

Determinants of Students E-Money Intention Empirical Studies of Semarang State University Students

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ABSTRACT

In the era of industry 4.0 where all activities in daily activities are not far from the use of technology. Until the sophistication of technology that develops penetrates into the payment system or better known as electronic money. Electronic money is considered very efficient and effective in its use so that students as millennials must be able to adjust the development of existing technology. This study aims to find out the influence of determinants consisting of perceived usefulness, perceived ease of use, and trust on the use of electronic money. This study was tested on all students of Semarang State University with a sample number of 350 respondents through questionnaire-based survey methods and with Warp PLS SEM analysis method. The results showed that both Perceive usefulness, perceive ease of use, trust is negating to the intention of using electronic money. Therefore, it is very necessary for e-money providers to improve the usability, convenience and trust of users well.

Keywords: *Perceive usefulness, Perceive ease of use, trust*

1. INTRODUCTION

In Indonesia where Bank Indonesia Financial Institution according to (www.bi.go.id) issued regulations on electronic money where previously in Bank Indonesia Regulation (PBI) Number 11/12/PBI/2009 and underwent renewal to PBI Number 20/6/PBI/2018 explaining about the understanding of electronic money where electronic money is a means of payment issued on the basis of the value of money deposited first to the issuer. So, it can be concluded that electronic money is a payment system using a credit or debit card / ATM where the card can be used when the customer / holder deposits money first to the issuer. Bank Indonesia Regulation No. 20/6/PBI/2018 on Electronic Money mentions that based on electronic money storage media can be divided into server based Electronic Money and Chip based Electronic Money.

Bank Indonesia together with the government are vociferous in efforts to introduce and process the awareness of the existence of electronic money as a non-cash payment transaction to the general public. One of the efforts made was on August 14, 2014 the government inaugurated a program Indonesia free of

physical money or which can be called the National Non-Cash Movement (GNNT) or Cash Less Society (CLS). The purpose of the Non-Cash National Movement (GNNT) program as stated by Agus D.W Martowardjo as Governor of Bank Indonesia is intended to increase public awareness of the use of non-cash payment instruments. The existence of this program is expected to encourage increasing public understanding of the use of non-cash instruments in making payment transactions [10].

The beginning of the emergence of electronic money was not Bank Indonesia which first issued but rather banking and telecommunications companies that began issuing electronic money. As of March 2020, Bank Indonesia inaugurated 40 sever-based electronic money issuing companies such as PT Telekomunikasi Seluler with T-Cash, PT Dompet Anak Bangsa (d/h PT MV Commerce Indonesi with Gopay, PT Espay Debit Indonesia Koe with Dana (d/h Unik), PT Visionet International with OVO Cash, PT Airpay International Indonesia with Shopeepay, and PT Fintek Karya Nusantara with LinkAja (Dinda Monica, Of course from some examples of such companies until in 2021 the development of electronic

money transactions in Indonesia, these developments can be seen from table 1 as follows:

Table 1 Number of Electronic Money Transactions 2017 – As of August 2021

Year	Volume (In units of transactions)	Nominal (In Million Rupiah)
2016	683,133,352	7,063,688.97
2017	943,319,933	12,375,468.72
2018	2,922,698,905	47,198,616.11
2019	5,226,699,919	145,165,467.60
2020	6,616,449,839	300,090,567.71
2021 (Per August 2021)	3,332,912,126	182,169,442.54

Source : www.bi.go.id

From table 1.1 it can be seen that the number of electronic money transactions from year to year both from volume and nominal has increased significantly so that it can be said that people began to apply the use of electronic money in everyday life especially in the early years of 2020 experienced a high increase in nominal numbers due to the covid-19 outbreak that stopped the mobility of people and the community needed something that was important. Effective and efficient in the fulfillment of daily life, one of which is using electronic money. According to Abidin, [5] electronic money is an innovation in the banking field, where electronic money as a form of fulfilling the demands of technological developments and changing times. Where electronic money is one of the payment systems that are fast, reliable, and efficient in accordance with the modern economy so that the exchange of goods or services becomes faster and more instant.

