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Analysis of Consumer Behavior in Using E-Wallet with Structural Equation Model Method

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Abstract

Current technological advances have changed people's needs for fast, practical, and secure payment systems. Indonesia has now entered the era of the digital economy, where economic activities increasingly rely on digital information and communication technology. In this digital economy, the use of electronic money is on the rise, and Indonesians are starting to adopt payment systems that utilize it. When choosing a digital service, individuals consider factors such as perceived benefits, ease of use, and trust. The purpose of this study is to analyze consumer behavior in using e-wallets through the Structural Equation Model method. This study uses sample data from 55 e-wallet users who are students at Mulawarman University. The results of the analysis show that perceived benefits have a significant influence on consumer behavior; however, ease of use and trust do not significantly affect consumer behavior.

Keywords: Consumer behavior, E-wallet, Ease of us, Perceived benefits, Trust

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INTRODUCTION

Current technological advances have changed people's needs for fast, practical, and secure payment systems. Indonesia has now entered the era of the digital economy, where economic activities increasingly rely on digital information and communication technology. One phenomenon that has emerged is that Indonesians are beginning to use electronic money-based payment systems. This electronic money is defined in Bank Indonesia Regulation Number 16/8/PBI/2014 concerning electronic money, specifically in Article 1, paragraph 3 Sekar Salma Salsabila & Pranoto (2019). According to Mentari et al. (2019), electronic money aims to facilitate various economic transactions in people's everyday lives.

This study will discuss the interest in using e-wallet services, which currently come in many types and are utilized by various age groups. According to Jati (2019) in Ernawati & Noersanti (2020) interest in using information technology refers to an individual's desire or intention to continuously use the technology, assuming they have access to it. One model used to understand a person's acceptance of an information technology system is the Technology Acceptance Model (TAM). TAM predicts the level of user acceptance and usage of technology based on perceptions of ease of use and the benefits of information technology (Sulton Maulana et al., 2023).

There are several criteria that the public considers when deciding to use a digital payment system, including perceived benefits, perceived ease of use, and trust. A person is likely to use technology if they believe it provides benefits. According to Lumbanraja (2021), perceived benefits refer to the extent to which an individual believes that using a particular technology can improve their performance at work. Additionally, perceived ease of use refers to the extent to which a person believes that using a specific technology system will require minimal effort. According to Nuryanti & Satria (2023), trust is an individual's belief that leads them to voluntarily become customers of service providers, taking into account the characteristics of those providers.

Based on the background of the problem outlined above, the researcher intends to examine the extent to which perceptions of benefits, ease of use, and trust influence interest in using e-wallet applications at Mulawarman University, utilizing the Structural Equation Model (SEM) analysis method. The research sample will consist of Mulawarman University students who have used various e-wallets, including Dana, OVO, Go-Pay, and Shopee Pay. Several previous studies discussing the influence of perceptions of benefits,

ease of use, and trust on interest in using application services include those by Pratama & Suputra (2019), Ernawati & Noersanti (2020), and Rismalia & Sugiyanto (2022).

METHODS

This research was conducted from April to June 2024. The data used are primary data collected directly from respondents via Google Forms. The analysis method employed is SEM analysis. This section explains the SEM analysis method and the data used in this study.

Structural Equation Model

Structural Equation Modeling (SEM) is a multivariate statistical analysis method that combines factor analysis, structural models, and path analysis (Steffani & Gunardi, 2022). According to Harahap (2020), SEM analysis involves three main activities: checking the validity and reliability of the instrument (confirmatory factor analysis) (Wanti et al., 2021), testing the relationship model between variables (path analysis), and determining the appropriate model for prediction (structural model and regression analysis) (Nariza Wanti Wulan Sari et al., 2020).

Research Data

This study employs data collection techniques by distributing questionnaires online via Google Forms, which include a series of questions designed to measure each variable being tested. The sampling technique used in this study is non-probability sampling, specifically the purposive sampling method. The sample consists of e-wallet users at Mulawarman University, with the criteria being students who have used e-wallets such as Dana, OVO, Go-Pay, and Shopee Pay. The research variables and their corresponding indicators are detailed in Table 1.

