THE EFFECT OF PERCEIVED USEFULNESS AND PERCEIVED EASE OF USE ON INTEREST IN USING MOBILE PAYMENT: A CASE ON OVO

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ABSTRACT

The acceptance of new technology has become one of the most important areas in information technology. The impact of low consumer interest in using a non-cash payment system (online) is an important problem because it is related to someone's decision to use a non-cash payment system. Currently, consumers have not used the services offered by mobile payment optimally. Efforts to predict a person's interest or consumer behavior in technology acceptance are seen from the perceived usefulness and perceived ease of use. This study aimed to determine the description of behavioral intention, Perceived Usefulness, and perceived ease of use using OVO mobile payment application technology by consumers. The type of research used is descriptive verification, and the method used is an explanatory survey with a purposive sampling technique with a sample of 150 respondents. The data analysis method used is validity and reliability test, path analysis, multiple correlation analysis and coefficient of determination analysis. They are testing this hypothesis through the F test for simultaneous and partial T test using the SPSS 18.0 for windows program. The results showed that simultaneously Perceived Ease of Use and perceived ease of use had a significant effect on behavioral intention of 60.8% and partially, Perceived Ease of Use had a greater influence, namely 60.06%, than Perceived Usefulness of 1.44% to behavioral intentions.

Keywords: Perceived Usefulness, Perceived Ease of Use, Behavioral Intention, OVO

1. Introduction

The Covid-19 pandemic has changed all aspects of consumers' lives, especially in making transactions. During the pandemic minimize activities to meet other people. The development of payment methods is currently felt by some people who are accustomed to using and switching to using non-cash payments. Cashless transactions have become a new lifestyle in society in recent years. Advances in technology have enabled various functions for mobile payments, supporting several financial services, such as bill payments, account transfers, remote payments, as well as other types of services such as location-based, mobile marketing, tickets, discounts, or coupons. (Oliveira et al., 2017). This has to do with what kind of way the platform owner is trying to trade.

The evolution of non-cash transactions has brought convenience with the touch of a user's mobile gadget. Previous research has shown that users prefer to transact using the cashless method rather than traditional payment methods because it is more convenient and easy to use (Cacas et al., 2022: Yang et al., 2021). Digitizing and increasing non-cash transactions, a study in Indonesia claims that infrastructure, income levels, and education are linked to perceived readiness to switch to cashless payments (Balakrishnan & Shuib, 2021; Cacas et al., 2022).

Mobile payments often referred to as mobile wallets, mobile money transfers, contactless payments, or proximity payments are the fastest growing segment of mobile marketing (Jung et al., 2020). Mobile payments (MP) are non-cash payment methods based on the use of smartphones or other mobile devices such as tablets (Fugl & Kocagoz, 2022; Handarkho & Harjoseputro, 2020; Dahlberg et al., 2008). Mobile payment (m-payments) is seen as a platform in finance with a wider technology (fintech) ecosystem (Kauffman & Ma, 2015) Milian et al., 2019). Mobile payment is considered as one of the applications with the greatest potential in the business sector related to mobile phones (Slade et al. 2013; Hu et al. 2008 in (Lie et al., 2017).Understanding the reasons for choosing to use mobile payments can help in strategy development and enable companies to effectively communicate profits to customers (Liébana-Cabanillas et al., 2014) (Liébana-cabanillas et al., 2018).One company that has received attention from consumers in e-money is OVO. one of the startups in mobile payment. Under the auspices of Lippo X as a digital payment company belonging to the Lippo group of companies, a smart financial app was launched called OVO, this application tries to accommodate various needs related to cashless and mobile payments. OVO educates consumers to change from cash payments to non-cash. OVO's strategy currently focuses on education and collaboration (SWA XXXV edition 6 February 2019). Competition with similar companies is trying to get consumers to switch to the services provided by the company through applications in terms of payment.

