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Research Article

BRI Mobile M-Banking User Satisfaction Analysis using Technology Acceptance Model

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Abstract
In early February 2019, PT Bank Rakyat Indonesia (Persero) launched BRI Mobile, an e-banking service designed for its customers. Bank Rakyat Indonesia utilizes satisfaction surveys to engage with and prioritize its customers. Findings from these surveys are used to evaluate the bank's performance. The bank conducts annual customer satisfaction surveys to measure service quality and customer satisfaction index, which is based on customer expectations and the company's reputation and experience. The Technology Acceptance Model (TAM), developed by Davis in 1989, is widely used to assess the utilization and recognition of information systems and technologies by individual clients. Studies have shown that computer usage behavior is influenced by perceived usefulness and ease of use. The research findings indicate that 83% of the factors influencing user satisfaction of the BRImo application can be explained by the model, as indicated by a coefficient of determination value of 0.838.

Keywords: User satisfaction, BRI Mobile Banking, Technology Acceptance Model

Abstrak
BRI Mobile telah diperkenalkan oleh PT Bank Rakyat Indonesia (Persero) pada awal tahun 2019 pada bulan Februari. Bank Rakyat Indonesia menciptakan aplikasi BRI Mobile sebagai layanan e-Banking bagi nasabahnya. Survei kepuasan merupakan salah satu cara yang digunakan BRI untuk berkomunikasi, menjaga hubungan dan menjadikan nasabah sebagai pemangku kepentingan yang penting. Temuan dari Bank BRI dapat dijadikan alat untuk mengukur kinerja Bank BRI. Di antaranya, melakukan survei kepuasan pelanggan tahunan melalui survei kualitas layanan dan kemitraan telepon. Indeks kepuasan pelanggan yang diperoleh dari survei partisipasi pelanggan yang dilakukan pada 1-5 poin, dan indeks kepuasan pelanggan yang diperoleh dari kualitas layanan penjualan fasilitas, pelayanan yang baik diharapkan pelanggan berdasarkan reputasi dan pengalaman perusahaan. *(Technology Acceptance Model)* disempurnakan oleh Davis (1989) adalah salah satu bentuk penelitian paling terkenal akan menilai pemanfaatan dan pengakuan kerangka data dan inovasi bagi masing-masing klien. Sejumlah penelitian yang meneliti perilaku penerimaan teknologi individu dalam berbagai sistem informasi mendukung generalisasi TAM. Menurut model TAM, perilaku penggunaan komputer dipengaruhi oleh dua faktor: manfaat yang dirasakan dan kemudahan penggunaan. Berdasarkan hasil didapatkan nilai koefisien determinasi 0,838 bearti 83% Faktor yang berpengaruh kepuasan pengguna aplikasi BRImo.

Kata kunci: Kepuasan pengguna, BRI Mobile Banking, Model penerimaan teknologi

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1. Introduction

In their capacity as commercial entities, banks are entrusted with the vital functions of gathering, distributing, and providing credit and other financial services, all aimed at enhancing the quality of life for numerous individuals and communities. Given this significant role, banking regulations are highly stringent. Measures, such as those pertaining to the bank's core capital in its business endeavors and branch networks, are in place to ensure its sustained soundness. The level of core capital on hand serves as an indicator of shareholders' dedication to the enduring viability of the bank, both as an individual entity and within the industry as a whole (Prashella et al., 2021).

The BRI Mobile application, a cutting-edge technology-based platform, was launched by PT Bank Rakyat Indonesia (Persero) in February 2019. This e-banking service was developed by Bank Rakyat Indonesia to cater to the needs of its customers. By offering technology-driven services, PT Bank Rakyat Indonesia (Persero) aims to streamline transactions and stay competitive in the industry. The BRI Mobile application's advantages lie in its ability to simplify the banking process, thanks to its sophisticated features tailored to user preferences. With the recent update, the BRI Mobile application now boasts exceptional quality (Yovita & Resindra Widya, 2021).

