.237*
					0.000		0.000
					[0.031]		[0.038]
Compensation (CO)						0.344*	0.027
						0.000	0.247
						[0.031]	[0.023]
F	538.21	204.285	480.77	287.383	439.876	122.693	154.250
Sig.	(0.000)	(0.000)	(0.00)	(0.000)	(0.000)	(0.000)	(0.000)
R	0.767	0.593	0.749	0.658	0.734	0.496	0.845
R Square	0.589	0.352	0.561	0.433	0.539	0.246	0.714
Adjusted R Square	0.588	0.350	0.560	0.432	0.538	0.244	0.709

P- values are shown in parentheses and standard errors are reported in square brackets

(Source: Survey data, 2020)

As per the multiple regression results, the regression equation could be written as given below.

$$CS = 0.644 + 0.262EF + 0.057SA + 0.214FU + 0.070PR + 0.237RE + 0.027CO + e$$

The equation indicates that, the constant value 0.644 units reveals that the model can predict in the absence of all the independent variables. When Efficiency rises by one unit, customer satisfaction will be risen by 0.262 units as average. When fulfilment increases by one unit, customer satisfaction will be increased by 0.214 units as average. Similarly, rest of the dimensions could be described.

6.5 Hypothesis Test

H1: There is a significant positive relationship between efficiency and customer satisfaction in digital banking.

The multiple regression analysis reveals that the beta value of efficiency is 0.262 at 1% level, which illustrates a positive significant impact of efficiency on customer satisfaction. The coefficient of the correlation analysis is 0.767 at the level of 1%. Findings show that there is a significant positive relationship between efficiency and customer satisfaction in digital banking. Therefore, hypothesis H1 is accepted.

H2: There is a significant positive relationship between system availability and customer satisfaction in digital banking.

The multiple regression describes that the beta value is 0.057 at 10% significant level ($p=0.069$). Correlation analysis shows that the coefficient is 0.593 which is significant at the level of 1%. As per the results, there is a positive significant relationship between system availability and customer satisfaction. Thus, hypothesis H2 is accepted.

H3: There is a significant positive relationship between fulfilment and customer satisfaction in digital banking.

According to the Pearson's correlation analysis the coefficient is 0.749 which is significant at the level of 1%. Multiple regression analysis portrays that the beta value of fulfilment is 0.214. Therefore, the hypothesis H3 has been accepted.

H4: There is a significant positive relationship between privacy and customer satisfaction in digital banking.

As per the Pearson's correlation analysis the coefficient is 0.658 which is significant at $p=0.000$, illustrates a positive significant relationship between privacy and customer satisfaction. As stated by the results of multiple regression analysis, the beta value of privacy is 0.070 at 5% significant level. Therefore, the hypothesis H4 is accepted.

H5: There is a significant positive relationship between responsiveness and customer satisfaction in digital banking.

Coefficient of correlation between responsiveness and customer satisfaction is 0.734 which is significant at the level of 1%. As per the multiple regression, the beta value is 0.237 ($p<0.01$) Therefore, hypothesis H5 is accepted.

H6: There is a significant positive relationship between compensation and customer satisfaction in digital banking

Although the coefficient of the correlation is 0.496 at significant 0.01 level, the multiple regression analysis reveals the beta value of compensation is 0.027 ($0.247>0.05$) which indicates there is no positive significant impact of compensation on customer satisfaction pertaining to digital banking. Therefore, hypothesis H6 has been rejected.

6.6 Oneway ANOVA and Independent Sample T test

Oneway ANOVA and Independent Sample T test are applied to examine whether service quality of digital banking as well as customer satisfaction towards digital banking of commercial banks varies with demographic factors in Eastern Province. As per the results of oneway ANOVA and independent sample t test are shown in Table 6, service quality of digital banking as well as customer satisfaction towards digital banking are not significantly varied within the categories of gender, age and living district. However, the service quality of digital banking and customer satisfaction towards digital banking are significantly differed among the group pertaining to monthly income and educational qualification. Post hoc tests show that income category of 'Rs.150,000 and above' is significantly differed with other income

levels with reference to service quality and customer satisfaction (results are not reported in the paper). Similarly, post hoc tests display that perceived service quality and customer satisfaction of PhD holders are significantly varied with other educational qualification levels.