The problem in this study is the interest in using the OVO payment application because interest will show purchasing decisions. Basically, consumers will be interested in using the OVO Digital Wallet application when the benefits / usability (perceived usefulness) and ease of use (perceived ease of use) in using the service are in accordance with the wishes of the consumer. On the other hand, when consumers consider these factors inappropriate, consumers are less interested in using the OVO Digital Wallet application (Atriani et al., 2020). Behavioral intention, according to Jogiyanto in (Aritonang & Arisman, 2017) is a person's desire or interest to perform a certain behavior. The impact of low consumer interest in using a non-cash payment system (online) is an important problem because it relates to a person's decision process to use a non-cash payment system. Efforts to predict a person's interest or consumer behavior in technology acceptance include using the TAM (Technology Acceptance Model) approach. Acceptance of information technology by consumers has an adaptation process. Technology Acceptance Model was developed by Davis to explain computer usage behavior. Davis, 1989 (Chuttur, 2009) which was developed from Theory Reasoned Action (TRA) and Theory Planned Behavior (TPB).

The factors that influence interest in using are perceived usefulness and perceived ease of use, where perceived usefulness is the extent to which the level of profit obtained using electronic money instruments, Davis (1989). (Atriani et al., 2020). The OVO Payment Application has not been widely used, this is due to a lack of public understanding of perceived usefulness and perceived ease of use, transacting using the OVO Digital Wallet.

2. Literature Review

Behavioral Intention

Behavioral intention is an aspect of loyalty that refers to the level of commitment that customers have towards products, services, brands or businesses. (Bora et al., 2018). According to Zeithaml, et al in (Subagio, 2014) behavioral intention is the willingness/willingness to recommend services to others and the willingness to make repeat purchases. The behavioral intention dimensions used in this study are word-of-mouth, repurchase intention and feedback to the service provider (Saha & Theingi, 2009).

Perceived Usefulness

Perceived Usefulness is defined by Davis in (Agudo-peregrina et al., 2014) is a state in which a person believes that the system can contribute to improving his work performance. According to Venkatesh and Davis, 2000 in (Winayu, 2013) the dimension of Perceived Usefulness is that the use of the system is able to improve individual performance (improves job performance), the use of the system is able to increase the level of individual productivity (increases productivity), the use of the system is able to increase the effectiveness of individual performance (enhances effectiveness).) and the use of the system is useful for individuals (the system is useful). Perceived usefulness is how much people believe that using technology makes their productivity better. People will use technology if they feel the benefits of using it. On the other hand, they will leave technology if they believe it is less useful (Maryanto & Kaihatu, 2021).

Perceived Ease of Use

According to (Davis, 1989) the dimensions of Perceived Ease of Use are: Individual interaction with the system is clear and easy to understand (clear and understandable), Not needed a lot of effort to interact with the system (does not require a lot of mental effort), and the system is easy to use. Meanwhile, according to Sun and Zhang (2011) in (Wibowo et al., 2015) identify the dimensions of perceived ease, namely, ease to learn (easy to learn), ease to use (easy to use), clear and understandable (clear and easy to understand). , and become skilled. Another opinion is Nugraha, 2012 in (Jannah, 2017). Indicators of Perceived Ease of Use are), Easy to use, Simple to use and User friendly.

Perceived ease of use includes free participation, instant transfers, simple interface, linkage to traditional currencies, and the relative complexity of bitcoin trading. Perceived usefulness includes self-money control, disintermediation, high transfer speeds, low transfer fees, high transaction security, limited supply, international coverage, lower merchant fees, increased customer trust requirements, and higher price volatility (Nuryyev et al. 2021).

Behavioral intention

Behavioral intention is the willingness/willingness to recommend services to others and the willingness to make repeat purchases. The behavioral intention dimensions used in this study are word-of-mouth (recommendation), repurchase intention and feedback to the service provider (Saha & Theingi, 2009).