Satisfaction surveys are one of the ways BRI uses to communicate, maintain relationships and make customers important stakeholders. The findings from Bank BRI can be used as a tool to measure the performance of Bank BRI. Among them are conducting annual customer satisfaction surveys through service quality surveys and telephone partnerships. The customer satisfaction index was obtained from the customer participation survey conducted at 1-5 points, and the customer satisfaction index was obtained from the quality of service sales facilities; good service is expected by customers based on the company's reputation and experience.

2. Literature Review

E-banking has become prevalent as banks sought to establish trust with customers through the use of technology. It's worth noting that e-banking is not exclusive to banks; it also involves collaboration with mobile operators, benefiting not only the banks and mobile operators but also the customers. The advancement of e-banking is particularly noticeable in major e-banking user countries such as Germany and the United States (Kustina & Sugiarto, 2020).
Mobile banking, as defined by the Indonesian Bankers Association (2014), refers to a service provided through a bank's electronic distribution channel that enables customers to access their accounts via SMS or other communication networks using mobile phones or tablet computers. This service allows bank customers to conduct various banking transactions using their mobile devices. Mobile banking can be accessed through the SIM card menu, USSD (Unstructured Supplementary Service Data), or via a downloadable and installable application.

Mobile Banking provides a higher level of sophistication compared to SMS banking so that it is easier to carry out the customer process. In the OJK booklet, several features of mobile banking services have been provided by the bank, including information services (balances, account mutations, credit card bills, interest rates, and the location of the nearest branch/ATM), transaction services, such as transfers, bill payments (electricity, water, taxes, credit cards, insurance, internet), purchases (credit and tickets), and various other features. (Atieq & Nurpiani, 2022)

3. Method

The data collection method known as a questionnaire involves asking respondents a series of questions or making a written statement. (Rachmawati & Diningsih, 2021). The stages of the research carried out are shown in Figure 1.

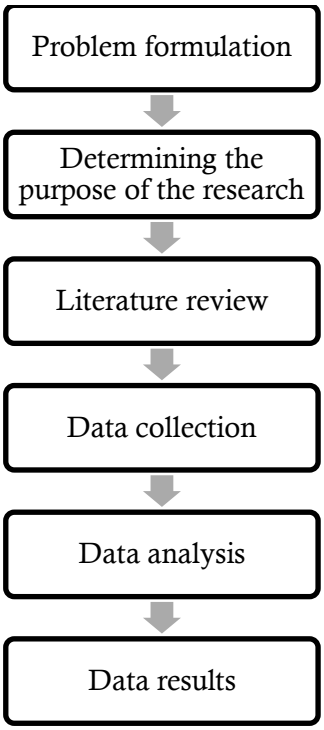

Figure 1. Research stages

From figure 1 it can be explained as follows:
1. Problem formulation: Determine the topic of the research problem being researched
2. Determine the objectives of the research: set the objectives to be achieved in the research
3. Literature review: Search for a journal reference from the internet
4. Data collection: a collection of materials that match related research. The data collection used is a questionnaire
5. Data analysis: Analyze the collected data to evaluate BRI mobile m-banking user satisfaction using the Technology Acceptance Model (TAM)
6. Data results: after analyzing the data that has been collected, it is continued by implementing the data results.

Respondent characteristics

a. Age

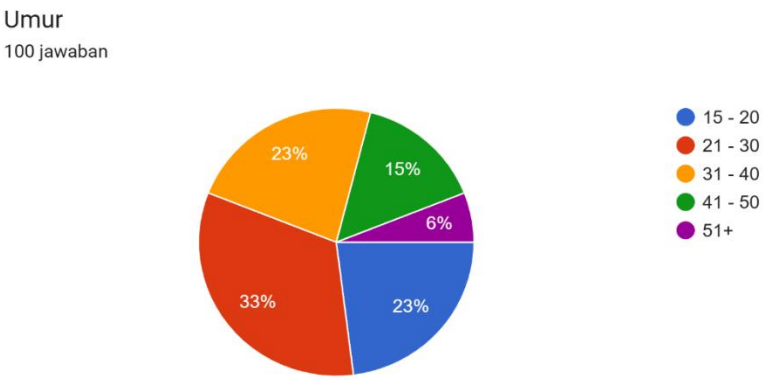

Figure 1. Age respondent

Based on Figure 1, 23 respondents were aged 15-20, 33 were aged 21-30, 23 were aged 31-40, 15 were aged 41-50, and 6 were aged 51+. Thus, it can be concluded that the majority of BRIMo application users are teenagers aged 21-30.

