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Effect of service to satisfaction and the impact on loyalty of Brimo users

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ABSTRACT

Brimo is one of the digital banks owned by Bank Rakyat Indonesia, which has various features that can help the activities of its users. In banking companies, high-quality service to meet customer needs is a demand in surviving in a competitive business environment. It can be analyzed using the dimensions of the e-servqual. This study aims to analyze service and satisfaction and its impact on Brimo user loyalty by using modified e-servqual dimensions: efficiency, reliability, responsiveness, user-friendliness, personal need, assurance, security, and site organization. Research data collection using questionnaires with purposive sampling techniques obtained 406 respondents who matched the criteria. Data processing is carried out using the structural equation model-partial least squares. The research results, namely reliability, user-friendliness, assurance, security, and site organization have a positive and significant effect on customer satisfaction. Other variables, namely efficiency, responsiveness, and personal need, do not have a positive and significant effect on customer satisfaction. Furthermore, customer satisfaction has a positive and significant effect on customer loyalty. The implication of this study is that Brimo is advised to improve its user interface to be more well-organized to increase customer satisfaction.

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INTRODUCTION

The development of technology today has increasingly led to becoming all-digital. Almost all activities in society have switched from a traditional system to a digital-based one (Rogers et al., 2006). Today's technology has a role that is important in bringing humans to the digital age. Technology can make human needs much easier (De Weck et al., 2011). The human lifestyle has generally shifted to a new one that cannot be separated from all electronic devices (Setiawan, 2017). There are lifestyle changes arising from the internet age; that way, the provider's services or businesses must be able to change their service or business activities due to lifestyle changes human beings have switched since the advent of the internet—one of the lifestyle changes that occur with the emergence of the internet, namely in banking activities (Lee & Lee, 2020).

The servqual dimension is very important for all service industries, including banks, because banks need to provide high-quality services to meet customer needs. It is a demand to survive in a competitive business environment (Chowdhary & Prakash, 2007). Research discussing the quality of electronic customer loyalty has been modified according to the research needs. The quality of such services is measured using a modified e-servqual (electronic service quality) (Raza et al., 2020). The factors used in the study are site organization, reliability, responsiveness, user-friendliness, personal need, and efficiency (Raza et al., 2020). Some studies examine the quality of service to customer satisfaction and customer loyalty. The quality of these services is measured by empathy, reliability, assurance, responsiveness, and tangible (Famiyeh et al., 2018). Other research analyzes electronic service quality's relationship to customer satisfaction and loyalty by factors used in electronic service quality, namely availability, security, personalization, reliability, and fulfillment (Asadpoor & Abolfazli, 2017).

Brimo is one of the mobile banking in the top 5 trending financial applications (www.similarweb.com, 2021). Based on these data, this study wants to see if the Brimo users are satisfied with the services provided. Therefore, based on the outlined phenomenon, the researchers studied the digital banking quality effect related to the mobile banking object of BRI, i.e., Brimo, by observing the impact on customer satisfaction and loyalty.

RESEARCH METHOD

The study is quantitative. The study population was Indonesian Brimo users. The samples were selected using the purposive sampling technique, where objects are selected by the researchers following particular criteria (Indrawati, 2015). The sampling criteria in the study were people using Brimo digital banking services and who have used Brimo for over three years. Subsequently, data in this study were processed using descriptive analysis and SEM PLS multivariate analysis. Following Sujarweni (2015), a descriptive analysis is an analysis technique that describes various data characteristics produced by a sample. In this study, several analyses were conducted following the study objectives, measuring the extent of respondent assessment of the study for rivals. The descriptive analysis results were calculated for the total score. The score was categorized into a specific interval value. The interval value categories are as follows:

Table 1. Interval Values of Descriptive Analysis

Category	Interval Value
Very Low	20% - 36%
Low	36% - 52%
Moderate	52%-68%
High	68%-84%
Very High	84%-100%

Source: Processed Data, 2021

The next analysis technique in the study was SEM PLS (Partial Least Square). Ghozali and Latan (2015) stated that PLS aims to help researchers to acquire latent variable values to predict between constructs by testing the predictive relationship between constructs. The study aimed to test whether any predictive relationship or effect between constructs exists. PLS-SEM consists of two sub-models, i.e., measurement or outer model and structural or inner model (Rahnamayiezekavat et al., 2022).

