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TAM (Technology Acceptance Model) Approach to Analyze Community's Interest in Using E-money

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Abstract. TAM (Technology Acceptance Model) is a model that can be used to see the extent to which a technology can be well accepted by the community. Cashless payment is a product that can support the creation of a cashless society in accordance with Bank Indonesia policies. This research was conducted with the aim of providing an overview of the interest in using e-money using TAM. The sample in this study amounted to 100 respondents, the collected data were analyzed using linear regression with the conclusion that the significance was less than 0.05 for the perceived benefit factor (ρ value = 0.000) and ease of use (ρ value = 0.023). The conclusion is that the perceived benefits and ease of use have a positive and significant effect on the interest in using cashless payment.

1. Introduction

In an increasingly modern economy and the rapid development of technology, it directs people to use cashless payments and results in minimal use of cash payments. According to (Zunaitin et al., 2017) there are 2 cashless payment products, namely card-based and electronic networks or what is often referred to as electronic money (e-money).

E-money is an electronic payment instrument by depositing money first directly to the issuer or by debiting the money in a bank account, then the money is entered in electronic money media (Wulandari et al., 2016)

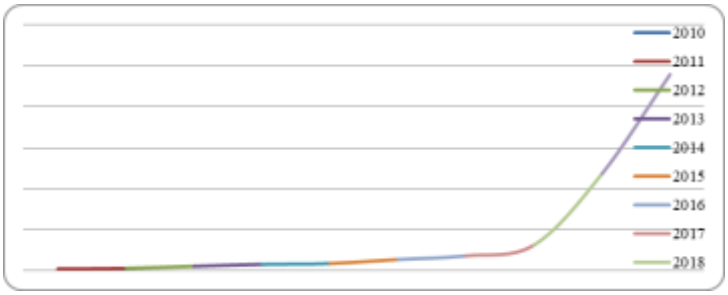
According to Bank Indonesia, e-money has great potential to shift the role of cash in retail transactions, because e-money has advantages such as faster, more convenient, effective transactions because there is no need to receive change and minimal miscalculations (BI.go.id, 2020)..

The following is data regarding the value of electronic money transactions in 2010 – 2019 in trillions which can be seen in Graph 1.

Graph 1 shows that the value of electronic money transactions from 2010 – 2019 has increased rapidly. People are starting to switch from cash transactions to non-cash transactions for various reasons that they think are profitable. This also supports BI's policy towards a cashless society. Cashless society is a demand of the times in the current technospace era, where people are accustomed to using the internet for daily life. This can be shown in the following Graph 2.

Graph 1

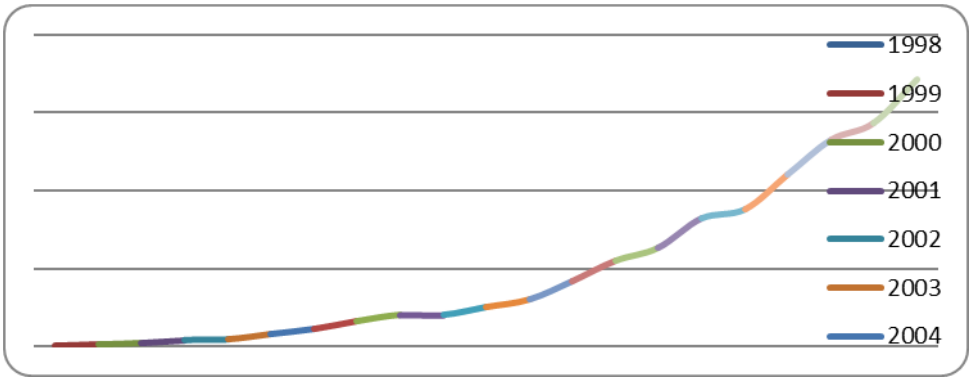
Electronic Money Transaction Value



Source: data processed, 2020

Graph 2

Number of Internet Users



Source: APJI, May 2019

Based on Graph 2 , it can be seen that internet users in Indonesia are increasing every year. The hope of becoming a cashless society-based country is strengthened by the publication of a policy from BI, namely QRIS (Quick Response Code Indonesian Standard) in the regulation of the board of governors No. 21/18/PADG/2019 regarding the implementation of the QRIS National Standard. The importance of a cashless society according to detiknews.com (1) that a cashless society is an indicator of the progress of a country's infrastructure and (2) helps save state spending due to the decline in currency printing.

The obstacles to a cashless society according to the community are the perception of losses because there is minimal deposition of balances, to-up costs, and administrative costs. In addition, there is a fear of threats (insecurity) in the event of fraud, as well as feelings of not appreciating the value of money (without physical form, only nominal in electronic deposits) (Bezhovski, 2016).

A person's behavior in using electronic money is influenced by interest or intention. This shows that interest can be used as a predictor of a person's behavior. User Behavioral Intention (behavioral intention to use) is a form of someone's desire to continue using or leaving the product to be used (Husaeni, 2017).

