

The Intensity of Using E-Money by Testing Theory of Planned Behavior and Financial Literacy (Case Study on Millennial Generation in East Java)

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ABSTRACT: This research was conducted in line with technological developments, especially those related to non-cash payments using electronic money (e-money). The purpose of this study was to determine the effect of attitude, subjective norms, perceived behavioral control, financial literacy and behavior intention on the intensity of e-money use. Behavior intention as an intervening variable will mediate the relationship between attitude, subjective norms, perceived behavioral control and financial literacy on the intensity of e-money use. The sample chosen is the millennial generation (age range 21-37 years) of e-money users who live in the capital city of East Java, namely the city of Surabaya. The research sample was taken using convenience sampling method. The survey results obtained were analyzed using Structural Equation Modeling (SEM). The results of the analysis can be concluded that the behavior intention variable indirectly mediates the relationship between subjective norms, perceived behavioral control and financial literacy on the intensity of e-money use.

KEYWORDS: Theory of Planned Behaviour, Financial Literacy, E-Money

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I. INTRODUCTION

The development of information technology, along with increasing competition between banks, has encouraged the banking and non-bank sectors to provide various alternatives for non-cash payment services, either in the form of transfers or in the form of electronic cards, which guarantee security, speed and more efficiency. Electronic Money (E-money) has several advantages, including the ease and practicality of making transactions. The ease of transactions can lead to lower transaction costs and can stimulate economic growth. Siwinastiti and Nirmala (2014) concluded that non-cash payment transactions using e-money in the long term had a positive and significant impact on the demand for currency in Indonesia.

The increasing use of e-money among millenials today can be said that electronic payment instruments of this kind are able to accelerate the payment process during transactions and can be used in various kinds of transactions. By using e-money, individuals feel more efficient and safe and the administrative costs incurred are relatively cheaper compared to payments using other electronic money, credit cards. Lifestyle is also one of the reasons for the increasingly intense use of e-money from year to year. Statistical data shown by Bank Indonesia shows that the value of e-money transactions has increased by 281.39%. In 2018, the value of e-money transactions reached IDR 47.2 trillion. This figure increased by IDR 34.8 trillion or almost three times compared to 2017 of IDR 12.4 trillion. Until July 2019, the value of e-money transactions had exceeded the value of transactions in 2018, which was IDR 95.7 trillion. This shows that the intensity of e-money use in Indonesia has increased significantly. The reasons for its practicality and the many benefits that can be obtained make the intensity of using e-money increasing.

The conceptual framework used in this study can be described as follows:

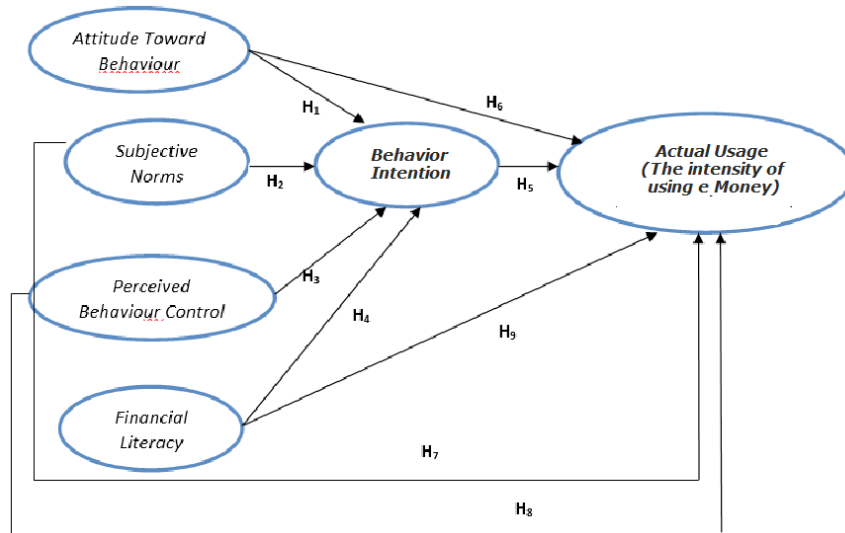


Figure 1 Conceptual Framework

Source: Researcher (2020)

Based on the conceptual framework above, the hypotheses used in this study are as follows:

