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The Impact of e-Service Quality on e-Satisfaction and Loyalty in BTN Mobile: In the Evidence of BTN Mobile Banking Users in JABODETABEK

Benedicta Samantha Easterina[1]*, Leonnard Ong[2]

[12]Sekolah Tinggi Manajemen IPMI, DKI Jakarta, Indonesia, 12750

ABSTRACT

This research study the relationship and the impact of e-Service Quality on e-Satisfaction and loyalty in the BTN Mobile Banking users. This study uses modified dimensions of the E-SERVQUAL instrument to determine the e-SQ of BTN Mobile Banking service in JABODETABEK which are Personal Needs, Site Organization, User-friendliness and Efficiency. The main objective of this study is to analyse the Service Quality, Customer Satisfaction, and the impact on user Loyalty within the context of BTN Mobile, using a modified set of e-Servqual indicators. 103 respondents were involved in this study and the results showed E-SQ have significant impact to E-Satisfaction and Loyalty. Data analysis was performed using SEM-PLS. The limitations of this study are that the scope of the population is only in JABODETABEK, and the variables related to e-satisfaction are only emphasized from the perspective of user experience and interface while the research scope on e-satisfaction is very wide. This research finds that Personal Needs, Site Organization, User-Friendliness and Efficiency have significant impact to the e-satisfaction and customer loyalty. The findings of this study show that in Internet banking, in addition to the technical and functional aspects of -SQ reflects the importance of contribution to e-satisfaction and e-loyalty.

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*Corresponding Author E-mail:
agus.loekman@ipmi.ac.id

INTRODUCTION

In the rapidly advancing digital age, the banking industry has experienced a major transformation with the adoption of electronic services (e-services). Advances in technology and the growing popularity of online business changed the way customers interact with their financial activities in terms of the variety of services and how they are delivered to customers. This phenomenon has changed on how the companies planning and strategizing the business including in banking industry. One of the banking products related to internet and technology is mobile banking. Mobile banking is an online service through mobile phones with financial facilities that almost the same as offline banking (Hutabarat, 2010). Technology has been rooted in everyday lives and mobile banking has made to retain customers and gives them the flexibility in doing financial activity 24/7. To make the mobile banking useful to its customers, banks should make sure that customers are satisfied with the service and this can be done by delivering the best electronic service in the internet banking. Most studies related to e-service quality has shown that e-SQ is correlated with e-satisfaction and loyalty (Chang et al., 2009). This phenomenon makes it important to have insight about how important to have a good service quality and how it is impactful on customer's satisfaction and loyalty especially users of mobile banking.

LITERATURE REVIEW

The presence of the technology has brought revolutionary changes in the way how goods and services are traded, as well as the services and products in banking business. One of the fields with the application of marketing system that is oriented towards technological development is in the banking sector. Banking sector is one of the elements that has the important role in terms of activities, mobilities and flexibilities in the daily life. It helps people to simplify in the activities of managing their finances (González, F, 2011). In the e-service quality, Parasuraman et al. (2002) introduced the SERVQUAL which are tangibles, reliability, responsiveness, assurance, and empathy. In the context of e-services, these indicators have been adapted to address digital-specific aspects, including website design, ease of navigation, transaction security, and timely online assistance (Santos, 2003). E-S-QUAL, on the other hand, is a model that extends the SERVQUAL framework specifically to measure service quality in online or electronic service environments. It needed to be adapted to the digital context. Parasuraman, Zeithaml, and Malhotra introduced the e-S-QUAL model to address these adaptations that consists of efficiency, fulfilment, system availability, and privacy. Therefore, later on Herrington and Weaven (2009) found four indicators of e-SERVQUAL that is more suitable in internet service quality in the banking industry such as Site Organization, User-Friendliness, Efficiency and Personal Needs. Satisfaction in the electronic environment has become an interesting topic of analysis and being a key factor in competing with rivals and achieving success in the market (Andreson & Srinivasan, 2003; Cox & Dale, 2001; Zeglat et al., 2016). However, it is a difficult concept to define, because of its numerous interactions with other variables. Nevertheless, it may be considered an effective attitude, influencing the user's behaviour and assessment of the products/services, which in turn determines the user's fidelity (Zhang & Dran, 2000). In the retail online environment, e-satisfaction derived from the previous buying Experience in e-commerce platform (Anderson and Srinivan, 2003). Customer satisfaction is also influenced by the quality of the User Interface of online seller's website as it is provided in the physical evidence of the capabilities in providing and facilitate the usage of online services (Alam and Yasin, 2010). Loyalty itself has three categories which are behavioural loyalty, attitudinal loyalty and integrated loyalty (Oh, 1995). The behavioural loyalty examines the customer's continuity from their past purchases