Table 6. Results of Oneway ANOVA and Independent Sample T test

Demographic Factors	Category/ Type of test	Service Quality		Customer Satisfaction	
		Mean	Std. Dev.	Mean	Std. Dev
Gender	Male	3.84	0.468	4.06	0.496
	Female	3.83	0.482	4.03	0.479
	T test	0.279	(0.781)	0.648	(0.517)
Age	18 - 25	3.81	0.857	4.06	0.733
	26 - 35	3.84	0.401	4.06	0.453
	36 - 45	3.88	0.426	4.04	0.478
	46 - 55	3.75	0.323	4.04	0.233
	F test	0.421	(0.738)	0.043	(0.988)
District	Ampara	3.84	0.703	4.11	0.658
	Batticaloa	3.83	0.363	4.03	0.429
	Trincomalee	3.85	0.390	4.04	0.408
	F test	0.046	(0.955)	0.923	(0.398)
Monthly income	Below 25,000	3.79	0.300	4.05	0.439
	25,000-49,999	3.81	0.248	4.01	0.388
	50,000-74,999	3.62	0.770	3.90	0.635
	75,000-99,999	3.90	0.526	4.08	0.599
	100,000-149,999	3.81	0.323	4.00	0.320
	150,000 and above	4.25	0.297	4.39	0.289
	F test	9.679	(0.000)	5.437	(0.000)
Educational Qualifications	A/L	4.12	0.541	4.35	0.408
	Graduate	3.76	0.446	3.94	0.461
	Postgraduate/ Masters	3.86	0.471	4.15	0.503
	PhD	4.26	0.330	4.43	0.054
	Others	4.10	0.502	4.33	0.518
	F test	7.695	(0.000)	10.332	(0.000)

Note: P- values are shown in parentheses
(Source: Survey data, 2020)

7 Conclusions

The research is undertaken to evaluate Service Quality of Digital Banking and how its impact on Customer Satisfaction in Eastern Province of Sri Lanka. Initially the study identifies that young generation mostly uses digital banking and all income level categories of people use the digital banking. It also noted that mostly educated people such as graduates and postgraduate highly apply digital banking services. Most customers use digital banking in

government banks than private banks in the province. Conclusions of the objectives are given below.

First objective is to identify the level of service quality of digital banking of commercial banks in Eastern Province. Digital banking service quality is higher level. Efficiency and Privacy of digital banking services are highly contributed to have higher level of service quality. However, compensation is moderate level. Therefore, management should take action to enhance the compensation techniques of digital banking.

Second objective is to identify the level of customer satisfaction towards digital banking of commercial banks in Eastern Province. Customer satisfaction towards digital banking is higher level. Usefulness and timeliness are highly contributed to the higher degree of customer satisfaction.

Third objective is to examine how service quality of digital banking influence on customer satisfaction of commercial banks in Eastern Province. It is concluded that digital banking service qualities positively influence on customer satisfaction of commercial banks in Eastern Province. Efficiency, Responsiveness, Fulfilment, Privacy and System availability are positively influenced on Customer Satisfaction while Compensation is not significantly influenced on Customer Satisfaction of commercial banks in the province.

Last objective is to examine whether service quality of digital banking as well as customer satisfaction towards digital banking of commercial banks varies with demographic factors in Eastern Province. The service quality of digital banking and customer satisfaction towards digital banking are significantly differed among the group pertaining to monthly income and educational qualification. However, the service quality of digital banking as well as customer satisfaction towards digital banking are not significantly varied within the categories of gender, age and living district.

Finally, it is concluded that service quality of digital banking offered by the commercial banks improves customer satisfaction towards digital banking in the province.

8 Implication of the research

Most customers prefer to use government banks than private banks pertaining to digital banking in the province. Therefore, CEO and management of private banks have to focus to attract the customers in digital banking services. Results of the research deliver core areas where management should focus to enhance the service quality particularly compensation. Content of digital banking services could be redesigned to provide more information to increase the customer satisfaction. Findings are vital to policy makers and management of banks to deliver better digital banking services.

9 Future research

A future study could be conducted in entire Sri Lanka to find the truth of digital banking service quality and customer satisfaction as this study only focused in Eastern province. Qualitative study also could be conducted to understand the phenomenon of digital banking service quality and customer satisfaction and to uncover hidden realities.

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