b. Jobs

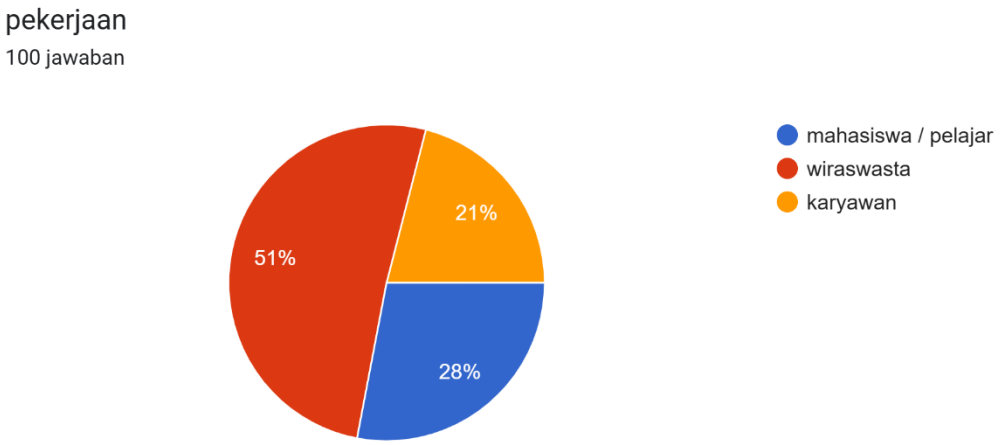

Figure 2. Jobs respondent

Figure 2 shows that 21 respondents worked as employees, 28 respondents were still studying as students, and 51 respondents were self-employed.

3. Result

3.1. Instruments research test

a. Validation test

Validation tests measure the ability of a measuring instrument to measure something that should be measured accurately. (Rosita et al., 2021). The research instrument is appropriate if the calculation is larger than the table and if the opposite is not appropriate if the calculation is smaller than the table. We test to find out whether the questionnaire is valid or not, it can be considered if the calculation is greater than the table with a significance of 0.05, then the questionnaire is valid (Azizah et al., 2022).

Table 1. Validation test results

No	r hitung	r tabel 5% (100)	Sig.	Etiket
1	0,952		001	Absah
2	0,950		001	Absah
3	0,925		001	Absah
4	0,887	0,196	001	Absah
5	0,890		001	Absah
6	0,935		001	Absah
7	0,935		001	Absah
8	0,919	0,196	001	Absah
9	0,948		001	Absah
10	0,944		001	Absah
11	0,953		001	Absah
12	0,940	0,196	001	Absah
13	0,953		001	Absah
14	0,959		001	Absah
15	0,962		001	Absah

b. Reliability test

A test called a reliability test on a research instrument is used to see whether a questionnaire used to collect research data is reliable or not. (Puspasari et al., 2022). The research instrument was declared reliable if the Cronbach's alpha value was greater than 0.6, while the research was declared unreliable if

the Cronbach's alpha value was less than 0.6. Reliability in the study distributed questionnaires in the form of Google Forms to respondents online. After the respondent is given a questionnaire to fill in, after that it can be checked using the SPSS29 application.

1. Ease of use

Table 2. Cronbach Alpha Ease of use

Reliability Statistics	
Cronbach's Alpha	N of Items
937	3

2. Benefits

Table 3. Cronbach Alpha Benefits

Reliability Statistics	
Cronbach's Alpha	N of Items
885	3

3. Behaviour

Table 4. Cronbach Alpha Behaviour

Reliability Statistics	
Cronbach's Alpha	N of Items
909	3

4. Actual

Table 5. Cronbach Alpha Actual

Reliability Statistics	
Cronbach's Alpha	N of Items
940	3

5. Valuation

Table 6. Cronbach Alpha Valuation

Reliability Statistics	
Cronbach's Alpha	N of Items
955	3

From the output data, the Cronbach alpha from the butit of the X1.1 to Y3.3 questions has a value above the table's 0.196. This shows that the question item is reliable.