than measure the customer loyalty by their frequency of purchase, rate of purchase and the possibilities to purchase. The attitudinal loyalty refers more on the psychological involvement, favourable and sense of goodwill on the certain product or service that tends to lead into a positive Word of Mouth (WOM). Customer loyalty can be understood as a commitment to repurchasing a product and/or service that is preferred over time, despite marketing efforts and/or offers that appear in the market (Aldas-Manzano, Ruiz-Mafe, SanzBlas, & Lassala-Navarre, 2011). It can also be defined as the repeated purchase of a consistent product and/or service in the future (Lenka, Suar, & Mohapatra, 2009), which generates positive and detectable financial outcomes (Hazra & Srivastava, 2009). Therefore, in order to measure user loyalty, researcher will adopt re-patronize or re-buy intention through BTN Mobile and WOM as the dimensions of the user loyalty, along with the research from Chang (2009).

RESEARCH METHOD

Based on the review on e-SQ, e-Satisfaction and e-Loyalty in the internet banking environment indicated that these variables should be a determination in every banking business in a way of improving service quality and win the global competitiveness. This study uses the e-SQ dimension developed by Herrington and Weaven (2009) that is suitable for internet or mobile banking service quality which are Site Organization, User-Friendliness, Efficiency and Personal Needs with 30 items of indictor. For the e-customer satisfaction, researcher uses User Experience (Herrington & Weaven et al., 2009) and User Interface (Alfaridzi et al., 2023) as the assessment. Furthermore, for the loyalty involved Word of Mouth (V an Tonder et al., 2018) and Re-Purchase intention (H.H Chang et al., 2009) as the dimension to the study assessment. Primary data of the e-Service Quality, e-Satisfaction and Loyalty in this research were gathered purposively from 103 BTN Mobile users in JABODETABEK area. This research utilizes PLS-SEM to analyse the high-order construct measurement. The relationship between high and lower-order components is regarded as a loading indicator that can later calculate the average variance extracted value and composite reliability. There were three hypotheses to be tested in this research, namely:

H1: E-Service Quality has significant impact on E-Satisfaction

H2: E-Service Quality has significant impact to the user loyalty

H3: E-Customer Satisfaction has a significant impact to the User Loyalty

The developed questionnaires were consisting of four indicators for personal needs, four indicators for site organization, four indicators for user-friendliness, three indicators for efficiency, four indicators of user experience, four indicators of user interface, three indicators of WOM and four indicators of re-purchase intention. All the indicators were measured by Likert scale from “1 = Strongly Disagree” to “5 = Strongly Agree”.

This research attempts to construct a theoretical research framework to better understanding whether e-service quality will impact on e-satisfaction and loyalty variables for the users of BTN Mobile Banking Application as seen in the Figure 1 below.