1.1. Technology Acceptance Model (TAM)

TAM proposed by Davis [2] is an extension of the Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB). TAM proposes two theoretical constructs, namely the perception of benefits (perceived usefulness) and the perception of ease of use (perceived ease of use) as fundamental determinants of user acceptance of an information system. The perception of benefits and the perception of ease of both factors have a limited influence on behavior intentions. So that the emergence of intentions using technology / information systems can

be felt if you have felt the benefits and convenience in the use of the technology. Here is the pattern of tam theory drawings mentioned by Davis [2]:

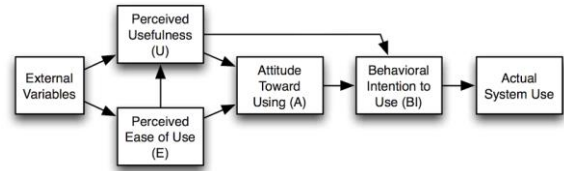


Figure 1 Theory of Technology Acceptance Model

Related to the acceptance of technology influenced by 2 factors, the following explanation of the basic determinants of technological acceptance according to [2] among others:

- a. Perceived Usefulness (Perception of Benefits), which is defined as the probability of a potential user using a particular application system can improve its performance.
- b. Perceived Ease of Use, where in the use of the system the user feels free from difficulties when operating the information system.

In addition to the 2 main factors that affect, in the image contains the existence of external / variables whose meaning variables derived from outside it affects the intention of the use of technology. Then after the influence of the variables, the attitude toward the use is the extent to which a person evaluates and connects the technology in his work. After the attitude of use then continued behavioral intention to use where as a level of how strong a person's urge to perform certain behaviors.

Tam's goal is to explain the main factors of user behavior towards user acceptance of the technology. In more detail describes the acceptance of information technology with certain dimensions that can affect its acceptance [2]. TAM is designed to achieve these goals by identifying some of the basic variables suggested in previous studies that agree with cognitively and affective factors on technological acceptance and using TRA as a theoretical basis for determining research variable relationship models. As for the modification of the TAM theory carried out by Venkatesh, et al [3] where he added variable trust with the research title "Trust enhanced Technology Acceptance Model" the study specializes in knowing the relationship between TAM variables and trusts. In this background, the existence of trust variables (trust) is used as one of the factors that affect the intention of the use of electronic money.

1.2. E-Money Intention of Use

Intention is a tendency of the heart to the passion; desire. Intentions are attention, damage, tendencies of the heart. Intentions are impulses that arise, then are interested in trying the one that ends up buying and owning it. The intention of a product / service while the understanding of the intention of use is the tendency of users / consumers to use an item / brand or take action to relate to use as measured by the level of possibility of users / consumers doing a use. From the above exposure where intention is an impulse in the individual to behave or do something so that in this study intention is used as a dependent variable with factors that affect a person's intention in using electronic money.

1.3. Perceived Usefulness

Davis [2] define perceived usefulness as the belief in usefulness, the degree to which users believe that the use of technology/system will improve their performance at work. Perceived usefulness is defined as the extent to which a person believes that the use of a particular information system will improve its performance. According to [13] explained that the benefits of a system is a belief about the decision-making process that describes if one believes that the system used is useful then one will use the opposite. The perception of benefits has a big effect on intentions, because it is considered the most able to explain the benefits of this electronic money service. Individuals argue that the benefits derived from the use of electronic money can provide convenience and speed in making payment transactions.

H₁: Perceived Usefulness Positively Affects the Intention of E-Money Use

1.4. Perceived Ease Of Use

The interaction and intensity carried out by users with the system can also show ease of use. A system whose intensity is used more often indicates that it is known, easy to operate, easy to use in everyday life by its use. According to [8] ease of use is defined as a degree in which a person believes that using a technology will keep people free from effort. So, if a person feels that one believes that information systems are easy to use, then he will use them. Vice versa, if a person feels that the information system is not easy to use then he will not use it. The need for benefits that one feels in the application of a system so as to encourage someone to use the system. As is the case with the use of electronic money if one already feels the benefits of the use of electronic money either in the form of chips or servers after which there is a long-term

sustainability of someone to always use. From this exposure, the research hypothesis is obtained:

H₂: Perceived Ease of Use positively affects intention of E-Money Use

1.5. Trust

According to [6] defines belief as a descriptive idea that a person has about something. The definition of trust according to [8] which explains that trust is the judgment of an individual after obtaining, processing and managing information and generating various assessments and assumptions. If in the company and the existence of consumers users of a product of goods or services produced then trust will arise if the consumer has felt satisfaction because it has used products with certain brands. Consumers who believe because of a brand, it will not be easy to leave or replace the brand with other brand products [14], as well as the use of the system. Therefore, the understanding of trust is related to the use of a system that describes the judgment of a person (user) after using a system, in line with electronic money where if the consumer / user already knows the brand of one of the electronic money products and has used the system that thus has an impact on the level of user trust in the electronic money system.