According to Abdillah and Jogiyanto (2015), the measurement model was employed to assess validity and reliability. The validity test began with convergent validity observed based on the loading factor values with a 0.7 rule for a confirmatory study. The 0.6-0.7 value is for an exploratory study, while 0.5 is for the Average Variance Extracted (AVE) value. The discriminant validity was decided by considering a cross-loading value of >0.70 on each variable. The AVE value > 0.50

indicates that the study variables are valid and that such a variable is recommended. Furthermore, the composite reliability test with the rule of thumb was performed in this study. If the composite reliability value > 0.7, the study variables are valid. A confirmatory study with a value between 0.6-0.7 is exploratory (Ghozali & Latan, 2015).

Subsequently, the study conducted an inner model test with a structural model in PLS evaluated using R- squares (R2) as the predicting power on each endogenous latent variable to observe the substantive effect. The R-Squares values of 0.75, 0.50, and 0.25 are categorized as strong, moderate, and weak models (Latan & Ramli, 2013). The next analysis was Q2. If Q2 > 0, it can be concluded that the model has predictive relevance. It was followed by f two analyses. The effect size f2 value can be categorized into three. The categories are small effect by 0.02, moderate effect by 0.15, and major effect by 0.35 (Ghozali & Latan, 2015). The final step was testing hypotheses by showing the relationship direction among variables with one tail test. If t statistic > t table, the hypothesis is accepted, and If t statistic < t table, the hypothesis is rejected (Indrawati, 2015).

RESULTS AND DISCUSSIONS

Descriptive Analysis Result

The study employed a descriptive analysis for each indicator and variable. The study result showed that most variable tests had "very high" and "high" values. The variable with the highest assessment score was "Efficiency," and the variable with the least assessment score was "responsiveness." The overall descriptive analysis results are presented in Table 2:

Table 2. Descriptive Analysis Result

Variable	Ideal Score	Percentage	Category
Efficiency	2030	86.52%	Very High
Reliability	2030	83.29%	High
Responsiveness	2030	83.15%	High
User Friendliness	2030	84.8%	Very High
Personal Need	2030	84.66%	Very High
Assurance	2030	84.23%	Very High
Security	2030	83.87%	High
Site Organization	2030	84.96%	Very High
Customer Satisfaction	2030	84.25%	Very High
Customer Loyalty	2030	83.4%	High

Source: Author's Processed Data, 2021

The ideal score is the maximum value of the total score, if it is assumed that all respondents always answer the highest score. Percentage is the total score per item divided by the ideal score and multiplied by 100%. The interval values used are:

Very Low = 20% - 36%
Low = 36% - 52%
Enough = 52% - 68%
High = 68% - 84%
Very High = 84% - 100%

So it can be concluded that the efficiency variable has a very high assessment of the Brimo user respondents, the reliability variable has a high assessment of the Brimo user respondents, the reliability variable has a high assessment of the Brimo user respondents, the responsiveness variable has a very high assessment of the Brimo user respondents, the personal need variable has a very high assessment of the Brimo user respondents, The assurance variable has a very high assessment of Brimo user respondents, the security variable has a high assessment of Brimo user respondents, the site organization variable has a very high assessment of Brimo user respondents, customer

satisfaction has a very high assessment of Brimo user respondents and customer loyalty has a high assessment of Brimo user respondents.

SMART PLS Analysis Result

The study consists of two sub-models, i.e., measurement or outer and structural or inner models.

Outer Model Test

According to Abdillah and Jogiyanto (2015), the measurement or outer model assesses validity and reliability. The measurement model is initiated by convergent validity, discriminant validity, composite reliability, and Cronbach's alpha tests. Based on the convergent validity test, the overall variable score was > 0.5. Thus, the convergent validity step was completed by acquiring loading factor scores of > 0.7 on each study item and AVE values of > 0.5 on each study variable. The discriminant validity test result was observed on cross-loading values of >0.70 on each variable. The study results revealed that the cross-loading scores obtained among indicators or items measuring the variables were higher than the correlation between other indicators or variables. Therefore, the discriminant validity test results in the study were valid. Then, the reliability test with Cronbach's Alpha and Composite Reliability models resulted in scores of > 0.7 (Purwanto & Sudargini, 2021). Thus, the study instruments were appropriate, consistent, and accurate.

Inner Model Test

The inner model (structural model) test was performed by considering values produced from R-square, a goodness-fit model test (Jakaria & bin Ibrahim, 2021). Besides R-Square values, evaluating the PLS model can also be conducted by considering Q2 or predictive relevance using the blindfolding procedure. The next analysis was the f2 or effect size test, and the final step was the hypothesis test.

The R-Square value of customer satisfaction was 0.680, categorized as moderate. Thus, 68% of the customer satisfaction variable was affected by *efficiency, reliability, responsiveness, user-friendliness, personal need, assurance, security, and site organization*. The R-Square value of customer loyalty was 0.570, categorized as moderate. It indicates that 57% of the customer loyalty variable was affected by customer satisfaction. The study yielded a Q2 test value of 0.397 for customer loyalty, where Q2 > 0. It concludes that the model has predictive relevance. Then, the Q2 value acquired for customer satisfaction was 0.470, where Q2 > 0. It shows that the model has predictive relevance.