- H1: Attitude toward behavior has a significant effect on behavior intention.
- H2: Subjective norms have a significant effect on behavior intention.
- H3: Perceived behavioral control has a significant effect on behavior intention.
- H4: Financial literacy has a significant effect on behavior intention.
- H5: Behavior intention has a significant effect on the intensity of using e-money.
- H6: Attitude toward behavior has a significant effect on the intensity of e-money use.
- H7: Subjective norms have a significant effect on the intensity of e-money use.
- H8: Perceived behavior control has a significant effect on the intensity of e-money use.
- H9: Financial literacy has a significant effect on the intensity of e-money use.
- H10: Attitude toward behavior has a significant effect on the intensity of e-money use through behavior intention.
- H11: Subjective norms have a significant effect on the intensity of e-money use through behavior intention.
- H12: Perceived behavior control has a significant effect on the intensity of e-money use through behavior intention.
- H13: Financial literacy has a significant effect on the intensity of e-money use through behavior intention.

II. RESEARCH METHODS

This research is a quantitative study using an explanatory research design. The type of data used in this study is primary data. The research subjects in this study were millennials (age range 21-37 years) e-money users (OVO, GoPay, ShoopeePay, LinkAja, etc.). Data collection techniques using survey methods by distributing questionnaires. The population in this study were all e-money users in the capital city of East Java, namely the city of Surabaya with an unknown number so that this population is referred to as the infinite population. So sampling is done by using the following formula:

$$n = \frac{Z_{\alpha}^2 \cdot p \cdot q}{d^2}$$

Where,

n = Sample size

p = Estimator of population proportion (if not known is considered 50% = 0,5)

q = 1-p (100% - p)

Z_{α}^2 = The value of the normal curve depends on alpha ($Z_{\alpha 0,05} = 1,96$)

d = Selected error tolerance, using an error limit of 10% (d = 0.1) which means the level of accuracy of 90%.

By using the formula above, the minimum sample size is:

$$n = \frac{Z_{\alpha}^2 \cdot p \cdot q}{d^2}$$

$$n = \frac{(1.96)^2 \cdot (0.5) \cdot (0.5)}{(0.1)^2} = \frac{0.9604}{0.01} = 96,04$$

(Minimum sample size is 96 respondents)

The sampling technique in this study was convenience sampling, which is a sampling technique based on convenience and comfort. Respondents were taken as samples because the respondents were willing to spend their time and were happy to be willing to assist researchers in filling out the questionnaire given. In this study the variables used were as follows:

Exogenous Variable (X) which includes: Attitude toward behavior (X1), the measurement uses six behavioral beliefs indicators developed by Ajzen (2013), namely: Practicality, Security, Speed, Lifestyle, Cheaper, Easiness.

1. Subjective Norms (X2), the measurement uses four indicators of subjective belief developed by Ajzen (2013), namely: Family members, Friends, Social Community, Lecturer.
2. Perceived Behavior Control (X3), the measurement uses three control belief indicators developed by Ajzen (2013), namely: Benefit / can be used for various transactions, Knowledge of E-Money, The Network of E-Money is easy to find.
3. Financial Literacy (X4), the measurement uses three indicators developed by Mendell (2008), namely: money and transactions, financial planning and management, risk and profit.

Intervening/Moderation Variables (Y1) which include:

Behavior Intention (Y1), the measurement uses three indicators developed by Shih and Fang (2004), namely: Plan to use on future, Plan to use for daily activity, Intention to use e-money in the future.

Endogenous Variables (Y2) which include:

Actual Usage (Y2), the measurement uses three indicators developed by Shih and Fang (2004), namely: Usage in various activities, Usage amount (times use e-money for a month), Usage frequency (often use e-money).

Researchers used Structural Equation Modeling (SEM) analysis based on Partial Least Square (PLS) using smartPLS 3.0 software to test the proposed models and hypotheses. The PLS technique is carried out in two stages, namely:

1. The first stage is to test a measurement model, which is to test the validity and reliability of the constructs of each indicator.
2. The second stage is to perform a structural model test which aims to determine whether there is an influence between variables/correlations between constructs as measured by using the t test of the PLS itself.

IV. RESULTS AND DISCUSSION

A. Structural Model Analysis

a. Evaluate the Outer Model

Validity and Reliability Test

Testing the validity using the Structural Equation Modeling (SEM) model is by testing Convergent Validity and Discriminant Validity. Testing convergen validity is by looking at the outer loading value. The following is the outer loading value of the PLS structural model scheme (after removing several indicators that do not meet the previous convergent validity requirements).