Technology Acceptance Model (TAM) describes how much technology can be accepted by users in terms of increasing interest. The TAM approach has 2 factors, namely perceived benefits and perceived convenience. perceived usefulness, namely the user's belief in the benefits or improvement of the results of his work, or often called "capable of being used advantageously" and ease of use (perceived ease of use), which is free from complicated things, or often called "freedom". from difficulty or great effort" (Alagoz & Hekimoglu, 2012).

There are many previous studies that measure the usefulness of a technology using TAM, so it is felt that TAM is the right approach in measuring public interest in using e- money. Some of the reasons that can be put forward are the sense of ease in using and developing technology, the tendency of people to be more time efficient when using e-money compared to using non-cash transactions (Hapsari, 2017). In the research conducted (Utami, 2017) concluded that in addition to security, convenience is an important factor for users because it raises practicality, the easier e-money is to use, the more intense the use of e-money will be. It is also supported by research conducted (Alagoz & Hekimoglu, 2012)which concludes that the level of usefulness and convenience has a significant influence on the use of e-money.

In this study, we examine the importance of TAM from the perspective of the community in a simple way. So that it can conclude practical results and can be useful for people's daily activities.

2. Theory Basis and Hypotheses Develompment

2.1 Theoretical basis

2.1.1 E-Money

E-money is a means of payment made electronically through intermediaries, internet, store value systems or computer networks (Phonthanukitithaworn et al., 2016). Meanwhile, according to PBI, electronic money is a payment instrument that meets the following elements: (a) Issued on the basis of the value of money that was deposited in advance to the issuer. (b) The value of money is stored electronically in a media server or chip. (c) The value of electronic money managed by the issuer is not a deposit as referred to in the Law governing banking (Peraturan Bank Indonesia No.20/6/PBI/2018, 2018).

2.1.2 Interest

Interest is a person's tendency to stay and be interested in a particular subject, there is a desire to learn, try and enjoy paying attention (Utami, 2017). The use of e-money is very dependent on several factors that influence the interest of users to take advantage of the latest technology for transactions (Bezhovski, 2016), including: Advantages of using e-money , free access to location and time, avoiding queues, accuracy of the amount of wealth, complementary cash (Laukkanen, T., & Lauronen, 2005) ; Convenience, consistency of profit with experience, values, fulfillment of consumer needs, flexibility; Cost, cost effectiveness, there are still many people who delay the use of e-money because of the costs that must be incurred (Mallat, 2007); Security, including payment system security and trust in service providers.

2.1.3 TAM (Technology Acceptance Model)

The presence of a new technology must answer the question of why society should accept or reject the technology. The literature on information systems has offered many models to explain how technology is adopted in organizations. The standard reference model is the 'Technology Acceptance Model' (TAM) by Davis (1989) (Sahut, 2010). e money is a form of digital banking, several studies use the TAM model to measure the level of public interest in adopting digital banking. TAM postulates that there are two specific beliefs namely, perceived usefulness and ease of use, these are of primary relevance to technology acceptance behavior (Davis, (1998).

Perceived benefit is defined as "the degree to which a person believes that using a particular system will improve his or her performance" .

In the context of e- money, the perception of benefits lies in the ease of making payment transactions. Perceived usefulness is a belief about the decision-making process. For example, people can make payments just by opening their cell phones. Perception of benefits is a strong predictor in describing the difference between users and non-users of technology, perceived benefits are more important for non-users, while people who have used (users) are less concerned about perceptions of

benefits because they have felt it indirectly (Phonthanukitithaworn et al., 2016; Taylor, S., & Todd, 1995) Taylor and Todd (1995a)

A technology is said to have perceived benefits if it meets several indicators, namely making work faster (work more quickly) , useful (useful), increasing productivity (increase productivity) , enhancing effectiveness (enchance effectiveness) , developing job performance (improve job performance) (Bezhovski, 2016; Husaeni, 2017)

Ease of Use is defined as "the degree to which a person believes that using a particular system will make it easier"

Ease to use is a measure of the user's belief that using the technology means not spending more effort (Karim, 2017) . The word Ease denotes freedom from adversity. Ease of use is an assumption that if you have used a certain system, you will be free from a business (Harlan, 2018).

A technology is said to have an ease of use if it has the following indicators: easy to learn , controllable, clear & easy to understand (clear & uderstable), flexible , and easy to become skillful. , easy to use (Bezhovski, 2016; Husaeni, 2017)

2.2 Hypothesis Floating

2.2.1 Perception of Benefits on Interest in using e- money

In particular, the use of e- money encourages the sustainability of e-commerce activities, because every buying and selling activity in e-commerce requires e-money . One of the benefits felt by the community is the ease of conducting transactions. This shows one of the reasons people are interested in using e- money (Sahut, 2010) in the conclusion of his research said that the key factor determining the use of e- money is the existence of security, as well as the plurality of functions (consisting of various benefits). In his research (Phonthanukitithaworn et al., 2016) concluded that perceived benefits have a significant influence on interest in using e-money in everyday life, the results of this study are also in line with research conducted by (Utami, 2017).

