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Usability Testing Analysis on Digital Wallet Applications to Measure User Satisfaction

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Abstract

One of the issues that users of digital wallet apps often face is slow loading, which can cause frustration and disrupt the user experience. In addition, lack of app responsiveness due to server errors is also a complaint of users, which can lower their trust in the app. Another problem is the difficulty in the login process, which can make it difficult for users to access the application. From these problems, it is necessary to conduct a "usability testing analysis on digital wallets to measure user satisfaction." a study evaluates user satisfaction using ShopeePay, Dana, and Ovo as digital wallets. In this study, TCR is used as an indicator to measure the level of user satisfaction, and the variables considered are Attractiveness, Understandability, Learnability, and Operability. The results show that ShopeePay has the highest TCR of 78.77%, followed by Ovo at 77.32% and Dana at 75.58%. Attractiveness factors affect user satisfaction in ShopeePay, while in Dana, Learnability and Attractiveness factors influence. In Ovo, Operability and Attractiveness factors affect user satisfaction, while Understandability and Learnability have no significant effect. The findings from this study provide valuable insights for digital wallet service providers to optimize the factors that influence user satisfaction. This can help increase the acceptance and utilization of digital wallets in the growing market.

Keywords: Digital Wallet Apps; Usability Testing; User Satisfaction; Task Completion Rate

Abstrak

Beberapa permasalahan yang sering dihadapi oleh pengguna aplikasi dompet digital adalah loading yang lambat, yang dapat menyebabkan frustrasi dan mengganggu pengalaman pengguna. Selain itu, respons aplikasi yang kurang akibat server error juga menjadi keluhan pengguna, yang dapat menurunkan kepercayaan mereka pada aplikasi tersebut. Masalah lainnya adalah kesulitan dalam proses login, yang dapat menyulitkan pengguna untuk mengakses aplikasi. Dari permasalahan tersebut maka perlu dilakukan “analisa usability testing pada dompet digital untuk mengukur kepuasan penggua” terdapat sebuah penelitian yang mengevaluasi kepuasan pengguna dalam menggunakan ShopeePay, Dana, dan Ovo sebagai dompet digital. Dalam penelitian ini, TCR digunakan sebagai indikator untuk mengukur tingkat kepuasan pengguna, dan variabel yang dipertimbangkan adalah Attractiveness, Understandability, Learnability, dan Operability. Hasil penelitian menunjukkan bahwa ShopeePay memiliki TCR tertinggi 78,77%, diikuti oleh Ovo 77,32%, dan Dana 75,58%. Faktor Attractiveness mempengaruhi kepuasan pengguna di ShopeePay, sementara di Dana, faktor Learnability dan Attractiveness berpengaruh. Di Ovo, faktor Operability dan Attractiveness mempengaruhi kepuasan pengguna, sementara Understandability dan Learnability tidak memiliki pengaruh yang signifikan. Temuan dari penelitian ini memberikan wawasan yang berharga bagi penyedia layanan dompet digital untuk mengoptimalkan faktor-faktor yang memengaruhi kepuasan pengguna. Ini dapat membantu meningkatkan penerimaan dan pemanfaatan dompet digital di pasar yang semakin berkembang.

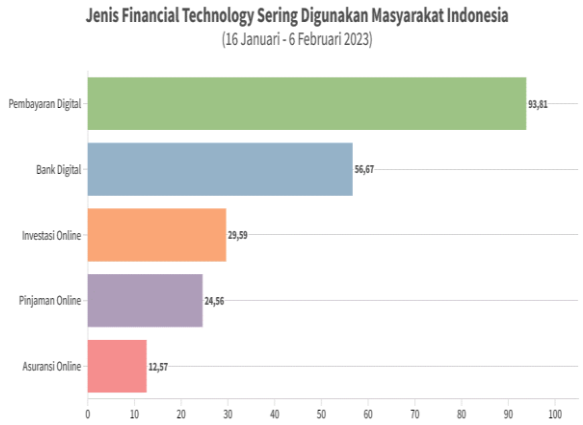
Kata Kunci: Aplikasi Dompet Digital; Pengujian Kegunaan; Kepuasan Pengguna; Task Completion Rate

INTRODUCTION

Over the past three years, digital wallets or e-wallet applications for electronic transactions have increased significantly. In addition to creating new business opportunities, Indonesia's current payment system has been transformed by digital technology. Although most do apply cash in transactions, the fact shows that non-cash transactions have also become commonplace and natural throughout Indonesia (Dewi,

Pambudi, & Priyatna, 2022).

From what experts know, competition between digital wallet companies in Indonesia is also getting tighter. Advanced installments are the type of fintech that Indonesia most often uses.

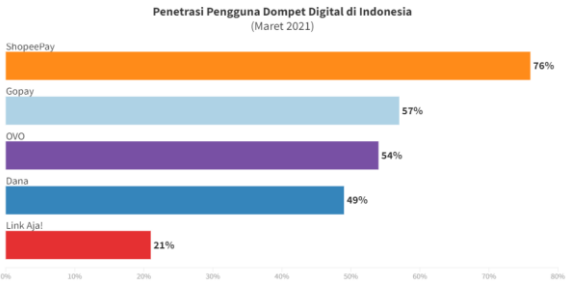


Source: (Rizaty, 2023)

Figure 1. Types of Financial Technology Often Used by Indonesian People (January 16 - February 6, 2023)

In Figure 1, more and more Indonesians know and use various financial technology services for daily economic activities, including payments, banking, loans, investment, and insurance. This is according to the 2023 Consumer Financial Technology research results by DataIndonesia.id. While online research DataIndonesia.id using random sampling. The fault tolerance rate in this survey was 4.2%. Meanwhile, 56.67% of respondents said they often use digital payment services. Then, 29.59% of respondents often use fintech services for online investment. In addition, 24.56% of respondents often use fintech services for online loans. Meanwhile, 12.57% of respondents often use fintech in the form of online insurance (Kamanda, Novel, & Hermansyah, 2022). From this data, many people use digital payments.