Table 1. Results of the PLS Analysis of Validity Test

Variable	Indicator	Outer Loading
<i>Attitude Toward Behaviour (X₁)</i>	X1.1	0.796
	X1.2	0.758
	X1.3	0.738
	X1.4	0.758
	X1.5	0.658
<i>Subjective Norms (X₂)</i>	X2.1	0.795
	X2.2	0.794
	X2.3	0.783
<i>Perceived BehaviourControl (X₃)</i>	X3.1	0.790
	X3.2	0.896
	X3.3	0.779
<i>FinancialLiteracy (X₄)</i>	X4.1	0.831
	X4.2	0.853
	X4.3	0.723
<i>Behaviour Intention (Y₁)</i>	Y1.1	0.868
	Y1.2	0.867
	Y1.3	0.754

Actual Usage (Intensity of Use E-Money) (Y ₂)	Y2.1	0.622
	Y2.2	0.630
	Y2.3	0.736
	Y2.4	0.737
	Y2.5	0.760
	Y2.6	0.748
	Y2.7	0.801
	Y2.8	0.832

Source: Data processed by researchers (2020)

Based on the data presentation in table 1 above, it can be seen that there are no indicators that show the outer loading value below 0.5 so that all of these indicators can be said to be suitable or valid for use in research and can be analyzed further. Furthermore, the discriminant validity testing was carried out by observing the discriminant validity through the Average Variant Extracted (AVE) method. The following is the AVE value in this research variable.

Table 2. Value of Average Variance Extracted (AVE)

Variable	AVE
Attitude Toward Behaviour (X ₁)	0.552
Subjective Norms (X ₂)	0.625
Perceived Behaviour Control (X ₃)	0.678
Financial Literacy (X ₄)	0.674
Behaviour Intention (Y ₁)	0.691
Actual Usage (Intensity of Use E-Money) (Y ₂)	0.542

Source: Data processed by researchers (2020)

The next step is to prove that the variables in this study are reliable. Composite Reliability is the part used to test the reliability value of indicators on a variable. A variable can be declared to meet composite reliability if it has a value > 0.6. Reliability testing can also be strengthened by using the Cronbach alpha value, where a variable is declared reliable if it has a value > 0.7. The following is the composite reliability value of each variable in this study:

Table 3. Results of PLS Analysis of Reliability Test

Variable	Composite Reliability	Cronbach Alpha
Attitude Toward Behaviour (X ₁)	0.860	0.800
Subjective Norms (X ₂)	0.833	0.702
Perceived Behaviour Control (X ₃)	0.863	0.760
Financial Literacy (X ₄)	0.846	0.734
Behaviour Intention (Y ₁)	0.870	0.776
Actual Usage (Intensity of Use E-Money) (Y ₂)	0.904	0.878

Source: Data processed by researchers (2020)

Based on the data presentation in table 2 above, it can be seen that all variables have a composite reliability value > 0.6 and a Cronbach alpha value > 0.7, so it can be concluded that all variables in this study have a good level of reliability.

**b. Evaluation of the Inner Model
Determination Coefficient Test**

Path coefficient evaluation is done by using coefficient determination (R-Square) to measure how much the endogenous variable is influenced by other variables. Based on data processing, the R-Square value is obtained as follows:

Table 4. Results of PLS Analysis of R-Square Value

Variable	R-Square
Behaviour Intention (Y ₁)	0.487
Actual Usage (Intensity of Use E-Money) (Y ₂)	0.468

Source: Data processed by researchers (2020)

Based on the data presented in table 3, it can be seen that the R-Square value for the Behavior Intention variable is 0.487 or 48.7%. The acquisition of this value explains that a percentage of 48.7% of behavior intention can be explained by independent variables including attitude toward behavior, subjective norms, perceived behavior control, and financial literacy. Meanwhile, the R-Square value obtained by the Actual Usage

(Intensity of Use E-Money) variable is 0.468 or 46.8%. The value obtained explains that as much as 46.8% of actual usage can be explained by independent variables including attitude toward behavior, subjective norms, perceived behavior control, financial literacy and behavior intention.

Predictive Relevance Test

Predictive relevance assessment can be seen from the Q-Square value. The results of the calculation of the Q-Square value in this study are as follows:

$$\begin{aligned}Q^2 &= 1 - [(1 - R^2) \times (1 - R^2)] \\Q^2 &= 1 - [(1 - 0,487) \times (1 - 0,468)] \\Q^2 &= 1 - (0,513 \times 0,532) \\Q^2 &= 1 - 0,273 = 0,727\end{aligned}$$

Based on the calculation, the Q-Square (Q^2) value is 0.727. This shows the great diversity of research data that can be explained by the research model is 72.7%. While the remaining 27.3% is explained by other factors/variables that are outside this research model. Thus, from the results obtained, this research model can be stated as having good Predictive Relevance.