3. Method

This research uses descriptive and verification methods. This descriptive research has the intention to find out the overall picture of perceived usefulness, perceived ease of use and behavioral intention. Meanwhile, verification research intends to test the truth of a hypothesis which is carried out through data collection in the field. This study aims to obtain an overview of the behavior of interest in using the OVO Payment Application

Population and Sample

The target population in this study are users of the OVO Payment Application. The sample in this study were 150 users of the OVO payment application. In determine the minimum sample size using Lemeslow's (1997) formula because the total population is unknown. Here's Lemeslow's (1997) formula:

$$n = \frac{Z^2 \alpha \rho q}{d^2} = \frac{Z^2 \rho (1 - \rho)}{d^2}$$

Through the above formula, the number of samples to be taken is set at d= 0.05 or Z1- /2= 1.96 or Z21-/2= (1,962)2 = 3.8416 or rounded up to 4 and p = 10% , then the formula for the known magnitude of n is changed to:

$$n = \frac{4 p \alpha}{d^2}$$

Lemeshow formula simplification

$$n = \frac{4. \ (0.10). \ (0.90)}{(0.05)^2} = 144 \text{ people (dibulatkan 150)}$$

Data Analysis Techniques

This data analysis technique is used to determine the magnitude of the influence of the independent variable X, namely Perceived Usefulness, perceived ease of use and Behavioral Intention is a verification descriptive analysis method, then path analysis is carried out. The hypothesis proposed is that there is an influence between Perceived Usefulness (X1) and Perceived Ease of Use (X2) on Behavioral Intention (Y). Hypothesis testing is carried out with the following steps:
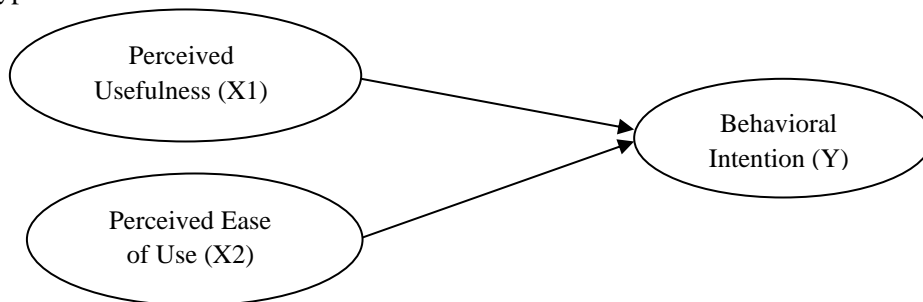Drawing hypothetical structure

Figure 1
Structure of Causal Relationship Between X1, X2 and Y

Information
X1 : Perceived Usefulness
X2 : Perceived Ease of Use
Y : Behavioral Intention : epsilon (other variables)
→ : Causality Relationship

Furthermore, the hypothesis diagram above is translated into several sub-hypotheses which state the influence of the most dominant independent sub-variables on the dependent variable. More details can be seen in Figure 2 below.
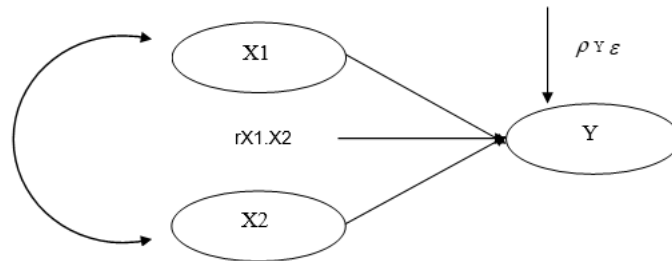
Figure 2
Hypothesis Pathway Diagrams

Information:

X1 = Perceived Usefulness Variable

X2 = Variable Perceived Ease of Use

Y = Behavioral Intention Variable

→ = Causality Relationship

↔ = Correlational Relationship

ε = Residue (other variables other than the influential variable X) to the effect variable (endogenous) is expressed by the magnitude of the numerical value of the exogenous variable.

A. Calculating the correlation matrix between independent variables

$$
= \quad R1 \begin{array}{cc} Y1_1 & Y1_2 \\ 1 & rX2X1 \\ & 1 \end{array}
$$

B. Identify the hypothetical sub-structure equation
   Calculating the correlation inverse matrix

$$
= \quad R1^{-1} \begin{array}{cc} Y1 & Y2 \\ C1.1 & C1.2 \\ & C2.2 \end{array}
$$

C.