According to a study by Katadata Insight Center, e-wallets are more popular among the public than e-money in daily activities, with a usage ratio of 11.1% versus 9.1% (Pusparisa, 2020). From the point of view of Satisfaction with e-wallet brands, ShopeePay is the top choice with a score of 82%, said Indah Tanip, Associate Project Director of Ipsos in Indonesia. This result outperformed its competitors, such as Ovo (77%), Gopay (71%), Dana (69%), and LinkAja (67%) (Agung, 2020). The Indonesian government supports using OVO, Gopay, Link Aja, and Dana e-wallets in the pre-employment card program (Dina Marsela, Nathanael, & Marchelyta, 2022).



Source: (Karnadi, 2022)

Figure 2 Percentage of E-Wallet Usage

Figure 2 illustrates the use of e-wallets in Indonesia. The results show that ShopeePay is still the most popular e-wallet among the public, with 76% of users, far outperforming Gopay, which is in second position with 57%, in third position, ovo reaches 54%, in fourth position funds get 45% and finally Link only 25%. This shows that people are satisfied with the services provided by ShopeePay and have built trust in these services. This trust significantly impacts people's use of digital wallets (Dina Marsela et al., 2022).

The importance of measuring user satisfaction is because the Indonesian Consumer Institute Foundation (YLKI), as many as 56% receive complaints regarding consumer complaints (Hasanah, 2021). Difficulties often faced by digital wallet application users include slow loading problems, complaints about the application's lack of response due to server errors, and issues in the login process. There are still challenges in implementing server-based e-wallets, such as the case of losing Go-Pay balances due to technical problems and customers who have recharged OVO but whose ratios have not increased (Hidayat, Aini, & Fetrina, 2020)

Some users of digital wallet apps find this issue as a way to assess the credibility of such apps and increase user loyalty. Therefore, every application must have a high level of usability. Usability testing between applications must be done to test specific components, such as ease of use, efficiency, ease of remembering, errors that may occur, level of security, and level of user satisfaction (Murti, 2020).

This research is only on digital wallet users in Jabodetabek who use ShopeePay, Dana, and Ovo with understandability, Learnability, operability, attractiveness, and Satisfaction variables. Based on previous data, ShopeePay users dominate with 76% of users, followed by Gopay 57%, Ovo 54%, Dana 45%, and LinkAja 25%, showing a high level of Satisfaction using digital wallets. Therefore, the author wants to examine ShopeePay, Dana, and Ovo digital wallet users.

Problems faced by users, such as problems loading slowly or difficulties in the login process, become crucial points in measuring user satisfaction. This study aims to explore the factors that influence

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user satisfaction with ShopeePay, Dana, and Ovo, as well as how these problems faced by users affect their perception and level of satisfaction with these e-wallet services.

This research aims to understand customer satisfaction with ShopeePay, Dana, and Ovo and determine the factors that influence it.

RESEARCH METHODS

Stages of Research

The investigation is in several stages. Among the options available in Figure 3 follows:

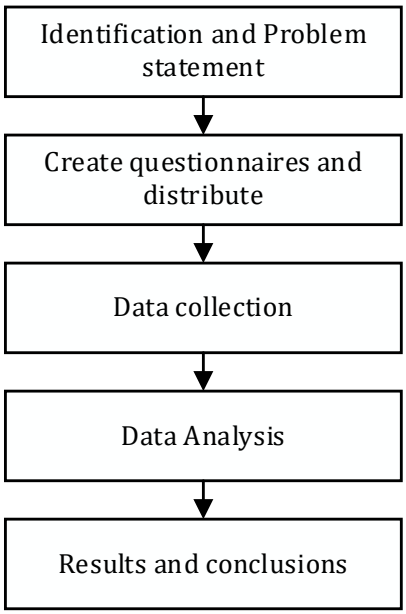

Figure 3. Stages of Research

1. Identify and formulate problems.

The initial stage of research is when the author conducts the topic to be researched, formulates the problem, makes points, limits the problem under study, and determines the research method.

2. Create questionnaires and disseminate

At this stage, the author makes a questionnaire based on the criteria of the usability method. Then, distribute the questionnaire online through Google Form, which potential Digital Wallet users will fill out.

3. Data collection

At this point, the authors gathered information from questionnaires filled out by respondents.

This analysis considers two different types of elements: the dependent variable, which is restricted, and the independent variable, which is not limited. Variables that are affected or arise from independent variables are called dependent variables. Independent variables, however, are variables that are independent of other factors.(Prena &; Muliyawan, 2020).

In this study, several characteristics are used as variables:

a. Understandability (variable X1): a system that the user can understand.
b. Learnbility (Variable X2): an approach to learn.
c. Operability (variable X3): method to be operated by the user.
d. Attractiveness (variable X4): system to attract users.
e. Satisfaction (variable Y): user satisfaction in using the system.