The study employed an effect size or *f* two analyses to discover whether the independent and dependent variables are good. The study result demonstrated that one variable relationship had an *f* two value with a major effect category, i.e., the relationship between customer satisfaction and customer loyalty, with an *f* two value of 1.325 categorized as "Major Effect." Meanwhile, the *f* two values between the efficiency and customer satisfaction variables was 0.001, categorized as a "Minor Effect." The results of effect size or *f* two analysis are presented in Table 3:

Table 3. Effect Size Analysis (f^2)

Variable	f^2	Conclusion
EFE - > CSF	0,001	Not Very Influential
ERL - > CSF	0,010	Not Very Influential
RES - > CSF	0,008	Not Very Influential
USF - > CSF	0,012	Not Very Influential
PNE - > CSF	0,003	Not Very Influential
ASC - > CSF	0,040	Not Very Influential
SEC - > CSF	0,010	Not Very Influential
STO - > CSF	0,079	Not Very Influential
CSF - > CSL	1,325	Very Influential

Source: Author's Processed Data,2021

The inner model (structural model) test was carried out to observe the effect and significance by considering the parameter coefficient value and statistical t-significance value (Ghozali & Latan, 2015). In this study, the t-table value was 1.65. The hypothesis test results are presented in Table 4:

Table 4. Hypothesis Testing

Variable	Original Sample	t statistic	P value	Conclusion
EFE - > CSF	0,035	0,623	0,267	H1 is rejected
REL - > CSF	0,099	1,722	0,043	H2 is accepted
RES - > CSF	0,087	1,539	0,062	H3 is rejected
USF - > CSF	0,113	1,715	0,043	H4 is accepted
PNE - > CSF	0,055	0,964	0,168	H5 is rejected
ASC - > CSF	0,209	3,171	0,001	H6 is accepted
SEC - > CSF	0,094	1,815	0,035	H7 is accepted
STO - > CSF	0,262	4,789	0,000	H8 is accepted
CSF - > CSL	0,755	33,235	0,000	H9 is accepted

Source: Author's Processed Data,2021

In this study, the E-servqual indicator is used to measure the satisfaction of Brimo users in using digital banking services. The independent variables in this study consist *of efficiency, reliability, responsiveness, user-friendliness, personal need, assurance, security, and site organization.* Meanwhile, the variable customer satisfaction is the dependent variable, and customer loyalty is the intervening variable. The study results on each variable will be explained in the following section:

a. The Effect of Efficiency on Customer Satisfaction
   The study result revealed that efficiency negatively and insignificantly affected customer satisfaction. The t statistic value was 0.623; hence, less than the t table of 1.65 in the study. It concludes that H1 was rejected, stating that efficiency does not affect Brimo users' satisfaction. Meanwhile, the descriptive analysis result was categorized as high at 86.52%. However, efficiency was not the factor affecting Brimo users' satisfaction. The study contrasts with Raza et al (2020), stating that efficiency positively and significantly affects customer satisfaction.
b. The Effect of Reliability on Customer Satisfaction
   The study result revealed that Reliability positively and significantly affected customer satisfaction. The t statistic value was 1.722; hence, over the t table of 1.65 in the study. It concludes that H2 was accepted, stating that Reliability affects Brimo users' satisfaction. Meanwhile, the descriptive analysis result was categorized as high at 83.29%. The highest statement assessment from Brimo users was in the REL 4 item, i.e., Brimo always asks for verification in each transaction. The study follows Khan and Fasih (2014), stating that Reliability positively and significantly affects customer satisfaction.
c. The Effect of Responsiveness on Customer Satisfaction
   The study result revealed that responsiveness negatively and insignificantly affected customer satisfaction. The t statistic value was 1.539; hence, less than the t table of 1.65 in the study. It concludes that H3 was rejected, stating that responsiveness does not affect Brimo users' satisfaction. Meanwhile, the descriptive analysis result was categorized as high at 83.19%. However, responsiveness was not the factor affecting Brimo users' satisfaction. The study contrasts with Raza et al (2020), stating that responsiveness positively and significantly affects customer satisfaction.
d. The Effect of User-Friendliness on Customer Satisfaction
   The study result revealed that responsiveness negatively and insignificantly affected customer satisfaction. The t statistic value was 1.539; hence, less than the t table of 1.65 in the study. It concludes that H3 was rejected, stating that responsiveness does not affect Brimo users' satisfaction. Meanwhile, the descriptive analysis result was categorized as high at 83.19%. However, responsiveness was not the factor affecting Brimo users' satisfaction. The study

contrasts with Raza et al (2020), stating that responsiveness positively and significantly affects customer satisfaction.

