The Influence of Electronic Service Quality (Mobile Banking) on Electronic Customer Loyalty Through Electronic Customer Satisfaction as a Mediation Variable

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Abstract. The important role of banking in the Indonesian economy and the rapid development of technology make BNI one of the leading banks in Indonesia that excels in the field of technology. However, the rating of BNI Mobile Banking is low compared to other similar mobile banking applications, so this study aims to analyze the effect of the electronic service quality of BNI Mobile Banking on customer satisfaction through electronic satisfaction. Research data was obtained through a survey method using a questionnaire technique based on 100 customers using BNI mobile based on a non-probability sampling technique using a purposive sampling method. Data processing using Statistical Product for Windows Application Services Solutions (SPSS) 24.0 with exploratory analysis using multiple linear regression using control variables. The results of the study show that customer loyalty affects the quality of e-services through customer satisfaction as a mediating variable among customers using BNI Mobile Banking.

Keywords: Banking, BNI Mobile Banking, Electronic Customer Loyalty, Electronic Service Quality, Electronic Customer Satisfaction.

1   INTRODUCTION

The increasing use of the Internet has led to stiffer competition in the banking industry as it encourages customers to switch to electronic transactions. [1]. Mobile Banking is a solution that facilitates and meets the needs of consumers in this field. Mobile banking introduces the idea of performing financial transactions anywhere and at any time, which is a strong factor that makes people start valuing and prioritizing the use of mobile banking. [2] It is important to examine the impact of e-service quality on banking and its interaction with e-customer satisfaction [1]. In marketing, electronic customer loyalty also plays an important role because the cost of acquiring new customers is significantly higher than the cost of retaining existing customers [3].

PT Bank Negara Indonesia (Persero), Tbk (BNI) is the first bank established by Indonesia. BNI, as a pioneer bank in Indonesia, is expected to excel in terms of technology. However, based on data obtained from a survey organized by the Top Brand Award for Most Popular Mobile Banking App in Indonesia, it was found that BCA

Mobile Banking App, as the most popular, most loved app, received the highest score of 47.4%. , 47.5%, 45.5%, 44.5% and 49.5%. For five consecutive years, BCA won the championship position. In 2021, mobile bank BRI ranked second with a score of 19.4%, followed by mobile bank Mandiri with 12.9%, and BNI with 11.2%. Judging from the percentage achieved for many consecutive years, the mobile banking products customers favour are BCA products, while BNI mobile banking users have a fluctuating percentage. BCA has a loyal customer base with mobile banking products.

According to some previous studies [4; 5], service quality is considered the satisfaction of customer needs and expectations and is measured through the five dimensions of SERVQUAL [4]. However, this model has caused many theoretical and practical criticisms, with many authors trying to modify this model by adding another aspect [6; 7; 8; 9; 10]. Electronic service quality (E-SERVQUAL) has different aspects from the traditional service quality context presented by [11]. Taking into account these different approaches, this study tends to fill the gaps in the literature by identifying the factors that influence the service quality of digital banking products and demonstrating seven sides:

Efficiency, reliability, performance, security, responsiveness, compensation, and communication influence the quality of e-services, customer satisfaction and loyalty. Therefore, this study will measure the impact of e-service quality on e-customer loyalty through e-customer satisfaction as an intermediate variable for BNI Mobile Banking users in Indonesia.

2   METHODS

This study uses quantitative types of data because this study is obtained through data in digital form for data processing. The study was conducted from February to May 2023 in the Bandung region among BNI Mobile Banking users. The subjects of this study include users who have used or are currently using BNI Mobile Banking. The sampling technique uses a non-probability sampling technique with purposive sampling. The data collection process in this study was the primary data source, which included distributing questionnaires to 100 respondents in the form of a Google form. Scores for the alternative responses to this questionnaire were assigned to each option using a Likert scale. Therefore, in this study, there are only five categories: strongly agree (SS), agree (S), disagree (KS), disagree (TS), and strongly disagree (STS) for respondents to answer the question.

3   RESULTS AND DISCUSSION

3.1   Characteristics of Respondents

Based on the data collection results, 52% of the respondents were women, and the remaining 48% were men. The age range of the respondents was between 20 and 30 years, namely students to workers in the domicile of Bandung.

3.2   Regression Output Analysis

The following is an inferential analysis of the results of data processing using SPSS 24.0 for Windows.

1) Test Requirements Analysis.

a) Validity Test.
   Validity is a measure of the level of validity or validity of an instrument [12]. The calculated r and table r numbers are compared in this test. SPSS 24.0 for Windows is used to find R arithmetic, while the r table is used to find the R table. The items are valid because the r count value is greater than the r table. The value of the r table for validity is 0.195.

b) Reliability Tests.
   The reliability test is to find out how far the measurement results remain consistent if two or more measurements are made for the same symptoms using the same measuring instrument [13]. The research instrument is a questionnaire and a multilevel scale, so the reliability of the instrument is determined using the Alpha Cronbach formula. The results of the instrument reliability test carried out with the help of the SPSS 24.0 for Windows program can be seen in Table 1. Based on Table 1, all variables were reliable or consistent because they had Cronbach's alpha (α) ≥ 0.700.