D. Calculate all Path Coefficients via formula

$$
\begin{bmatrix} \rho XX_1 \\ \rho XX_2 \end{bmatrix} \begin{array}{cc} Y1 & Y2 \\ C_{1.1} & C_{1.2} \\ & C_{2.2} \end{array} \cdot \begin{bmatrix} rXx_1 \\ rXx_2 \end{bmatrix}
$$

E. R²Y (X1,X2), which is a coefficient that expresses the total determination of X1,X2 against Y using the formula:

$$
R^2Y (X_1, \ldots x_2) = [\rho YX_1, \ldots (\rho YX_2) \begin{bmatrix} rYx_1 \\ \ldots \ldots \\ rYx_2 \end{bmatrix}
$$

F. Testing the direct or indirect effect on each variable

Effect (X_1) on Y

Direct influence	=	$\rho YX_1 . \rho YX_1$
Indirect influence (X_1)	=	$\rho YX_1 . rX_1.X_2 . Pyx_2$
Total Effect (X_1) on Y	=	....

Effect (X_2) on Y

Direct influence	$\rho YX_2 . \rho YX_2$
Indirect influence (X_2)	$\rho YX_2 . rX_2.X_1 . \rho YX_1$
Total Effect (X_2) on Y	....

G. Calculate the effect of other variables (ε) with the following formula

H. Decision of acceptance or acquisition of HoMenghitung pengaruh variabel lain (ε)

Operational hypothesis formulation:

$$\rho_{Yε1} = \sqrt{1 - R^2_{Y(x1,x2, ...,)}}$$

H_o : $\rho YX_1 = \rho YX_2 = 0$

H_a: There is at least one $\rho YXi \neq 0$, i = 1, and 2.

I. The test statistics

$$F = \frac{(n-k-1)\sum_{i-1}^{k}\rho_{yyi}\rho_{yyi}}{i-1}$$

The results of Fcount are compared with the F Snedector distribution table, if Fcount Ftable, then Ho is rejected and thus can be continued on individual tests, the statistics used are:

$$t = \frac{\rho XY_i - \rho XY_i}{\sqrt{\dfrac{(1 - R^2Y(X_1X_2)(C_{ii} + C_{ii})}{(n-k-1)}}}$$

This data analysis technique is used to determine the magnitude of the influence of the independent variable X, namely Perceived Usefulness and perceived ease of use on Behavioral Intention is a verification descriptive analysis method, then path analysis is carried out. In this case path analysis is used to determine the magnitude of the influence of the independent variables (X1), (X2), on Y directly or indirectly.

4. Result and Discussion

Validity Test

Data has a very important position in a study because it describes the variables studied and serves as a form of hypothesis. Therefore, it is necessary to test the data to get good quality. Whether the data is correct or not depends on the data collection instrument. While a good instrument must meet two requirements, namely validity and reliability. The formula that can be used is the product moment correlation formula proposed by Pearson as follows:

$$r_{xy} = \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{\{n(\sum X^2) - (\sum X)^2\}\{n(\sum Y^2 - (\sum Y^2)\}}}$$

(Suharsimi Arikunto 2006:170)

Information:

r	= Coefficient of validity of the item sought
X	= Score obtained by the subject of all items
Y	= Total score
$\sum X$	= Total score in X . distribution
$\sum Y$	= Total score in Y . distribution
$\sum X^2$	= Sum of squares in the distribution score X
$\sum Y^2$	= Sum of squares in Y . distribution score
n	= Number of respondents

The calculation technique used to analyze the validity of this test is the usual correlational technique, namely the correlation between validated test scores and benchmark test scores from the same participant. Furthermore, it is necessary to test whether the validity coefficient is significant at a certain significant level, meaning that the validity coefficient is not due to chance, tested with the t statistical formula as follows.

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

(Sugiyono, 2008:250)

The decision to test the validity uses a significance level with the following criteria:

a) The item under study is said to be valid if r count > r table
b) The item under study is said to be invalid if r count < r table

Validity testing is needed to find out whether the instruments used in a study can be used to measure what should be measured. From this research, what will be tested is the validity of the X and Y instruments, namely Perceived Usefulness, Perceived Ease of Use and Behavioral Intention.