e. The Effect of Personal Need on Customer Satisfaction
Personal need is one of the indicators in the e-sevqual dimension because every company expects the needs and desires of its consumers to be fulfilled (Tobagus, 2018). The study result revealed that personal needs negatively and insignificantly affected customer satisfaction. The t statistic value was 0.964; hence, less than the t table of 1.65 in the study. It concludes that H5 was rejected. Meanwhile, the descriptive analysis result was very high at 84.66%. However, the personal need was not the factor affecting Brimo users' satisfaction. The study contrasts with Raza et al (2020), stating that personal need positively and significantly affects customer satisfaction.

f. The Effect of Assurance on Customer Satisfaction
The study result revealed that assurance positively and significantly affected customer satisfaction. The t statistic value was 3.171; hence, over the t table of 1.65 in the study. It concludes that H6 was accepted. Meanwhile, the descriptive analysis result was very high at 84.23%. It was based on the statement with the highest score from Brimo users, i.e., Brimo always provides accurate services. The service accuracy factor stated by Fida et al (2020), the Assurance variable, is one of the factors that can measure the level of trust through guarantees that the benefit received by customers has a positive impact. According to Famiyeh, Kwarteng, and Asante-Darko (2018), assurance affects customer satisfaction, which is in line with the current study.

g. The Effect of Security on Customer Satisfaction
The study result revealed that security positively and significantly affected customer satisfaction. The t statistic value was 1.815; hence, over the t table of 1.65 in the study. It concludes that H7 was accepted. Meanwhile, the descriptive analysis result was categorized as high at 83.87%. The high category was caused by most statements with the highest score from Brimo users, i.e., guaranteed security with id login. It concludes that Brimo users believe that transaction security is guaranteed. It follows Asadpoor and Abolfazli (2017), stating that security affects customer satisfaction. Furthermore, according to research by Sagib and Zapan (2014), there is no effect between security and customer satisfaction.

h. The Effect of Site Organization on Customer Satisfaction
The study result revealed that site organization positively and significantly affected customer satisfaction. The t statistic value was 1.65; hence, over the t table of 1.65 in the study. It concludes that H8 was accepted. Meanwhile, the descriptive analysis result was very high at 84.96%. Most statements from Brimo users asserted that the Brimo application had been well organized. Thus, most Brimo users were satisfied with the application. The results of this study are supported by Puriwat and Tripopsakul (2017), stating that interface design affects customer satisfaction.

i. The Effect of Customer Satisfaction on Customer Loyalty
The study result revealed that customer satisfaction positively and significantly affected customer loyalty. The t statistic value was 33.235; hence, over the t table of 1.65 in the study. The descriptive analysis result for customer satisfaction was very high at 84.25%, while customer loyalty was high at 83.4%. Both variables were categorized as very high and high since most Brimo users perceived Brimo provides a positive impression and helps them with the application. Based on research by Raza et al (2020) states that customer satisfaction affects customer loyalty. According to Kotler, P., & Keller (2016), stating that satisfaction comes from the experience of comparing the perceived results with the products offered. Therefore, this study reveals that Brimo gives a positive impression with services that are very helpful to users, which will affect customer loyalty to a product.

CONCLUSION

The study result demonstrated that most variable assessments in this study were categorized as "very high" and "high." The variables acquiring the "very high" category from Brimo users were

efficiency, user-friendliness, personal need, assurance, site organization, and customer satisfaction. Meanwhile, reliability, responsiveness, security, and customer loyalty variables were categorized as "high." The hypothesis test results revealed that reliability, user-friendliness, assurance, security, and site organization variables positively and significantly affected customer satisfaction, where customer satisfaction also had the same effect on customer loyalty. Conversely, efficiency, responsiveness, and personal need negatively and insignificantly affected customer satisfaction.

Based on other tests in the current study, the highest path coefficient value was on the site organization variable, followed by assurance, user-friendliness, reliability, security, and customer satisfaction. Each variable had the lowest-scored statement. Hence, it is recommended that Brimo improve its user interface, maintain commitments on offered features, improve the application system to avoid freeze and error during use, provide information immediately in times of errors, and improve its services to exceed user expectations. Then, future researchers are suggested to add other factors or variables excluded from this study. The suggestion is based on the R-Square results, revealing that 32% of the customer satisfaction variable was not affected by independent variables in this study, and 43% of the customer loyalty variable was not affected by customer satisfaction.

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