4. Analyzes Data

After the data is obtained, it is then analyzed and processed. The following test research was used with factual programming—some testing for data analysis in this study.

a. Instrumental Test

The evaluation of this research instrument aims to ensure that the correctness and validity of the questionnaire are accurate and accountable (Puspitasari & Nugroho, 2021). This investigation used validity and reliability tests as test tools (Amanda, Yanuar, & Devianto, 2019).

b. Validity Test

Validity tests are performed to establish the reliability of the questionnaire. A questionnaire is considered valid if its questions can show what the questionnaire wants to measure (Sanaky, Saleh, & Titaley, 2021). Several variables, such as the following, affect the reliability of the questionnaire:

1) A problem is acceptable if the calculated correlation value (r count) exceeds the table correlation value (r table).
2) A problem is considered invalid if the estimated correlation value (r count) is smaller than the table correlation value (r table).
3) The total corrected item correlation column contains the specified correlation value (r count).

c. Reliability Test

The reliability test in this study aims to evaluate the trustworthiness or reliability of measuring instruments designed as questionnaire subjects. Reliability is the extent to which measurements from a test remain consistent after repeated treatment of issues and under the same conditions (Supriadi, Abadi, & Maghfiroh, 2023). The following standards are used when performing reliability testing:

1) If r alpha > r table, then the questionnaire is reliable.
2) If r alpha < r table, then the questionnaire is not reliable.

d. Classical Assumption Test

1) Normality Test

Habituality tests are performed before data analysis using the suggested research model. This evaluation aims to determine how closely the information corresponds to the generally communicated characteristics of the collection. The t and F tests used here assume that the residual values have a normal distribution. If this assumption is wrong, the findings of statistical tests will have little significance, especially if the sample size used is small.

The Normal P-P Regression plot is a visual indication of data normality, which displays the distribution of points along diagonal lines without considerable dispersion. Standard residuals generated by backslide states can be used to investigate data habits using the Kolmogorov-Smirnov test. If the Kolmogorov-Smirnov probability is greater than 5%, it is reasonable to anticipate that information will be conveyed in the usual way (Ihsan & Palapa, 2022).

2) Autocorrelation Tet

In linear regression, an autocorrelation test determines whether the remaining and previous periods are correlated (Putra &. Autocorrelation issues arise when there is a connection that impacts the connected components. Since autocorrelation produces questionable limits, it is prohibited in conventional recurrence. Autocorrelation often occurs, especially in time series data.

Use Durbin-Watson values to identify autocorrelation. Durbin Watson test requirements are as follows:

a) If 0 < d < dL, there is positive autocorrelation
b) If 4 - dL < d < 4, there is a negative autocorrelation
c) There is no positive or negative autocorrelation if 2 < d < 4 - dU or dU < d < 2.
d) If dL ≤ d ≤ dU or 4 - dU ≤ d ≤ 4 - dL, the test is inconclusive. For this reason, other tests can be used, or more data can be added.
e) If the value du < d < 4-du, then there is no autocorrelation

3) Multicollinearity Test

The following provisions are used to detect the presence or absence of multicollinearity: VIF < 5 or below 5 and tolerance values above 0.1 (Sulbahri, Putri, & Susanti, 2021). This shows no linear relationship between independent variables in the regression model (Sidik & Sutoyo, 2020).

e. Hypothesis Test

1) Coefficient determination

The coefficient of determination (R2) calculates how much the independent variable contributes to the dependent variable. The independent variable (X) and the dependent variable (Y) are both very informative, as indicated by higher R2 values (Mardiatmoko, 2020). The range of R2 values is 0 to 1, inclusive. A high R2 number does not necessarily indicate a significant relationship between the independent and dependent variables, so keep that in mind. Although a low R2 value indicates that the independent factor has a less powerful influence on the dependent variable, this does not adequately explain the impact of the separate component (Fayatunisyah & Wulandari, 2023).

2) Test t

This t-test evaluates the contribution of each independent or explanatory variable to the explanation of the dependent variable. The independent variable significantly affects the dependent variable when the t value of each variable exceeds the t value of the table (Setiawan, 2019).

3) Test F

Assess whether there is a considerable effect on the confidence level (Confidence Interval) and the level of hypothesis testing 5% simultaneously using hypothesis testing f.

4) TCR (Respondent Achievement Level)

This analysis has no comparison or relationship between any of the variables. The following formula is used to determine the level of achievement of respondents' responses: TCR = standard score multiplied by multiples of 100.

RESULT AND DISCUSSION

1. Data Description

Either of these approaches can address the variables used in this study. The independent components of this class include operability and aesthetic appeal of the product. Then, it becomes a dependent variable or environmental factor.

2. Data Originality Test

Validity and reliability were evaluated on the instruments in this study.

a. Validity Test

Here are the criteria to determine whether or not a test is valid:

1) If R-calculate > R-table, then the question item correlates significantly with the total score and is declared valid

2) If R-calculate > R-tabel, the question item does not correlate significantly with the total score and is declared null and void.