Table 1. Research Variables

Variable	Perception	Indicator Variable
Y	Consumer behavior	Convenience in transacting with e-wallet (Y11) Good response when experiencing obstacles (Y12) Trust/sense of trust in service quality (Y13) Privacy in using features (Y14)
X_1	Perceived benefits	Simplifying payment transactions (X11)

Variable	Perception	Indicator Variable
		Speeding up payment transactions (X12)
		Additional benefits after transactions (X13)
		Efficiency in payment transactions (X14)
X_2	Ease of use	Easy to learn (X21)
		Controllable (X22)
		Flexible (X23)
		Easy to use (X24)
X_3	Trust	Clear and understandable (X31)
		Benevolence (sincerity) (X32)
		Ability (X33)
		Integrity (X34)

RESULTS

Descriptive Statistics

The data in this study consist of primary data collected through questionnaires distributed to 55 students at Mulawarman University. Figure 1 shows the e-wallet services chosen by the respondents. Based on Figure 1, it can be seen that the most widely used e-wallet service among Mulawarman University students is DANA, with a percentage of 53%, followed by Shopee Pay at 24%. The least used e-wallet service is OVO, with a percentage of 5%.

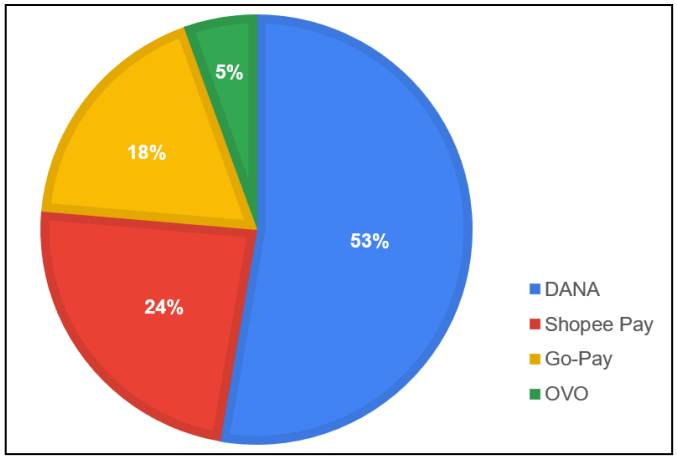


Figure 1. Pie Chart of E-Wallet Service Types

Evaluation of Reflective Measurement Model

The initial step in SEM analysis is to evaluate validity and reliability. The analysis was conducted using SmartPLS 3.0 (Partial Least Squares) software, and the results can be found in Table 2 and Table 3. In the validity examination results presented in Table 2, it was found that the outer loading value of all indicators was greater than 0.5 (Pangestu et al., 2023). Therefore, it can be concluded that all indicators are valid for measuring their respective latent variables.

Table 2. Outer Loadings (Validity)

Variable	Indicator	Outer Loading	Description
Y	Y11	0.706	Valid
	Y12	0.621	Valid
	Y13	0.774	Valid
	Y14	0.806	Valid
X_1	X11	0.800	Valid
	X12	0.821	Valid
	X13	0.580	Valid
	X14	0.862	Valid
X_2	X21	0.861	Valid
	X22	0.806	Valid
	X23	0.795	Valid
	X24	0.608	Valid
	X25	0.865	Valid
X_3	X31	0.796	Valid
	X32	0.732	Valid
	X33	0.617	Valid
	X34	0.725	Valid

Furthermore, the reliability examination of the variables is presented in Table 3. Based on this table, the Cronbach's Alpha and Composite Reliability values for each latent variable exceed the tolerance limits of 0.6 and 0.8, respectively. This indicates that all latent variables in this study are reliable. The AVE value of the perceived benefits variable (X_1) is 0.598, indicating that it absorbs 59.8% of the information from its indicators. The AVE value for the ease of use variable (X_2) is 0.628, meaning it absorbs 62.8% of the

information from its indicators. The AVE value of the latent trust variable (X_3) is 0.519, which indicates that it absorbs 51.9% of the information from its indicators. Finally, the AVE value for the consumer behavior variable (Y) is 0.534, indicating it absorbs 53.4% of the information from its indicators.

Table 3. Construct Reliability and Validity (Reliability)

Variable	Cronbach's Alpha	Rho_A	Composite Reliability	Average Variance Extracted (AVE)
Y	0.709	0.721	0.819	0.534
X_1	0.768	0.802	0.854	0.598
X_2	0.849	0.888	0.893	0.628
X_3	0.687	0.690	0.811	0.519

Model Parameter Estimation

The results of the model parameter estimation, conducted using the PLS-SEM algorithm, are presented in Table 4 and Figure 2.