Table 1
Validity Test Results

No	Statement	r count	r table	Description
Perceived Ease of Use				
1	The level of complexity of using the OVO Payment App	0.690	0,374	Valid
2	Difficulty level of using OVO Payment Application	0.751	0,374	Valid
Perceived of Usefulness				
3	The level of usability of the OVO Payment Application in making payment transactions	0.884	0,374	Valid
4	The level of usability of the OVO Payment Application service	0.854	0,374	Valid
5	The usability level of the OVO Payment Application service can save time	0.903	0,374	Valid
6	Level of usability in transactions using OVO	0.887	0,374	Valid
Behavioral Intention				
7	The level of interest in using OVO as a means of payment in transactions	0.932	0,374	Valid
8	The level of preference for using OVO as a means of payment when making transactions	0.881	0,374	Valid
9	Your level of interest in using OVO as a means of payment when making transactions	0.896	0,374	Valid
10	The level recommends the use of OVO as a means of payment when making transactions	0.874	0,374	Valid

Source: Data Processing Results

Reliability Test Results

If an instrument can be trust then the data generated by the instrument can be trusted. Testing the reliability of the instrument was carried out with internal consistency with the split half method which was analyzed by the Spearmen Brown formula, namely:

$$r_i = \frac{2r_b}{1 + r_b}$$

(Sugiyono, 2008:190)

Table 2
Reliability Test Results

+0	Variable	r count	r table	Description
1	*Perceived Ease of Use*	0.828	0,374	Reliable
2	*Perceived of Usefulness*	0.940	0,374	Reliable
3	*Behavioral intention*	0.936	0,374	Reliable

Source: Data Processing Results (Using SPSS 18.00 For Windows)

Hypothesis Testing

Hypothesis testing of this study was conducted to determine the magnitude of the influence of perceived usefulness and perceived ease of use on behavioral intention. Simultaneous and partial hypothesis testing was carried out using path analysis techniques. The hypothesis of this research is that perceived usefulness and perceived ease of use have a simultaneous and partial effect on behavioral intention. This hypothesis was tested simultaneously or partially by using computer software SPSS 18.0.

Table 3
Simultant Test

Hypothesis	F count	F table	Descrtiption	Cconclusion
X_1 and X_2 simultan effect on Y	113.958	3.056	H_0 rejected	Signifikan

Source: Data Processing Results using SPSS 18.0 Software For Windows

Table 3 shows the test for the F test taken from Anova, the F value is 113,958. The Anova table shows that Fcount > Ftable, namely 113.958 > 3.056 with a probability value (Sig) = 0.000, because the Sig value is 0.05, the decision is H0 is rejected and Ha is accepted. This means that simultaneously (overall) there is a positive influence between the influence of Perceived Usefulness and Perceived Ease of Use on Behavioral Intention.

The results of hypothesis testing as a whole (simultaneous) can be seen based on the perceived usefulness and perceived ease of use factors having a direct influence on behavioral intention of 60.8%. Based on the results of research between perceived usefulness and perceived ease of use with behavioral intention, the correlation results are obtained sequentially, namely Perceived Usefulness (0.091), Perceived Ease of Use (0.770). Perceived Ease of Use has the largest correlation, which is 0.770, this happens the OVO payment application is an application that is easy for anyone to use to make various transactions. While the one with the lowest correlation value is Perceived Usefulness (0.091), the OVO payment application should be able to further improve its product capabilities and benefits/usability to users. The results of the matrix show that the lowest correlation between variables is Perceived Usefulness, which is 0.091, the highest influence on behavioral intention is perceived ease of use, which directly affects behavioral intention, which is 60.06%. Testing the direct and indirect effects can be seen in figure 2 and table 2 regarding the effect of perceived usefulness and perceived ease of use on behavioral intention.
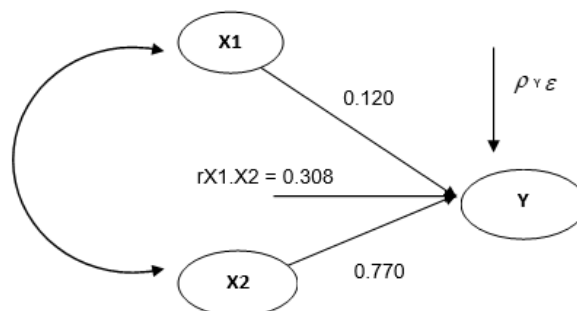