Table 1. Validity Test Results on the ShoppePay Application

Question Item	Table R-value	R-value calculate	Information
Understandability			
X1.1	722	0.1876	Valid
X1.2	0.91	0.1876	Valid
X1.3	0.756	0.1876	Valid
Learnability			
X2.1	0.897	0.1876	Valid
X2.2	0.817	0.1876	Valid
X2.3	0.805	0.1876	Valid
X2.4	0.834	0.1876	Valid
Operability			
X3.1	0.537	0.1876	Valid
X3.2	0.83	0.1876	Valid
X3.3	0.767	0.1876	Valid
X3.4	0.639	0.1876	Valid
Attractiveness			
X4.1	0.764	0.1876	Valid
X4.2	0.764	0.1876	Valid
Satisfaction			
Y1.1	0.789	0.1876	Valid
Y1.2	0.789	0.1876	Valid

The findings of the validity analysis are shown in Table 1 and show that the calculated R-value for each table is higher than the R table, which indicates the reliability of the research item.

Table 2. Validity Test Results on the DANA App

Question Item	Table R-value	R-value calculate	Information
Understandability			
X1.1	0.729	0.1876	Valid
X1.2	0.611	0.1876	Valid
X1.3	0.44	0.1876	Valid
Learnability			
X2.1	0.603	0.1876	Valid
X2.2	0.815	0.1876	Valid
X2.3	0.576	0.1876	Valid
X2.4	0.712	0.1876	Valid
Operability			
X3.1	0.736	0.1876	Valid
X3.2	0.759	0.1876	Valid
X3.3	0.754	0.1876	Valid
X3.4	0.64	0.1876	Valid
Attractiveness			
X4.1	0.808	0.1876	Valid
X4.2	0.808	0.1876	Valid
Satisfaction			
Y1.1	0.793	0.1876	Valid
Y1.2	0.793	0.1876	Valid

The legitimacy test findings in Table 2 indicate that the R-value of each table is higher than the R of the table, meaning that the items used in the review may have been legitimately assigned.

Table 3. Validity Test Results on OVO Application

Question Item	Table R-value	R-value calculate	Information
Understandability			
X1.1	0.393	0.1876	Valid
X1.2	0.875	0.1876	Valid
X1.3	0.409	0.1876	Valid
Learnability			
X2.1	0.785	0.1876	Valid
X2.2	0.842	0.1876	Valid
X2.3	0.755	0.1876	Valid
X2.4	0.803	0.1876	Valid
Operability			
X3.1	0.801	0.1876	Valid
X3.2	0.845	0.1876	Valid
X3.3	0.788	0.1876	Valid
X3.4	0.803	0.1876	Valid
Attractiveness			
X4.1	0.861	0.1876	Valid
X4.2	0.861	0.1876	Valid
Satisfaction			
Y1.1	0.832	0.1876	Valid
Y1.2	0.832	0.1876	Valid

The estimated R-value for each table exceeds the R-value of the table, as shown by the validity test results in Table 3. The items included in this study appear to have sufficient validity.

a. Reliability Test

Cronbach's Alpha was used in this study to evaluate how each attitude or action depended on each other. Table 4 below summarizes the results of the ShopeePay reliability test.

Table 4. Reliability Test Results on the Shopee Pay Application

Variable	Cronbach Alpha	Standard	Information
Understandability (x1)	0.920	0.60	Reliable
Learnability (x2)	0.948	0.60	Reliable
Operability (x3)	0.906	0.60	Reliable
Attractiveness (x4)	0.866	0.60	Reliable
Satisfaction (y)	0.880	0.60	Reliable

Table 4. shows the results of the Shopeepay reliability test; Table 4 also shows how Cronbach's Alpha is used to model reliable inspection instruments. Reliable results>0.60, then it can be known the value of Cronbach's Alpa *Understandbility (x1) of 0.920, the value of*

Cronbach's Alpa Learnbility (x2) of 0.948, the value of Cronbach Alpa *Operability* (x3) of 0.906, the value of *Cronbach Alpa* Attractiveness (x4) of 0.866 and *Cronbach Alpa Satisfaction* (Y) of 0.880. The five tools used in this investigation are reliable with these results. The results of the reliability test for Dana in this study are shown in table 5 below:

Table 5. Reliability Test Results on Funds

Variable	Cronbach Alpha	Standard	Information
Understandability (x1)	0.813	0.60	Reliable
Learnability (x2)	0.893	0.60	Reliable
Operability (x3)	0.922	0.60	Reliable
Attractiveness (x4)	0.893	0.60	Reliable
Satisfaction (y)	0.884	0.60	Reliable

It can be seen from the results of the Dana reliability test in Table 5, *the value of Cronbach's Alpa Understandbility (x1) is 0.813, the value of Cronbach Alpa Learnbility* (x2) is 0.893, the value of Cronbach Alpa Operability *(x3) is 0.922, the value of Cronbach Alpa Attractiveness* (x4) is 0.893 and the importance of *Cronbach Alpa Satisfaction* (y) of 0.884. With these results, The five tools used in this study are trustworthy. The findings of the OVO reliability test conducted for this investigation are shown in Table 6.

Table 6. Reliability Test Results on the OVO Application

Variable	Cronbach Alpha	Standard	Info
Understandability (x1)	0.813	0.60	Reliable
Learnability (x2)	0.893	0.60	Reliable
Operability (x3)	0.922	0.60	Reliable
Attractiveness (x4)	0.893	0.60	Reliable
Satisfaction (y)	0.884	0.60	Reliable

The Cronbach Alpa Understanding (x1) value is 0.768, the Cronbach Alpa Learnability (x2) value is 0.931, the Cronbach Alpa Operability (x3) value is 0.932, the Cronbach Alpa Attractiveness (x4) value is 0.925, and the Cronbach Alpha Satisfaction (y) value is 0.908. These results indicate the reliability of the five instruments used in this investigation.