Table 1. Reliability Test

Variable	*cronbach's alpha*	α
X	0,705	$\geq 0,700$
M	0,704	$\geq 0,700$
Y	0,708	$\geq 0,700$

c) Normality test.
   In this study, the normality test was carried out by the One-Sample Kolmogorov-Smirnov Test with a significance level (α) of 5% or 0.05, which has a criterion, namely if the significance value or Asymp. Based on Table 2, Sig (2-tailed) is greater than 0.05, then the data is normally distributed, and if the significance value or Asymp. Sig (2-tailed) is less than 0.05, so the data is not normally distributed.

Table 2. Normality Test

Variabel	*Asymp. Sig*	Nilai α
X	0,156	$\geq 0,05$
M	0,070	$\geq 0,05$
Y	0,114	$\geq 0,05$

2) Path Analysis.

- Model I (X-M)

Referring to the output of Regression Model I in Table 3, it can be seen that the significance value of variable X = 0.000 is less than 0.05. These results conclude that the Regression Model I, namely variable X, affects variable M.

Table 3. Path Analysis Model I Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
1 (Constant)	16,350	3,317		4,929	0,000
X	0,503	0,095	0,473	5,315	0,000

The R Square value contained in the Model I Regression output is 0.224. Table 4 shows that the contribution of the effect of X on M is 22.4%, while the remaining 77.6% is the contribution of other variables not included in the study. Meanwhile for the value of e1 can be found by the formula $e1 = \sqrt{(1-0.224)} = 0.880$.

Table 4. Path Analysis Model I Model Summary

Model	R	Rsquare	Adjusted R Square	Std. Error of the Estimate
1	0,473	0,224	0,216	4,17773

- Model II (X-M-Y)

Based on the output of Regression Model II in Table 5, it can be seen that the significance value of the two variables, namely X = 0.000 and M = 0.000, is smaller than 0.05. These results conclude that the Regression Model II, namely variables X and M, significantly affect Y.

Table 5. Path Analysis Model II Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
1 (Constant)	4,134	3,114		1,328	0,187
X	0,516	0,090	0,140	5,721	0,000
M	0,471	0,085	0,427	5,545	0,000

Based on Table 6, the magnitude of the R Square value contained in the Model II Regression output is 0.554. This shows that the contribution of X and M to Y is 55.4%, while the remaining 44.6% is the contribution of other variables not included in the study. Meanwhile, the value of e1 can be found using the formula $e2 = \sqrt{(1-0.554)} = 0.667$.

Table 6. Path Analysis Model II Model Summary

Model	R	Rsquare	Adjusted R Square	Std. Error of the Estimate
1	0,744	0,554	0,545	3,51077

3) Hypothesis Testing.

- Analysis of the effect of X on M

Obtained a significance value of X of 0.000 <0.05. So, it can be concluded that there is a direct significant effect of X on M.

- Analysis of the effect of X on Y

Obtained a significance value of X of 0.000 <0.05. So, it can be concluded that there is a direct significant influence of X on Y.

- Analysis of the effect of M on Y

Obtained a significance value of M of 0.000 <0.05. So, it can be concluded that there is a direct significant effect of M on Y.

- Analysis of the influence of X through M on Y

The direct influence that X has on Y is 0.140. Meanwhile, the indirect effect of X through M on Y is the multiplication of the value of Beta X on M and the value of Beta M on Y, which is 0.473 x 0.427 = 0.202. So, the total effect that X has on Y is the direct effect plus the indirect effect, namely 0.140 + 0.202 = 0.342. Based on the calculation results above, it is known that the value of the direct effect is smaller than the value of the indirect effect. This result indicates that indirectly, X through M has a significant influence on Y. Hypothesis form:

1. The effect of X on M is accepted
2. The effect of X and M on Y is accepted
3. The influence of X through M on Y is accepted

4   CONCLUSIONS

Research results show that e-service quality significantly impacts e-customer loyalty through e-customer satisfaction as an intermediate variable. This means that BNI Mobile Banking's e-service quality can increase e-customer loyalty through e-customer satisfaction. Therefore, BNI Mobile Banking must always improve and maintain service facilities. This will have the impact of increasing consumer satisfaction and will have an impact on their loyalty. Therefore, businesses need to pay attention and improve good service quality to meet consumer expectations. Customers are satisfied with the products and services they use and are loyal to the company. The more effective the BNI Mobile Banking service is for consumers, the more satisfied and loyal BNI Mobile Banking consumers will be.

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