Goodness of Fit Test

The results of the Goodness of Fit (GoF) test can be obtained from the root average value of the AVE value with the average root value of R-Square (Tanenhaus, 2004). The following is the calculation of the value of Goodness of Fit in this study,

$$\begin{aligned}GoF &= \sqrt{AVE \times \overline{R^2}} \\GoF &= \sqrt{0.627 \times 0.4775} \\GoF &= \sqrt{0.2994} = 0.547\end{aligned}$$

Based on the results of the calculation of Goodness of Fit above, a value of 0.547 is obtained so that it can be said that the GoF value is > 0.38 or the GoF value is in the large value category (Tanenhaus, 2004). So, it is concluded that a model that has a greater GoF, the more appropriate it is in describing the sample in a study. From the R^2 , Q^2 and GoF tests that have been carried out, it can be seen that the model formed in this study is robust or good. So, hypothesis testing can be done.

C. Hypothesis Testing

The bootstrapping results are used to answer the hypotheses that have been proposed in this study. Hypothesis testing in this study was carried out by looking at the T-Statistics value and the P-Values value. The criteria for the research hypothesis can be declared accepted if the T-Statistics value > 1.96 or P-Values < 0.05 (5% significant level) or the T-Statistics value > 1.645 or P-Values < 0.10 (10% significant level). The following are the bootstrapping results on the PLS scheme in this study,

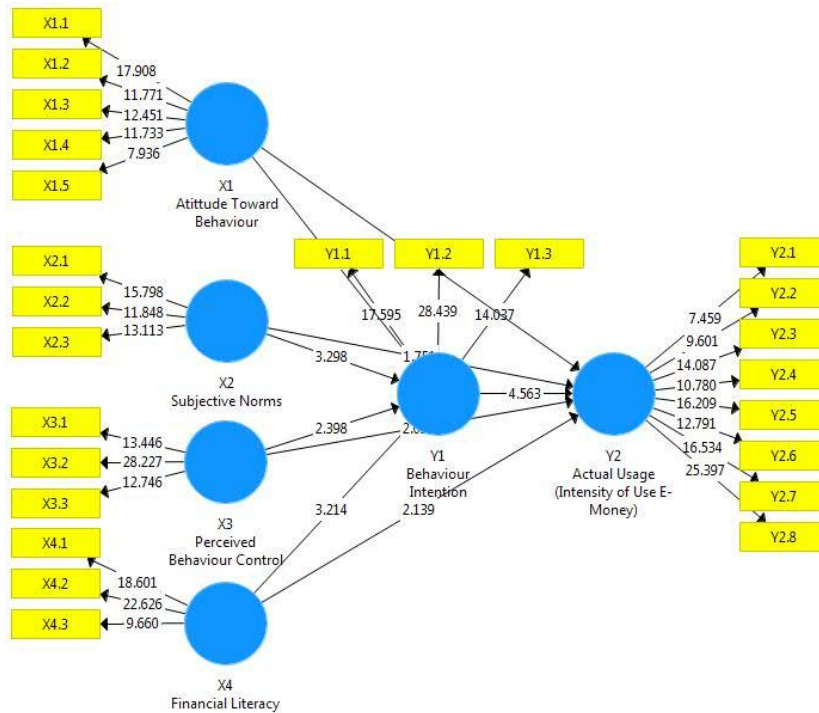


Figure 2. Schematic Bootstrapping of PLS Model
 Source: Data processed by researchers (2020)

In this research, what will be tested is the direct effect or the indirect effect. The direct effect test can be obtained through the path coefficient value, while the indirect effect can be obtained through the indirect effect value. The following are the results obtained from the results of data processing used to answer the hypothesis in this study.