Classical Assumption Test

a. Normality Test

The normality test determines if the model variables are normally distributed. As shown in Table 7 below, research data are distributed regularly.

Table 7. Normality Test Results on the ShopeePay Application

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		76
Normal Parameters[b]	Mean	.0000000
	Std. Deviation	.80795640
Most Extreme Differences	Absolute	.269
	Positive	.178
	Negative	-.269
Test Statistic		.269
Asymp. Sig. (2-tailed)		.000[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

If the asymp sig 2 value followed is 0.000 or less than 0.05, as shown in Table 8, this indicates that the information used is not yet widespread.

Table 8. Normality Test Results on Dana Application

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		76
Normal Parameters[b]	Mean	.0000000
	Std. Deviation	.80115331
Most Extreme Differences	Absolute	.235
	Positive	.188
	Negative	-.235
Test Statistic		.235
Asymp. Sig. (2-tailed)		.000[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Based on Table 9, it can be concluded that the data used are not generally distributed if the value of asymp sig 2 tailed is less than 0.05.

Table 9. Normality Test Results on OVO Application

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		76
Normal Parameters[b]	Mean	.0000000
	Std. Deviation	.76455522
Most Extreme Differences	Absolute	.308
	Positive	.180
	Negative	-.308
Test Statistic		.308
Asymp. Sig. (2-tailed)		.000[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

It can be concluded that the data used is not normally distributed because the value of asymp sig 2 tailed in Table 9 is 0.000 or less than 0.05.

b. Autocorrelation Test

The autocorrelation test is intended to evaluate the relationship between the remaining period t and the previous period in a linear relapse examination. Autocorrelation problems occur when there is a relationship between residuals, consequently affecting the examination factors.

Table 10. Autocorrelation Test Results on the Shopeepay Application

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.888[a]	.789	.777	.83040	2.036

a. Predictors: (Constant), attractiveness, understandability, operability, Learnability
b. Dependent Variable: Satisfaction

Based on Table 10, the Du value of the Durbin-Watson table yields the following 1.739 while the value of Dw as in the table above is 2.036 and the importance of 4-Du is 2.261 (4-1.739), so the equations Du (1.739) < Dw (2.036) < 4-du (2.262) can be made. This equation proves that the study shows no signs of autocorrelation.

Table 11. Autocorrelation Test Results on Dana Application

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.881[a]	.776	.763	.82341	1.763

a. Predictors: (Constant), attractiveness, understandability, operability, Learnability
b. Dependent Variable: Satisfaction

Based on Table 11, the result of the Du value obtained from Durbin Watson table is 1.739 while the weight Dw, as in Table 11 above, is 1.763, and the value from 4-Du is 2.261 (4-1.739), so the equations can be made Du (1.739) < Dw (1.763) < 4-du (2.262). This equation proves that the study shows no signs of autocorrelation.

Table 12. Autocorrelation Test Results on Ovo Application

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.893[a]	.798	.787	.78580	1.650

a. Predictors: (Constant), attractiveness, understandability, operability, Learnability
b. Dependent Variable: Satisfaction

Based on Table 12, the result of the Du value obtained from Durbin Watson's table is 1.739 while the weight Dw, as in Table 12 above, is 1.650, and the importance of 4-Du is 2.261 (4-1.739), so the equation Du (1.739) > Dw (1.650) < 4-du (2.262) can be made. Based on these equations, there are still signs of autocorrelation in the data.

c. Multicollinearity Test

Whether or not the independent variable correlates in the regression model is determined by multicollinearity. The multicollinearity problem, where independent variables are correlated, is not expected in applicable regression models.

Table 13. Multicollinearity Test Results on the ShopeePay Application

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	-.513	.523		
	Understandability	.030	.097	.186	5.387
	Learnability	.137	.083	.133	7.531
	Operability	.124	.085	.151	6.626
	Attractiveness	.480	.138	.187	5.335

Based on Table 13, the VIF values of each variable used in this study are 5.387, 7.531, 6.626, and 5.335, which are less than 10, while the tolerance values are 0.186, 0.133, 0.151, and 0.187, which are more significant than 0.10 so that it can be concluded that the possibility. It was stated that the study variables had no symptoms of multicollinearity.

Table 14. Multicollinearity Test Results on Dana Application

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	-.171	.678		
	Understandability	-.064	.098	.295	3.388
	Learnability	.214	.081	.194	5.155
	Operability	.016	.074	.213	4.687
	Attractiveness	.639	.099	.342	2.927

Based on table 14, the VIF values of each variable used in this study were 3.388, 5.155, 4.687, and 2.927, or less than 10, while the tolerance values were 0.295, 0.194, 0.213, and 0.342, or greater than 0.10, so there were no symptoms of multicollinearity in this study.

Based on Table 15, the VIF values of each variable used in this study were 2,050, 10,745, 8,943, and 3,012 or less than 10, except for the learnability variable greater than 10, and the tolerance values were 0.488, 0.093, 0.112, and 0.332 or greater than 0.10 except the learnability variable (x2) whose value was less than 0.10, so there were no signs of multicollinearity in this study.