H₃ : Trust have a positive effect on the intention of E-Money use

Based on the above description of the study aims to test the relationship between perceived usefulness, perceived ease of use, trust, and the intention of using electronic money on students. The research was conducted on students of Semarang State University. The empirical research model is as follows:

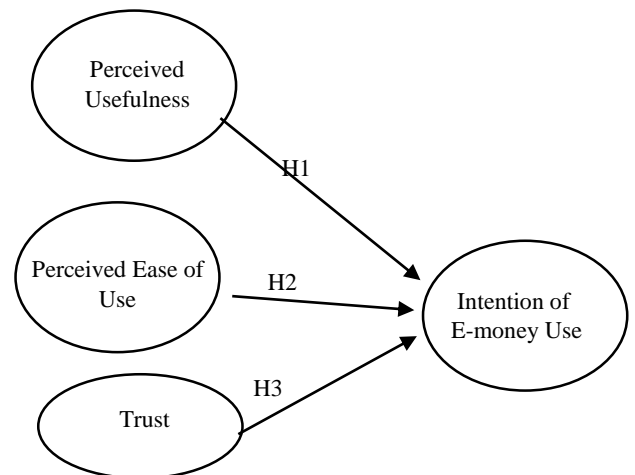


Figure 2. Empirical Research Model

2. METHOD

Quantitative research, where this research aims to find out the influence of perceive usefulness, perceive ease of use, and trust on the intention of the use of electronic money among students of UNNES (State University of Semarang). The acquisition of data sourced from primary data with questionnaire surveys with aggregate interval scale disagree in the range of scales 1-5 with extreme angles strongly agree and strongly disagree. This study uses the Slovin formula with an error of 5%. Inaccuracy of 5% is chosen in harmony with the available sources of funds, time, and energy. Another reason for the use of a 5% error is referring to the maximum error rate that can be tolerated at the maximum error rate that can be tolerated in economic research. So that the existing population can be calculated:

$$n = \frac{N}{1 + N \cdot e^2}$$

$$n = \frac{2.803}{1 + 2.803 (0,05)^2} \quad n = 350,048 \text{ rounded to } 350$$

From the population calculation obtained a number of samples used as many as 350 respondents. The intention measurement of the use of electronic money consists of 3 measurement indicators according to [8] among others: (a) the desire to use, (b) always want to try, (c) continue. The measurement of the perceived usefulness variable indicator is adopted in which consists of (a) the benefits obtained, (b) faster and easier work completion, (c) has an important role. For measurements on perceived ease of use variables using measurement indicators according to [3] among others: (a) systems are easy to understand, (b) practical use, (c) systems are easy to use, (d) systems are easy to reach. Related to the measurement of trust variables using a) perception of integrity, (b) perception of goodness, (c) perception of competence.

To obtain valid and reliable inferential statistical measurement results either from the measurement model or structural model, the following steps (1) are carried out by the test pilot; (2) Analysis of the validity and reliability of the measurement model (3) then continued on the analysis of inferential statistics using WARP PLS - SEM; (4) evaluate and estimate the inner model, with the algorithm warp PLS mode A basic, to know the statistical value t and (6) report the results of the analysis.

3. RESULT

After going through a series of pilot tests, improvements were made to invalid and reliable questionnaire items, until all variables were valid and reliable. After all items show valid and reliable results. Then it is done for field testing which is then done testing the measurement model, namely the validity and reliability of the construct. On construct validity tests are tested on convergent validity tests and discriminant validity tests, while for reliability the constructs are tested based on alpha cronbach values and composite reliability while the test results on the outer model can be presented in the following table.

Table 2. Outer/Measurement Model Test

Variable/Item	Loading factor	AVE	Alpha Cronbach	Composite Reliability
Inten 1 – Inten 6	0.59 – 0.88	0,64	0,83	0,88
PU1 – PU6	0.61 – 0.78	0,61	0,87	0,89
PEOU1 – PEOU6	0.58 – 0.87	0,62	0,86	0,89
Trs1 - Trs8	0.67 – 0.88	0,72	0,89	0,93

Note: Inten = Intention to Use E-Money; PU = Perceived Usefulness; PEOU = Perceived Ease of Use; Trs = Trust

The results of the outer model test show that each of these item variables has met the convergent validity criteria, as the entire loading value of each item above the cut value is above 0.5. While for the results of discriminant validity can be seen from the average variance extracted (AVE) value is also above the cut value of 0.5. Meanwhile, from the results of the research reliability test with alpha Cronbach and composite reliability is above 0.7, it can be concluded that all variables are reliable. So that it can be stated that all these items can form constructs on these variables both on intention to use e-money, perceived usefulness, perceived ease of use, trust. Furthermore, this study continued on the inner model test (goodness of fit test and t / hypothesis test). The goodness of fit test, in this study consisted of several analyses namely average path coefficient (APC), average R-squared (ARS), average adjusted R-squared (AARS), average block VIF (AVIF), average full collinearity VIF (AFVIF), tenenhaus GoF (GoF), sympson's paradox ratio (SPR), r-squared contribution ratio (RSCR), statistical suppression ratio (SSR), nonlinear bivariate causality direction ratio (NLBCDR). The results of goodness of fit are as follows.