Figure 2
Hypothesis Testing Pathway Diagram

The hypothesis is shown in the diagram of the hypothesis testing path, namely perceived usefulness and perceived ease of use on behavioral intention. Based on the hypothesis testing path diagram in Figure 2, calculations are carried out to determine the direct and indirect effects, then it will be known the effect of perceived usefulness and perceived ease of use on behavioral intention, both Simultaneous (overall) and partial (Individual) tests are presented. in Table 4.30 below:

Table 4
Results of Path Coefficient Test

	Direct Effect on Y	Indirect effect :		$R^2_{Y1.1, ... , YX1.2}$	T_{count} (t_{tabel} = 1.985)	Sign.	Statistical Conclusion
		X1	X2				
X1	0.0144	-	0.00266	0.004715	2.327	0.021	H$_o$ rejected
X2	0.600625	0.00266	-	0.603285	14.994	0.000	H$_o$ rejected
R^2				**0.608**			

Source: Data Processing Results

Testing the direct and indirect effects can be seen in Figure 2 and Table 4 regarding the effect of perceived usefulness and perceived ease of use on behavioral intention (Y). The results of the matrix show that the lowest correlation between variables X1, X2 and Y is Perceived Usefulness, which is 0.091. The highest effect on behavioral intention is perceived ease of use, which directly affects behavioral intention in 60.06%.

Results of this study indicate that both variables perceived usefulness (X1) and perceived ease of use (X2) partially and simultaneously influence behavioral intention (Y). The significant influence of perceived usefulness (X1) to behavioral intention (Y) is accordance with the previous study of Agudo et al (2014) stated that perceived usefulness was identified as the most relevant predictors of behavioral intention to use e-learning systems. This is inline with previous study of Aritonang and Arisman (2017) stated that perceived benefits influence interest in using E-money Go-Pay. Aritonang and Arisman (2017) study found that customers got benefits from Go-Pay applications, as they can do shopping faster by the apps. Supported by this research, this study also found that OVO customers also felt benefits from the services given by OVO application. This benefits received from the OVO application and OVO users bring a perceived usefulness to customers and this condition significantly influence behavioral intention to always use OVO. Data of this research stated that the highest value of perceived usefulness is obtained from the usefulness of the OVO payment application service while the lowest value is obtained from the use of the OVO payment application in making payment transactions.

This research also found that perceived ease of use (X2) has a significant influence on behavioral intention (Y). In other study, Aritonang and Arisman (2017) also found that perceived usefulness brought a possitive significant influence on intention to use Go-Pay. It is implied that perceived usefulness is proven as one factors that influence the intention to used e-money either it is Go-Pay (Aritonang and Arisman :2017) or OVO (in this research). This research also accordance with the statement of Viginsha (2011) stated that a good perception of information technology systems, namely believing that it can provide benefits, and could be easily used by them, then consumers will use the system. Data stated that, the highest value of perceived ease of use is the complexity of using the OVO payment application, while for the lowest value is the difficulty of using the ovo payment application.

5. Conclusion

Perceived usefulness and perceived ease of use have a significant and important role in generating behavioral intention. Where the perception of benefits/usability for consumers must be improved and the perception of ease of use when transactions are really needed so that consumers want to use our products. The highest value of behavioral intention is interest in using OVO as a means of payment when making transactions, while the lowest value is recommending the use of OVO as a means of payment when making transactions. OVO payment application users are starting to be interested in using applications in transactions, while recommending to others is still low. On the ease of using the OVO payment application, the assessment that is still lacking is computer self-efficacy. The lack of rating from users is due to the user's lack of trust in the application to complete the transaction properly. There is an incorrect top up or an unsuccessful transaction but the balance is reduced.

This research implication is directed for OVO application's company. To find out the user behavioral intention, the company must continue to improve the quality of its products to consumers. Companies must also be creative and innovate on the products they launch especially concern to benefits and ease of application used by user. Because efforts for the benefits and ease of using mobile payments are influence interest in using mobile payments. Benefits that are in accordance with user expectations will lead to user satisfaction and loyalty. Meanwhile, the ease of using mobile payments will trigger users to continue using mobile payments in their daily activities and optimally utilize mobile payment services.

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