Table 15. Multicollinearity Test Results in Applications Ovo

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	-.493	.547		
	Understandability	-.065	.060	.488	2.050
	Learnability	.141	.100	.093	10.745
	Operability	.262	.090	.112	8.943
	Attractiveness	.320	.104	.332	3.012

Hypothesis Test

Coefficient of Determination (R2)

The purpose of the Coefficient of Efficiency Determination is to study the relative importance of four factors (Explainability (x1), Learnability (x2), Operational Feasibility (x3), and Emotional Engagement (x4)) in producing desired results (Fulfilment). The results of the coefficient analysis are tabulated in Table 16.

Table 16. Coefficient of Determination R2 in the ShopeePay Application

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.888[a]	.789	.777	.83040	2.036

a. Predictors: (Constant), attractiveness, understandability, operability, Learnability
b. Dependent Variable: Satisfaction

The variation of the independent variable used in this study was 77.7%, based on the adjusted r-square value of Table IV.19 of 0.777. Other variables, such as service quality, product quality, and social environment, affect the remaining 22.3% (100% - 78.7%) of customer satisfaction.

Table 17. Coefficient of Determination R2 in Fund Application

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.881[a]	.776	.763	.82341	1.763

a. Predictors: (Constant), attractiveness, understandability, operability, Learnability
b. Dependent Variable: Satisfaction

Based on Table 17, the adjusted r-square value for the study's independent variable is 0.763. This shows that the independent variable explains 76.3% of the variation. The remaining 23.7% (100% - 76.3%) comes from other characteristics, including service quality, product quality, and social environment.

Table 18. Coefficient of Determination R2 in Ovo Applications

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.893[a]	.798	.787	.78580	1.650

a. Predictors: (Constant), attractiveness, understandability, operability, Learnability
b. Dependent Variable: Satisfaction

An adjusted r-squared value of 0.787, as shown in Table 18, shows that the independent variable entered here accounts for about 78.7 percent of the total variance described. And the remaining 21.3% (100 - 78.7%) is influenced by things like support levels, product quality, and social environment.

Test t

The t-test assesses whether the variable is significant at a significance level of 0.05. The variables Understanding (x1), Learnability (x2), Operability (x3), and Attractiveness (x4) have a partially significant effect on Satisfaction (y1).

Table 19. Coefficient of Determination of t-test on the ShopeePay application

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.
1	(Constant)	-.513	.523		-.981	.330
	Understandability	.030	.097	.039	.309	.759
	Learnability	.137	.083	.247	1.653	.103
	Operability	.124	.085	.204	1.457	.150
	Attractiveness	.480	.138	.438	3.476	.001

The calculation result of the t-table is as follows:
T tabek = 0.05/2 (76) = 0.025 (76) = 19. Here is the interpretation from Table 18. The comprehension variable (x1) was not significant to Satisfaction because the calculated t value (0.390) was smaller than the table t value (1.9), with a significance of 0.759 over 0.05. The learnability variable (x2) had a positive but not significant influence on Satisfaction, as the calculated t value (1.653) was smaller than the table t value (1.9), with a significance of 0.103 over 0.05. c. The variable operability (x3) has a positive but not significant effect on Satisfaction because the calculated t value (1.457) is smaller than the table t value (1.9), with a significance of 0.150 smaller than 0.05. The attractiveness variable (x4) has a significant positive effect on Satisfaction

because the calculated t value (3.476) is greater than the table t value (1.9), with a significance of 0.001 smaller than 0.05.

Table 19. Coefficient of Determination of t-Test on Dana Application

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.
1	(Constant)	-.171	.678		-.252	.802
	Understandability	-.064	.098	-.067	-.647	.520
	Learnability	.214	.081	.337	2.647	.010
	Operability	.016	.074	.026	.217	.829
	Attractiveness	.639	.099	.621	6.460	.000

The calculation result of the t-table is as follows: T table = 0.05/2 (76) = 0.025 (76) = 1.9. Here is the interpretation from Table 18. The variable X1 "understandability" has a detrimental but not significant influence on Satisfaction because the calculated t value (-0.647) is smaller than the table t value (1.9), with a significance of 0.520 over 0.05. Pleasure decreases with the increase in "understandability." The variable X2 "learnability" has a significant and positive effect on Satisfaction because the calculated t value (2.647) is greater than the table t value (1.9), with a significance of 0.010 smaller than 0.05. Fun increases with increased "learnability". The variable X3 "operability" has a beneficial but not significant effect on Satisfaction since the calculated t value (0.217) is smaller than the table t value (1.9), with a significance of 0.829 over 0.05. The variable "operability" is positively correlated with Satisfaction. The variable X4 "attractiveness" has a positive and substantial influence on Satisfaction since the calculated t value (6.460) is greater than the table t value (1.9), with a significance of 0.000 smaller than 0.05. Satisfaction increases with increased "attractiveness".

Table 20. Coefficient of Determination of t-Test in Ovo Applications

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.
1	(Constant)	-.493	.547		-.901	.371
	Understandability	-.065	.060	-.082	-1.080	.284
	Learnability	.141	.100	.245	1.401	.166
	Operability	.262	.090	.466	2.922	.005
	Attractiveness	.320	.104	.285	3.077	.003

The calculation result of the t table is as follows: T table = 0.05/2 (76) = 0.025 (76) = 1.9. Here is the interpretation of Table 20.