Table 5. Hypothesis Test - Direct Effect and Indirect Effect

Hypothesis	Effect	T-Statistics	P-Value	Conclusion
H ₁	Attitude toward behaviour → Behaviour intention	0.081	0.935	Rejected
H ₂	Subjective norms → Behaviour intention	3.298	0.001*	Received
H ₃	Perceived behaviour control → Behaviour intention	2.398	0.017*	Received
H ₄	Financial literacy → Behaviour intention	3.214	0.001*	Received
H ₅	Behaviour intention → Actual usage (intensity use e-money)	4.563	0.000*	Received
H ₆	Attitude toward behaviour → Actual usage (intensity use e-money)	0.581	0.561	Rejected
H ₇	Subjective norms → Actual usage (intensity use e-money)	1.751	0.081**	Received
H ₈	Perceived behaviour control → Actual usage (intensity use e-money)	2.039	0.042*	Received
H ₉	Financial literacy → Actual usage (intensity use e-money)	2.139	0.033*	Received
H ₁₀	Attitude toward behaviour → Behaviour intention → Actual usage (intensity of use e-money)	0.079	0.937	Rejected

H ₁₁	Subjective norms → Behaviour intention → Actual usage (intensity of use e-money)	2.842	0.005*	Received
H ₁₂	Perceived behaviour control → Behaviour intention → Actual usage (intensity of use e-money)	1.914	0.056**	Received
H ₁₃	Financial literacy → Behaviour intention → Actual usage (intensity of use e-money)	2.489	0.013*	Received

Note: *) 5% significance level, **) 10% significance level

Source: Data processed by researchers (2020)

Based on the results of the hypothesis test above, it states that behavior intention in using e-money is influenced by subjective norms, perceived behavior control and financial literacy, while attitude toward behavior has no significant effect. In general, this indicates that a person's intention to use e-money can be influenced by two factors, namely internal factors (perceived behavior control and financial literacy) and external factors (subjective norms). The results of this study are in accordance with previous studies conducted by Nugroho, Najib and Simanjuntak (2018); Handika and Sudaryanti (2017); Curz, Suprapti and Yasa (2015); Knabe (2012); and Rahmatsyah (2011) which states that external factors (subjective norms) and internal factors (perceived behavior control) have a significant effect on behavior intention. Meanwhile, other internal factors, namely financial literacy, are in line with the research of Brian P. Kennedy (2013).

Other internal factors that are predicted to have an influence on behavioral intention, namely attitude toward behavior, show the results of the hypothesis which state that there is no significant influence between attitudes on one's behavioral intention. This is not in line with the results of research conducted by Shih and Fang (2004). However, there are several previous studies that are in line with the results of this study. The research was conducted by Nugroho (2018); Annilda (2017); and Handika and Sudaryanti (2017) who show that attitude toward behavior directly does not have a significant effect on behavior intention.

The result of the hypothesis analysis above also states that actual usage (intensity of e-money usage) is influenced by subjective norms, perceived behavior control and financial literacy, while attitude toward behavior has no significant effect. In general, this shows that the intensity of a person using e-money is also influenced by external factors (subjective norms) and internal factors (perceived behavior control and financial literacy) in each individual. The results of the analysis of this study are in accordance with previous research conducted by Shih and Fang (2004). So it can be concluded that often individuals are easily influenced from outside, especially from family and friends. In addition, each individual often thinks that e-money is very useful and useful in all transactions. They are also able to control and manage their finances well even though they often transact using e-money.

Based on the analysis of the direct effect hypothesis that has been previously described, it can be concluded that the behavior intention variable is able to mediate the effect of the subjective norms, perceived behavior control and financial literacy variables on the actual usage variable (intensity of e-money use). Meanwhile, the attitude variable did not have a significant effect on actual usage through behavior intention. So, it can be concluded that the behavior intention variable has a significant effect on actual usage. The results of the analysis of this study are in accordance with previous research conducted by Shih and Fang (2004) where the use of Internet Banking is influenced or comes from the intention in each individual.

V. CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Based on the results of data analysis previously discussed, it can be concluded that the intensity of e-money use (electronic money) is influenced by two factors, namely external factors and internal factors within the individual. These external factors are factors that come from outside such as the influence of several external parties such as family, friends and communities (subjective norms). While internal factors are factors that come from within the individual, which at first comes from intention (behavior intention), then they also assume that when using e-money there will be many benefits such as can be used for various kinds of transactions, it is more practical and easy to learn. (Perceived behavioral control), besides that they also believe that even though they don't use cash they are still able to manage their finances well (financial literacy). This is what underlies a person to join in using e-money in transactions because in addition to its simplicity and practicality, lifestyle is also a determinant of today's modern era.

Suggestion

In essence, this research can be further developed by adding other factors that can predict the effect on the intensity of e-money use. In addition, the data obtained in the study were primary data which were collected

using convenience techniques where data collection was only based on convenience and comfort. So it is hoped that further research can use more specific sampling techniques so that they can obtain better data and results.

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