RESULT AND DISCUSSION

Reliability was tested to measure the consistency of the indicators performance through Construct Reliability (CR) and Average Variance Extracted (AVE) tests. The result shown in table 1 indicated that all Construct Reliability value is exceeded 0.70 and the AVE value is exceeded 0.50

The evaluation of statistics indicates that all the data are valid and reliable as of the questions from the questionnaire are all feasible and can be used as the representative as the actual conditions. The measurement in descriptive analysis are mean,

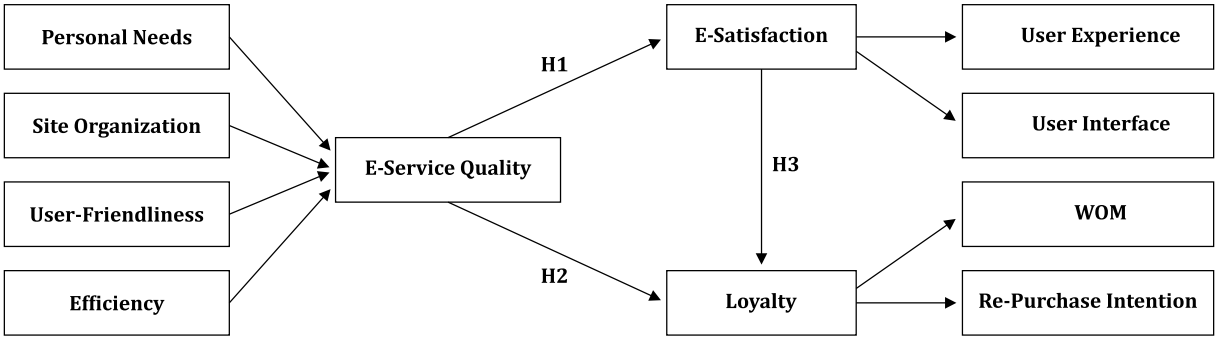

Figure 1. Research Framework

Table 1. Construct Reliability Result

Items	Symbols	Outer Loading	AVE	CR
Personal Needs			0.710	0.878
I feel completely safe when making transactions using BTN Mobile Application	PN1	0,807		
I feel that my personal needs have met when using BTN Mobile Application	PN2	0,807		
BTN Mobile Application gives me a clear information	PN3	0,861		
BTN Mobile Application gives me services that I need according to my preferences	PN4	0,893		
Site Organization			0.749	0.889
BTN Mobile Application is easy and simple to us e	SO1	0,872		
BTN Mobile Application is well organized	SO2	0,843		
I can access BTN Mobile Application quickly	SO3	0,874		
BTN Mobile is easy to use	SO4	0,873		
User Friendliness			0.732	0.881
The interface of BTN Mobile Application is user friendly	UF1	0,881		
BTN Mobile Application is easy to navigate	UF2	0,868		
BTN Mobile Application is launches and runs right away	UF3	0,891		
Pages in BTN Mobile is seldom to have problem	UF4	0,781		
Efficiency			0.829	0.897
It is easy to find what I need in the BTN Mobile Application	EF1	0,885		
It is easy to use it anywhere in BTN Mobile Application	EF2	0,916		
I can complete a transaction quickly through BTN Mobile Application	EF3	0,930		
User Experience			0.856	0.944
I feel pleased with BTN Mobile Application's online services	UE1	0,915		
I am satis fied with BTN Mobile Application's online services	UE2	0,952		
I am happy with BTN Mobile Application's online services	UE3	0,942		
I am satis fied with the overall BTN Mobile's feature and services	UE4	0,891		
User Interface			0.774	0.903
I found the various functions in this system were well integrated	U11	0,875		
I felt very confident using this mobile banking	U12	0,883		
I have learned to use this mobile bank ing very quick ly	U13	0,894		
I would like to use this system frequently	UI4	0,868		
WOM			0.901	0.948
I would say positive things about BTN Mobile service to other people	WOM1	0,935		