Table 4. Significance of Influence between Variables

Variable	Original Sample	T Statistics (|O/STDEV|)	P_Values
$X_1 \rightarrow Y$	0.432	2.729	0.006
$X_2 \rightarrow Y$	-0.121	0.676	0.499
$X_3 \rightarrow Y$	0.311	1.530	0.126

In Table 4, the negative value of the Original Sample (O) indicates that as ease of use improves, consumer behavior in using e-wallets tends to decrease. Conversely, the positive values in the Original Sample (O) suggest that improvements in perceived benefits and trust lead to an increase in consumer behavior regarding e-wallet usage. Table 4 also shows no significant relationship between ease of use and trust in consumer behavior when using e-wallets. This is evident from the p-values of the two indicators, which are 0.499 and 0.126 both $> \alpha = 0.05$, leading to the conclusion that H_0 cannot be rejected, indicating no significant relationship. A significant relationship is only observed between the perceived benefits indicator and consumer behavior in using e-wallets.

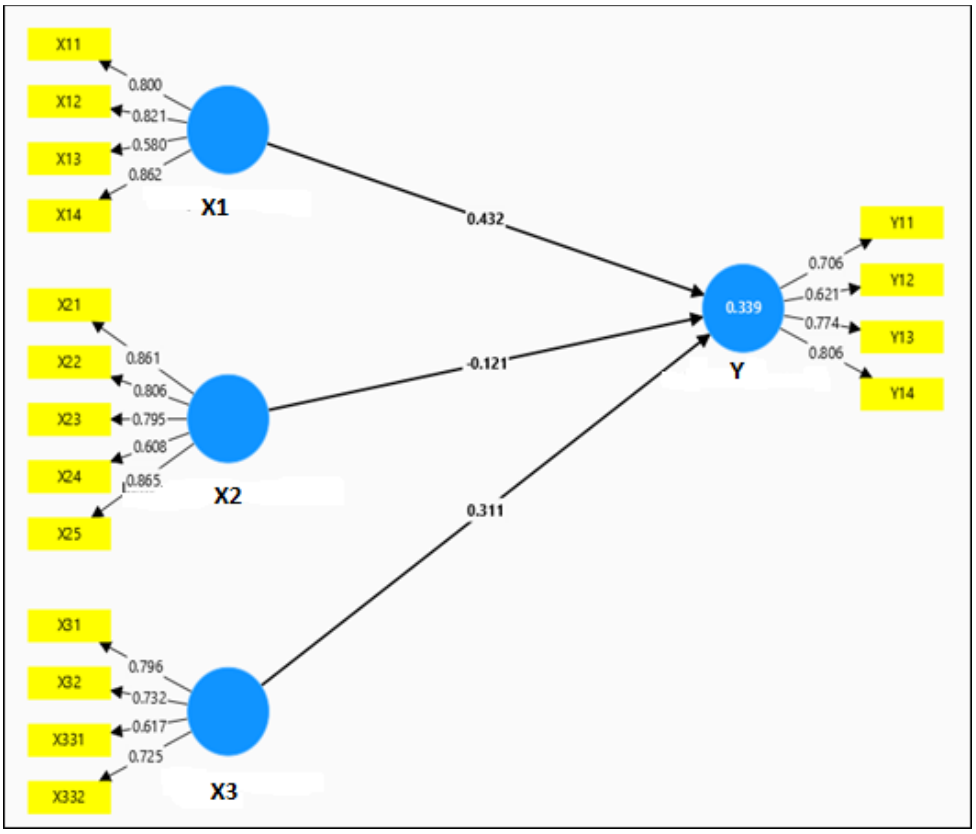


Figure 2. Structural Model

DISCUSSION

The results of this study indicate that the variable influencing consumer behavior in using e-wallets is perceived benefits, while the ease of use and trust variables have no effect. This finding contrasts with research by Gruntkowski & Martinez (2022), Mehta et al. (2022), Rismalia & Sugiyanto (2022), Pratama & Suputra (2019), and Hansen et al. (2018), which suggest that perceived benefits, ease of use, and trust all influence consumer behavior in using e-wallets. Additionally, Ernawati & Noersanti (2020) found that perceived benefits and ease of use do not affect consumer behavior when using the OVO application, with only the trust variable showing a significant effect.

These studies utilized different samples and sample sizes, and the e-wallet service applications examined were also varied. This indicates that consumer decisions regarding e-wallet services differ depending on the location and type of service. Therefore, future research should focus on a specific e-wallet service application and include a larger sample size to better represent the population being studied. This approach will allow for more

specific conclusions related to a particular service and provide a clearer understanding of actual consumer decision-making when selecting an e-wallet service.

CONCLUSION

The results of a study conducted with 55 Mulawarman University students revealed that the most widely used e-wallet service is DANA (53%), followed by Shopee Pay (24%), Go-Pay (18%), and OVO (5%). Structural model analysis indicated that perceived benefits influence consumer behavior in using e-wallets, while ease of use and trust do not have a significant impact on consumer behavior.

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