Table 3. Model Fit and Quality Indices

Index	Value	Cut of Value	Remarks
APC	0.311, P<0.001	P<0.05	Good
ARS	0.371, P<0.001	P<0.05	Good
AARS	0.350, P<0.001	P<0.05	Good
AVIF	2.024	acceptable if ≤ 5 , ideally ≤ 3.3	Ideal
AFVIF	1.976	acceptable if ≤ 5 , ideally ≤ 3.3	Good
Tenenhaus GoF	0.497	small ≥ 0.1 , medium ≥ 0.25 , large ≥ 0.36	Large
SPR	1.000	acceptable if ≥ 0.7 , ideally = 1	Ideal
RSCR	1.000	acceptable if ≥ 0.9 , ideally = 1	Ideal
SSR	0.987	acceptable if ≥ 0.7 , ideally = 1	Good
NLBCDR	1.000	acceptable if ≥ 0.7	Good

The results of all hypothesis tests show that both hypotheses 1, 2 and 3 are all statistically supported, with the p-value of the three coefficients above 0.05. This means that perceived usefulness has a positive and significant impact on the increase in intention to use electronic money, in line with this perceived ease of use and trust has a positive and significant impact on the intention to use electronic money.

4. DISCUSSION

Perceived usefulness empirically proved to positively and significantly affect the intention to use e-money. This shows that the higher perceived usefulness, the higher the intention to use electronic money. This can be understood because the probability of potential users using a particular application system can improve the performance of the application. As explained in TAM that the main factors of the users of the technology. In this theory, the acceptance of information technology with certain dimensions that can affect the acceptance of perceived usefulness is a cognitive and affective form of technological acceptance [2]. Perceived usefulness is a form of confidence in the benefits obtained by users for the use of technology / system can certainly be

Based on the results of the goodness of fit test with WARP PLS, it can be seen that from all the criteria of the goodness of fit test both from average path coefficient (APC) to nonlinear bivariate causality direction ratio (NLBCDR) meets good or ideal criteria. After the results of evaluation or tests on the inner model meet the WARP PLS SEM criteria, it is continued on hypothesis testing. The results of the hypothesis test can be shown in the following table:

Table 4. Hypothesis Testing

Hypotheses	coefficient	Standard error	p-value	Remark
H ₁ : perceived usefulness → intention to use e-money	0.271	0.078	0.004	Supported
H ₂ : perceived ease of use → intention to use e-money,	0.371	0.072	<0.001	Supported
H ₃ : trust → intention to use e-money	0.211	0.079	0.011	Supported

useful in decision making on a system used by [13] including the benefits of electronic money services.

Perceived Ease of Use is statistically proven to significantly affect the intention to use e-money. This shows that the higher perceived ease of use, the higher the intention to use electronic money. It can be understood that the perceived ease makes where in the use of the system the user feels free from difficulties when operating the information system. Intensity carried out by users over systems that show ease of use. People who are used to using the system are certainly very familiar, easy to operate, and easy to use in everyday life. According to [8] the ease of use of a technology will make people believe that information systems are easy to use, then he will use them. As is the case with the use of electronic money if one already feels the benefits of the use of electronic money then it always has an impact on someone to always use.

Trusts are also tested statistically as having a statistically significant effect on the intention to use e-money. This shows that the higher perceived ease of use, the higher the intention to use electronic money. Trust as a descriptive idea that a person has towards something [6]. Trust is the judgment of an individual after obtaining, processing or synthesizing

information and generating various assessments and assumptions. Therefore, trust will arise when someone has felt satisfaction because they have used products with certain brands. Similarly, the use of the system, through trust in the system a user will use a system, as well as electronic money, if consumers / users of electronic money products and have used the system can certainly have an impact on the level of user confidence in the electronic money system [8; 14].

5. CONCLUSION

The use of electronic money is a form of behavior that is initiated by the intention of its use. Empirically it has been proven that both perceived usefulness, perceived ease of use, trusts are shown to have a positive impact on the intention of using electronic money. Empirically this finding has implications that electronic money providers need to target young people, especially students, this is because they are active users of the electronic money application. Providers need to improve their convenience, usability and increase confidence in the security of using electronic money for transactions.

AUTHORS' CONTRIBUTIONS

Novita Viviana had contributed in reviewing literature in depth, and Kemal Budi Mulyono had contributed in analyzing data.

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