I would recommend BTN Mobile Application to other people	WOM2	0,968		
I would encourage other people to use BTN Mobile Application	WOM3	0,948		
Re-Purchase Intention			0.781	0.907
When I need to make purchase, BTN Mobile is my first choice	RPI1	0,892		
I like using this BTN Mobile	RP12	0,855		
To me BTN Mobile is the best mobile banking to do business with	RP13	0,873		
I believe that this is my favourite mobile banking	Rp14	0,912		

standard deviation, kurtosis and skewness. The mean is defined as the average score value of the data while standard deviation shows variance or how spread the observed data are in the variable around the mean. Skewness itself is the degree of symmetry in the variable distribution. If the distribution of data for variable stretched toward right or left tail of the distribution, then the distribution is characterized as skewed. The threshold of skewness is -2 to 2 (Curran et al., 1996; West et al., 1995). Kurtosis is the degree peakiness/flatness in the variable distribution. It measured weather the distribution is too peak and has threshold for -7 ≤ kurtosis ≤ 7 (Curran et al., 1996; West et al., 1995)

In this study, the variables that are measured were E-Service Quality (ESQ) with the dimension of Personal Needs (PN), Site Organization (SO), User-Friendliness (UF) and Efficiency (EF). Another independent variable is E-Customer Satisfaction (ECS) with the dimension of User Experience (UX) and User Interface (UI) and also another variable which are Loyalty (EL) with the dimension of Word of Mouth (WOM and Re-Purchase Intention (RPI).

In this research, all dimensions in the study were measured and shows that the result is still in the threshold range so it is considered as good. The kurtosis and skewness also show the result of peakiness in the range of its threshold so it is considered as good. Here is the table of the descriptive statistic test result from the PLS-SEM analysis as stated in the following.

Table 2. Descriptive Statistic Test Result

No	Name	N	Mean	Observed Min	Observed Max	Standard deviation	Excess kurtosis	Skewness
1	PN1	103	4,476	1	5	0,748	4,92	-1,89
2	PN2	103	4,369	2	5	0,697	1,075	-1,005
3	PN3	103	4,282	1	5	0,756	2,599	-1,209
4	PN4	103	4,243	1	5	0,782	1,858	-1,079
5	SO1	103	4.34	2	5	0,831	0.966	-1.229
6	SO2	103	4,223	2	5	0,787	0,103	-0,786
7	SO3	103	4,34	1	5	0,795	3,13	-1,518
8	SO4	103	4,437	1	5	0,663	5,513	-1,586
9	UF1	103	4,262	2	5	0,775	0,883	-1,005
10	UF2	103	4,291	1	5	0,771	2,312	-1,204
11	UF3	103	4,01	2	5	0,865	-0,122	-0,659
12	UF4	103	3,835	2	5	0,86	-0,542	-0,322
13	EF1	103	4,204	2	5	0,644	0,345	-0,443
14	EF2	103	4,379	1	5	0,698	4,838	-1,552

15	EF3	103	4,369	1	5	0,75	3,929	-1,571
16	UE1	103	4,369	2	5	0,683	0,278	-0,814
17	UE2	103	4,379	2	5	0,712	0,094	-0,871
18	UE3	103	4,34	1	5	0,745	2,54	-1,223
19	UE4	103	4,291	2	5	0,677	0.122	-0,629
20	UI1	103	4,282	1	5	0,743	2,908	-1,233
21	U12	103	4,282	1	5	0,817	2,688	-1,433
22	U13	103	4,33	1	5	0,817	2,563	-1,441
23	U14	103	4,437	1	5	0,772	3,244	-1,586
24	WOM1	103	4,447	1	5	0,734	4,299	-1,683
25	WOM2	103	4,398	1	5	0,792	3,072	-1,559
26	WOM3	103	4,32	1	5	0,827	2,301	-1,395
27	RPI1	103	4,117	1	5	0,968	1,48	-1,214
28	RP12	103	4,379	1	5	0,712	3,554	-1,362
29	RP13	103	3,903	1	5	0,919	0,044	-0,641
30	Rp14	103	3,961	1	5	0,934	1,308	-1,01

Source: PLS-SEM Report 2023

From the questionnaire, the average score of respondents choosing User Experience, User Interface, Word of Mouth and most of the dimensions in this study are resulting as “strongly agree” which means that all of these points are very important to increase service quality. In Table 2, it can be seen that all indicators have quite good outer loading values (> 0.4). Likewise, Cronbach's alpha, composite reliability, and average variance extracted (AVE) have good values. So, it can be stated that the model is worthy of being measured.