3.2. Multiple linear regression

a. Multiple linear regression analysis

Multiple linear regression analysis involves more than one independent variable, usually represented by variable X, and one response variable or dependent Y. (Prasetyo & Information Technology and Computer of the State Polytechnic of Lhokseumawe, 2021) to determine whether the variable has a positive or negative influence.

Based on Table 5, the multiple linear regression equation is as follows: Y=-0,320 + 0,114 + 0,261 + 0,156 + 0,479.

From the multiple linear regression model above, it can be concluded that a constant value of 690 means that the four variables, namely the user convenience variable, the user benefit variable, the behavioral variable, and the actual variable, have a positive effect on user judgment.

Table 7. Multiple linear regression
Coefficients

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)							
	X1_Total	114	111	106	1.027	307	155	6.445
	X2_Total	261	113	0.243	2.316	0.023	149	6.708
	X3_Total	156	138	151	1.136	0.259	0.093	10.739
	X4_Total	479	122	453	3.925	<.001	123	8.136

a.DependentVariable: Y_Total

b. T Test

In terms of quantity sig, the smaller 0.05 or the greater the table, the free factor (X) has a fundamental effect on the dependent variable (Y). The independent variable (X) does not have a significant effect on the dependent variable (Y) if the magnitude of sig is less than or equal to 0.05.

Table 8. T-Test
Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)							
	X1_Total	114	111	106	1.027	307	155	6.445
	X2_Total	261	113	0.243	2.316	0.023	149	6.708
	X3_Total	156	138	151	1.136	0.259	0.093	10.739
	X4_Total	479	122	453	3.925	<.001	123	8.136

a.DependentVariable: Y_Total

In Table 6, the t-value of the table is obtained from the query item by using the equation (α/2; n-k-1); = 0.05 is a significant value. n is the number of samples. k is the number of variables studied. so: (0.05/2; 100-4-1) on t table t table = (0.025; 95) Without needing to be recalculated, the number 95 appears on the SPSS table by default. It is located in the ANOVA results table. Therefore, t table = 0.025, and 95 is 1.98525.

c. F Test

The analysis of the simultaneous F test is to understand whether the independent variable (X) and the bound variable (Y) have a concurrent impact. By using the formula (k; n-k) = (5; 100-5) = (95) = (2.47), the value of the Ftable is 2.47, with the variable df (k) = 5 and the significance level 0.05. If the value of Fcal is greater than the value of Ftable, then Ho is accepted, and Ha is rejected, then variable (X) affects variable (Y) simultaneously. (Prilano & Sudarso, 2020)

Table 9. F-Test
Anova[a]

Model		Some of Squares	df	Mean Square	f	Sig.
1	Regression	295.257	4	73.814	128.779	<.001[b]
	Residual	54.453	95	573		
	Total	349.71	99			

b.DependentVariable: Y_Total
a.Predictors:(Constant),X4_Total,X2_Total,X1_Total,X3_Total

Based on the results of the available tables, it can be seen that the table of 7 variables (X1,X2,X3,X4)

has a synchronous influence on the variable (Y). The significance results of X1, X2, X3, and X4 were obtained Ftable 2.47 of 0.000, and the value of Fcal was 128.779 > Ftable 2.47.

d. Determination coefficient test

The purpose of the determination coefficient test analysis is to determine the magnitude of the proportion of the influence of variables on the variables as a whole. (Harahap, 2020).

Table 10. Determination Coefficient Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	919[a]	844	838	75709	1.719

a.Predictors:(Constant),X4_Total,X2_Total,X1_Total,X3_Total
b.DependentVariable: Y_Total

Based on the results of Table 8, the determination coefficient of 0.838 is 83%. Factors that affect the satisfaction of BRImo application users.

e. Normality test

Using the coefficient of variance = standard deviation/mean*100. If the value of the coefficient of variance is <30%, then the data is normally distributed.