The variable x1 (understandability), not significant to Satisfaction (t count = -1.080 < t table = 1.9, significance = 0.284 > 0.05), decreased pleasure as "understandability" increased. The variable x2 (Learnability) was not significant to Satisfaction (t-count = 1.401 < t table = 1.9, significance = 0.166 < 0.05); however, pleasure increased with "learnability." The variable x3 (operability), positively and substantially affecting Satisfaction (t-count = 2.922 > t table = 1.9, significance = 0.005 < 0.05), showed a positive correlation with Satisfaction. The variable x4 (attractiveness) had a positive and substantial effect on Satisfaction (t-count = 3.077 > t table = 1.9, significance = 0.005 < 0.05), showing a linear relationship between "attractiveness" and Satisfaction.

F Test

This test aims to determine whether all independent variables (X) significantly affect the dependent variable (Y) simultaneously. Below is a table of F-test analysis results on the ShopeePay, Dana, and Ovo applications.

Table 21. Coefficient of Determination Test F on the ShopeePay Application

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	183.198	4	45.800	66.418	.000[b]
	Residual	48.960	71	.690		
	Total	232.158	75			

a. Dependent Variable: Satisfaction

b. Predictors: (Constant), attractiveness, understandability, operability, Learnability

Table 22. Coefficient of determination test F on fund application

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	166.848	4	41.712	61.522	.000[b]
	Residual	48.138	71	.678		
	Total	214.987	75			

a. Dependent Variable: Satisfaction
b. Predictors: (Constant), attractiveness, understandability, operability, Learnability

Based on Table 22, the calculated F value for the F test is 66,418, while the table f value obtained from the F table is 2.50. The significance value is 0.000. The results of the f test show that the calculated f value is greater than the table f value and the significance value is smaller than 0.05, so it can be concluded that the independent variables undesirability, Learnability, operability, and

interestingness all affect Satisfaction. Synchronously.

Table 22 of the F test results above shows that the calculated F value is 61,522 while the table F value obtained from the F table is 2.50. This figure has a significance of 0.000. It can be argued that independent factors, including undesirability, Learnability, operability, and beauty, all simultaneously influence Satisfaction because f counts more than the f value of the table, and the significance value is less than 0.05 in the f test.

Table 23. Coefficient of Determination of Test F in Ovo Applications

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	173.159	4	43.290	70.108	.000[b]
	Residual	43.841	71	.617		
	Total	217.000	75			

a. Dependent Variable: Satisfaction
b. Predictors: (Constant), attractiveness, understandability, operability, Learnability

Table 23 shows that the calculated F value for that F test is 70.108, while the table F value obtained from table F is 2.50. This figure has a significance of 0.000. It can be argued that independent factors, including undesirability, Learnability, operability, and beauty, all simultaneously influence Satisfaction because f counts more than the f value of the table, and the significance value is less than 0.05 in the f test.

TCR (Tingkat Kecapaian Responden)

a. Usability Shopee Pay

Based on Table 24, ShopeePay usability results are based on TCR. The understandability variable (x1) reached 83.51%, the learnability variable (x2) reached 79.47%, the operability variable (x3) 80.20%, the attractiveness variable (x4) 75.53%, and the Satisfaction variable (y1) reached 75.13%. Overall, shopeepay's total usability reached 78.77%.

Table 24. Shopeepay Questionnaire Analysis Table

No	Question	Sum	Score	Average	TCR	Kategori
		N		Mean		
x1	**Understandability**					
1	I can understand how to use the shopeepay application easily	76	323	4.26	85%	Very Powerful
2	Features in the shopeepay menu are easy to understand	76	318	4.18	83.68%	Very Powerful
3	I can understand the information presented in the shopeepay application	76	311	4.09	81.84%	Very Powerful
	Average				83.51%	
x2	**Learnability**					
4	I can learn to use the shopeepay application easily	76	308	4.05	81.05%	Very Powerful
5	I identify the function of each feature according to its function	76	296	3.89	77.90%	Powerful
6	The labels on the menu match the information content	76	302	3.97	79.48%	Powerful
7	The icon image on the menu makes it easy for me to find out what it does.	76	302	3.97	79.48%	Powerful
	Average				79.47%	
x3	**Operability**					
8	I can use the menu in the shopeepay application	76	304	4	80%	Very Powerful
9	I can use the menu on shopeepay easily	76	308	4.05	81.05%	Very Powerful
10	Menus and features in the shopeepay application are easy to operate	76	307	4.03	80.79%	Very Powerful
11	There are no difficulties in using the shopeepay application.	76	300	3.97	78.94%	Powerful
	Average				80.20%	
x4	**Attractiveness**					
12	The color composition in the shopeepay application is appropriate	76	289	3.8	76.05%	Powerful
13	The visual design of the shopeepay application is attractive	76	285	3.75	75%	Powerful
	Average				75.53%	
y1	**Satisfaction**					
14	I am interested in using shopeepay for shopping	76	287	3.77	75.52%	Powerful
15	I am interested in using shopeepay for shopping.	76	287	3.77	74.73%	Powerful
	Average				75.13%	
	TOTAL					**78.77%**

1. Usability Dana

Based on Table 25, Dana's usability results are based on TCR. The understandability variable (x1) reached 77.11%, the learnability variable (x2) reached 75.92%, the operability variable (x3) 76.18%, the attractiveness variable (x4) 74.74%, and the Satisfaction variable (y1) reached 73.95%. Overall, the total usability of funds reached 75.58%.