Table 3. Construct Validity and Reliability First Model

Item	Outer Loading	Cronbach'c alpha	Composite reliability (rho_a)	Composite rellability (rho_o)	Averag va rian ce extracted (AVE)
EF1	0,885	0,897	0,897	0,936	0,829
EF2	0,916				
EF3	0,930				
PN1	0,807	0,864	0,878	0,907	0,71
PN2	0,807				
PN3	0,861				
PN4	0,893				
RPI1	0,892	0,906	0,907	0,934	0,781
RPI2	0,855				
RPI3	0,873				
RPI4	0,912				
S01	0,872	0,888	0,889	0,923	0,749
SO2	0,843				
S03	0,874				
S04	0,873				
UE1	0,915	0,944	0,944	0,96	0,856
UE2	0,952				

UE3	0,942				
UE4	0,891				
UF1	0,881	0,877	0,881	0,916	0,732
UF2	0,866				
UF3	0,891				
UF4	0,781				
UI 1	0,875	0,902	0,903	0,932	0,774
U12	0,883				
U13	0,894				
U14	0,866				
WOM1	0,935	0,945	0,946	0,965	0,901
WOM2	0,966				
WOM3	0,946				

Source: PSL-SEM Report, 2024

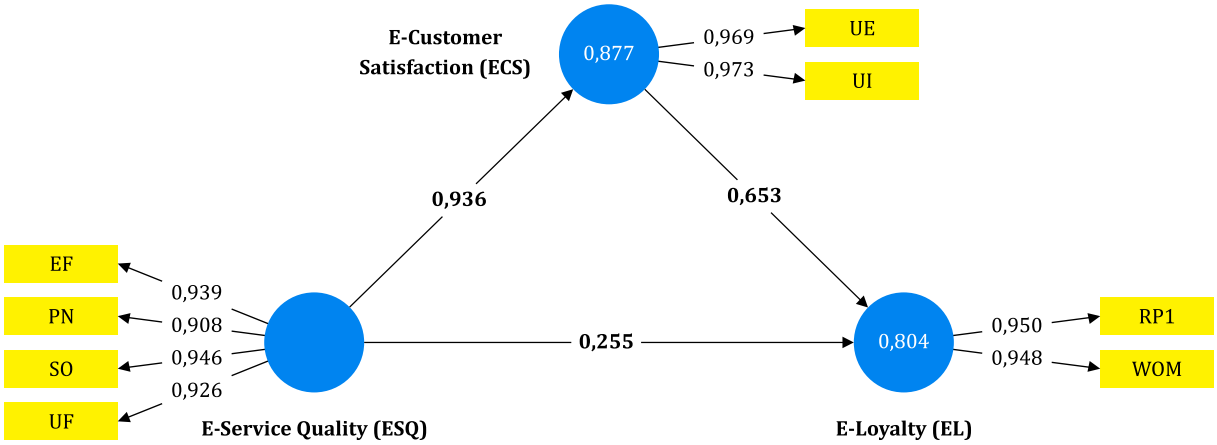

Figure 2. Research Model
Source: PLS-SEM Report, 2024

Validity test is used to determine the ability or the uniqueness of the indicators to measure the latent variables and reliability refers to how consistent the method to measure something. If the instrument is not valid and not reliable then the result cannot represent the actual condition and considered as invalid/unreliable. The result of the validity and reliability test will be explained in the following statement. The following process is to recreate the model using the construct score. The next is the new measurement model:

In this study, two-tailed test were conducted employing a significant level of 5% with the basic esteem of 1.96. the hypothesis testing result shows that:

H1: E-Service Quality has significant impact on E-Satisfaction.