Table 11. Coefficient of Variance

	Descriptive Statistics		
	Mean	Std.Deviation	N
Y_Total	12.77	1.87947	100
X1_Total	12.98	1.73485	100
X2_Total	12.98	1.74645	100
X3_Total	12.84	1.81308	100
X4_Total	12.95	1.77738	100

Variable	Coefficient of Variance Value	Information
y	14.71785435	Normally Distributed Data
x1	13.3655624	Normally Distributed Data
x2	13.45493066	Normally Distributed Data
x3	14.12056075	Normally Distributed Data
x4	13.72494208	Normally Distributed Data

Of the four variables, this shows that the value of variance is < 30%, so the data is normally distributed.

f. Multicollinearity test

The multi-correlation test aims to find out whether the hub between the independent variables has a multi-correlation problem (multicollinearity symptom) or not.

Table 12. Multicollinearity

Coefficients

Model		Collinearity Statistics	
		Tolerance	VIF
1	X1_Total	155	6.445
	X2_Total	149	6.708
	X3_Total	093	10.739
	X4_Total	123	8.136

a.DependentVariable: Y_Total

Multicorrelation is a very high or very low correlation that occurs in the relationship between independent variables. (Stefany et al., 2021) The assumption of multicollinearity is: a VIF value of < 10 and a tolerance value of > 0.1, then multicollinearity does not occur.

g. Heteroscedasticity test

The heteroskedasticity test is a state in which the disturbing factor (error) is not constant. Criteria for testing if the sig value < 0.05 variants have heteroskedasticity, and if the sig value > 0.05 variants, there is no heteroskedasticity (Stefany et al., 2021).

Table 13. Heteroskedas

Coefficients

		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	1.447	962		1.536	128
	X1_Total	-34	091	-101	-378	706
	X2_Total	005	083	014	057	955
	X3_Total	-330	492	-151	-671	504
	X4_Total	041	084	123	481	631

a.DependentVariable: Y_TOTAL

Table 11 shows that all the significance values of independent variables are above 0.05, so it can be concluded that the regression model in this study does not have heteroskedasticity problems.

5. Discussion

The results of the quantitative validity test, which had 15 questions and 100 respondents, The results of the quantitative validity test conducted with SPSS showed that all the quantifiers were valid because the r count was greater than the r of the table and the significance was less than 0.05. The results of the quantitative reliability test, which consisted of 15 items, showed that Cronbach's statistical ease alpha was 0.918, the usefulness was 0.896, and the intention was 0.913. Therefore, the conclusion obtained from the study is that all quarterly results carried out using the SPSS29 application are valid.

Peu (Perceived Ease Of Use) Thitung has a value of 1.027, smaller than the table of 1.98525. The judgment viewed simultaneously is not affected by the perception of ease of use. Pu (Perceived Usefulness): The calculated value of 2.316 is greater than the table of 1.98525, so it can be concluded that Perceived Effectiveness influences the assessment seen simultaneously.

User behavior (behavioral intention to use) Thitung has a value of 1.136, smaller than the table of 1.98525. The judgments viewed simultaneously are not affected by the perception of usage behavior. Actual (actual system use) Thitung has a value of 3.925, smaller than the table of 1.98525. The judgment that is seen simultaneously affects the actual perception.

The results of the simultaneous f test get a value from that the variable (X1, X2, X3, X4) has a synchronous influence on the variable (Y) based on the results of the available table. The significance results of X1, X2, X3, X4 were obtained Ftable 2.47 of 0.000, and the value of Fcal was 128.779 > Ftable 2.47. Based on the results above, a determination coefficient value of 0.838 is obtained, meaning 83% of factors that affect the satisfaction of BRImo application users.

Based on the results of the multicollinearity test, it was known that the tolerance value > 0.1 and the VIF value < 10. From these results, it can be concluded that the regression model used is free of multicollinearity. Based on the table, all the significance values of independent variables are above 0.05, so it can be concluded that the regression model in this study does not have a heteroskedasticity problem.

6. Decision

A total of 34 respondents can conclude this research. respondents obtained from the data collected include age and type of work. Respondents showed that for ages 15-20, there were 23 respondents; for ages 21-30, there were 33 respondents; for ages 31-40, there were 23 respondents; for ages 41-50, there were 15 respondents; and for ages 51+, there were 6 respondents, it can be concluded that the majority of BRIMo application users are teenagers aged 21-30. Demographic information of respondents who are employee workers there are 21 people, who are still in education students or students there are 28 people, and self-employed there are 51 people. The majority of BRIMo application users are self-employed.

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