Table 25. Analysis of Questionnaire "DANA"

No	Question	Sum	Score	Average	TCR	Category
		N		Mean		
x1	**Understandability**					
1	I can understand how to use the Dana application easily	76	297	3.90	78.16%	Powerful
2	Features in the Dana menu are easy to understand	76	296	3.89	77.89%	Powerful
3	I can understand the information presented in the Dana application	76	286	3.76	75.26%	Powerful
	Rata-Rata				77.11%	
x2	**Learnability**					
4	I can learn to use the Dana application easily	76	291	3.82	76.58%	Powerful
5	I identify the function of each feature according to its function	76	286	3.76	75.26%	Powerful
6	The labels on the menu match the information content	76	289	3.80	76.05%	Powerful
7	The icon image on the menu makes it easy for me to find out what it does.	76	288	3.78	75.79%	Powerful
	Rata-Rata				75.92%	
x3	**Operability**					
8	I can use the menu in the Dana application	76	290	3.81	76.32%	Powerful
9	I can use the menu on Dana easily	76	292	3.84	76.84%	Powerful
10	Menus and features in the Dana application are easy to operate	76	291	3.82	76.58%	Powerful
11	There are no difficulties in using the Dana application.	76	285	3.75	75%	Powerful
	Rata-Rata				76.18%	
x4	**Attractiveness**					
12	The color composition in the Dana application is appropriate	76	286	3.76	75.26%	Powerful
13	The visual design of the Dana application is attractive	76	282	3.71	74.21%	Powerful
	Rata-Rata				74.74%	
y1	**Satisfaction**					
14	I am interested in using Dana for shopping	76	282	3.71	74.21%	Powerful
15	I am interested in using Dana for shopping.	76	280	3.68	73.68%	Powerful
	Rata-Rata				73.95%	
	TOTAL				**75.58%**	

2. Usability Ovo

Based on Table 26, the results of Ovo usability are based on TCR. The comprehensibility variable (x1) reached 78.33%, the learnability variable (x2) reached 77.89%, the operability variable (x3) reached 77.89%, the interestingness variable (x4) reached 77.50%, and the satisfaction variable (y1) reached 75%. Overall, the total availability of ovo reached 77.32%. From the three tables above, when calculating the respondents' fatigue level (TCR), Ovo reached 78.77%, Dana reached 75.58%, and Ovo reached 77.32%. So, it can be concluded that Ovo gets a perfect score of 78.77% and has reasonable user satisfaction in getting information.

Table 26: Ovo Questionnaire Analysis Table

No	Question	Sum	Score	Average	TCR	Category
		N		Mean		
x1	**Understandability**					
1	I can understand how to use the Ovo application easily	76	300	3.94	78.95%	Powerful
2	Features in the Ovo menu are easy to understand	76	300	3.94	78.95%	Powerful
3	I can understand the information presented in the Ovo application	76	293	3.85	77.11%	Powerful
	Average				78.33%	
x2	**Learnability**					
4	I can learn to use the Ovo application easily	76	298	3.92	78.42%	Powerful
5	I identify the function of each feature according to its function	76	296	3.89	77.89%	Powerful
6	The labels on the menu match the information content	76	295	3.88	77.63%	Powerful
7	The icon image on the menu makes it easy for me to find out what it does.	76	295	3.88	77.63%	Powerful
	Average				77.89%	
x3	**Operability**					
8	I can use the menu in the Ovo application	76	300	3.94	78.95%	Powerful
9	I can use the menu on Ovo easily	76	301	3.96	79.21%	Powerful
10	Menus and features in the Ovo application are easy to operate	76	297	3.90	78.16%	Powerful
11	There are no difficulties in using the Ovo application.	76	286	3.76	75.26%	Powerful
	Average				77.89%	
x4	**Attractiveness**					
12	The color composition in the Ovo application is appropriate	76	294	3.86	77.37%	Powerful
13	The visual design of the Ovo application is attractive	76	295	3.88	77.63%	Powerful
	Rata-Rata				77.50%	
y1	**Satisfaction**					
14	I am interested in using Ovo for shopping	76	288	3.78	75.26%	Powerful
15	I am interested in using Ovo for shopping.	76	284	3.73	74.74%	Powerful
	Average				75%	
	TOTAL				**77.32%**	

CONCLUSIONS AND SUGGESTIONS

Conclusions

Based on the research results described, it can be concluded that the value generated on Shopeepay is 78.77%, on Ovo 77.32%, and on Dana 75.78%. From these results it shows that the highest value is Shopeepay. On ShopeePay, Attractiveness increases user satisfaction, while Understandability, Learnability, and Operability do not significantly influence Satisfaction. On the Dana platform, Learnability and attractiveness are the main factors that increase Satisfaction, but understandability and operability have little effect. While on the Ovo platform, Operability and Attractiveness significantly impact user satisfaction, while Understandability and Learnability play less of a role. This shows the importance of customizing strategies by platform to maintain user satisfaction. Suggestions for future research could involve several aspects, including an in-depth analysis of how operability affects user satisfaction, especially on the Dana and Ovo platforms.

Suggestion

Further research could explore specific elements of "Operability" that affect users. This could involve user interface, ease of navigation, or system response speed. Further research could explore how users understand and feel comfortable when using new or complex features on these platforms and whether there are specific patterns in how users learn new things in such digital environments.

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