In the hypothesis 1 (H1), P Value in this finding is below 0.05 which has value of 0.000 and has T value is bigger than 1.96 which has the value of 50.358 which means that H1 is acceptable. This finding interprets that the higher the e-service quality will give the significant impact on the E-Satisfaction from the users. This finding aligns with the research by Haq & Awan, (2020) and Raza et al., (2020) that the better the E-Service Quality is the greater it will impact on the customer satisfaction. In the internet banking service, this is also aligning with the study from Ghane et al., (2011) which state that service quality has significant role with the internet banking user

satisfaction. Thus, it becomes evident that the quality of e-service in BTN Mobile can give a significant impact on BTN customer satisfaction.

Outer loadings represent the strength of the relationship between each indicator and its latent variable. In the table 4.11, the highest value of outer loading is lied on the User Interface. If we look deeper from the indicators from the table 4.10, it is shown that the highest value from the User Interface's indicator is UI3 which stated that BTN Mobile Banking's interface is easy to learn. This result can be a good point to maintain as the easiness of the UI can give significant impact to the user's preference.

On the other hand, the lowest outer loading in this research is lied on the Personal Needs, although that the average score of respondents is still high, but it can be the consideration to develop. If we look closer from the construct first model in the Table 4.10, PN1 and PN2 is in the lowest ranking. Looking forward from the operationalization in the Table 3.1, PN1 is represent the safeness of the users when making transaction and PN2 is represent the user's contentment of their personal need when using BTN Mobile Application. This can be a good consideration that safety and personalization in the BTN Mobile Banking can be a room for improvement.

H2: E-Service Quality have significant impact to user loyalty.

In the hypothesis 2, the P value is 0.000 which are below 0.5. The t-value is 2.071 which considered as accepted. This finding shows that if the ESQ is high, it would significantly impact on the user loyalty. This finding aligns with study from Amin (2016) and Ali Raza et al., (2020) stated that the higher the ESQ, the higher it would be also for the loyalty in the mobile. This can be considered as the evident that the quality of e-service in BTN Mobile can give a significant impact on BTN user's loyalty.

H3: E-Customer Satisfaction has a significant impact on user loyalty.

In the hypothesis 3, the P value is 0.000 which are below 0.5. The t-value is 5.257 which considered as accepted. This finding also supported by the research from Zeithaml et al., Agyapong & Ghana, Leonnard (2019) and other previous researcher that customer satisfaction is impacted on the loyalty. This can be considered as the evident that the Customer Satisfaction in BTN Mobile can give a significant impact on BTN user's loyalty.

CONCLUSION

In this research, we found that the mobile banking industry is shaped by a multi factors that can make customers or users engage with the mobile banking. Among this factors, e-service quality emerges as the significant motor to demonstrating impact on influencing e-satisfaction and loyalty. This can be seen as the statistical result shown that the hypothesis 1 is acceptable. H2 and H3 also shown as the acceptable hypothesis because all of them give result below 0.05 for the P value and T value is bigger than 1.96. Based on the statistic result testing that have been carried in the previous chapter, several conclusions are obtained to answer the hypothesis as follows:

1. Based on the demographic analysis, it is shown that 65% users taken from 103

Table 4. Hypothesis Testing Result

Direct Effect	Original sample (0)	Sample mean (M)	Standard deviation (STDEV)	T statistics (JO/ST DEVI)	P values	Result
ECS > EL	0,653	0,659	0,124	5,257	0.000	Significant
ESQ > ECS	0,936	0,934	0,019	50,358	0,000	Significant
ESQ > EL	0,255	0,248	0,123	2,071	0,038	Significant

Source: PSL-SEM Report, 2024

respondents are male.

2. Based on the domicile, 58% users of BTN Mobile is coming from Jakarta, following with 13% users coming from Tangerang, 11% coming from Bekasi, 10% coming from Depok, and 1% from South Tangerang.
3. Based on the statistical analysis, E-Service Quality has significant impact on E-satisfaction.
4. Based on the statistical analysis, E-Service Quality have significant impact to user Loyalty.
5. Based on the statistical analysis, E-Customer Satisfaction has significant impact on User Loyalty.

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