H1: Perception of Benefits has a positive effect on interest in using *e-money*

2.2.2 Ease of Use for Interests in using e- money

In this case the user has the hope that in using a new idea, technology, or innovation the user feels freedom from physical, emotional, or psychological efforts for the prospective user so that it is possible to improve work results. Ease of use is a factor that considers the use of e-money related to the payment process, which was initially complicated if it was done with cash (Phonthanukitithaworn et al., 2016) . Ease of use has been identified to have a direct effect on behavioral interest in adopting e- money services (Tan et al., 2014; Zarmpou, Saprikis, Markos, & Vlachopoulou, 2012). (Alagoz & Hekimoglu, 2012; Husaeni, 2017; Peng, R., Xiong, L., & Yang, 2012)

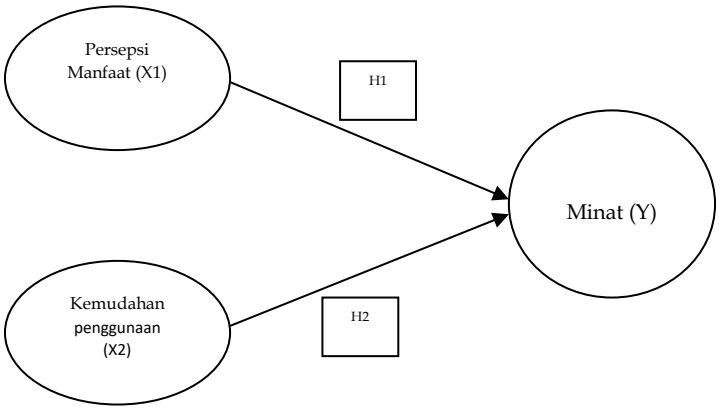
H2: Ease of Use has a positive effect on interest in using *e-money*

2.3 Research Model

Based on the background and explanation that has been presented, the research model can be described in Figure 1 below :

Figure 1

Research Model



3. Research Methods

3.1 Population and Sample

The population used in this study is the general public who are familiar with the internet. The sample used was 100 respondents. The sampling method conducted in a non-probability sampling and t eknik sampling using purposive sampling .

3.2 Research Indicators

3.2.1 Benefit Perception

make the job faster (work more quickly intervening), useful (useful) , increase productivity (increase of productivity), enhance the effectiveness (enchance efectiveness), develop job performance (improve job performance) (Bezhovski, 2016; Husaeni, 2017; Phonthanukitithaworn et al., 2016)

3.2.2 Ease of Use

easiness to be learned (easy to learn), controlled (controllable) , clear and easy to understand (clear & uderstable) , flexible , skills are getting (easy to Become skillful) , easy to use (easy to use) (Bezhovski, 2016; Husaeni, 2017; Phonthanukitithaworn et al., 2016)

3.2.3 Interest

predict (predict that will use), plan (plan to use), think to use (think that will use) (Phonthanukitithaworn et al., 2016)

3.3 Data analysis method

The data analysis method used multiple linear regression. Obtaining data using a questionnaire with a scale of 1-5, the data before being analyzed further is tested for validity and reliability. The validity test uses the product moment test while the reliability test uses the Cronbach alpha test .

The simple linear regression equation can be seen in the following function (i) :

$$Y = a + b_1X_1 + b_2X_2 \quad \text{..... (i)}$$

Information :

Y = interest in using *e money*
X1 = perceived benefits
X2 = ease of use
β 1.2 = coefficient

4. Analysis and Discussion Results

4.1 Analysis Results

4.1.1 Characteristics of Respondents

This research was conducted on the people of Semarang city who are familiar with the internet. The sample used is 100 people. Characteristics of respondents obtained as a sample are as follows :

Table 1
Characteristics of Respondents

Characteristics	Amount	Percentage (%)
Gender		
Man	39	39
Woman	61	61
Age		
< 20 years	18	18
20 – 30 years	45	45
31 – 40 years	12	12
41 – 50 years	23	23
> 50 years	2	2
Education		
High school/equivalent	48	48
D3	5	5
S1	30	30
S2	13	13
S3	4	4
Work		
Student	4	4
Student	17	17
PNS/TNI/POLRI	9	9
entrepreneur	10	10
Private	35	35
Other	25	25
Income per month		
1 – 3 million	69	69
3 – 5 million	15	15
> 5 million	16	16
Total	100	100%

Source: data processed, 2020

Table 1.1 above shows the majority of respondents are women (61%). In terms of age, most of them are 20 – 30 years old and some are more than 50 years old by 2%. It can be seen that most of the respondents are of productive age. The education of the respondents is mostly high school/equivalent, meaning that the use of e-money has begun to be used by the community with a minimum education level, while the doctoral level is only 4%. In the occupational category, the majority is in the private sector, which is 35% so that the use of e-money is used in general, and from the existing sample there are 4% who are still students. In addition, the average monthly income of respondents mostly ranges from 1 to 3 million per month.

4.2 Descriptive Analysis

The descriptive results in this study can be seen in table 1.2 below:

Table 2
Descriptive Results

Category	Low	Currently	Tall
Interested in using e-money	14	64	22
Perception of benefits	23	42	35
Perception of convenience	17	59	24

Source : data processed, 2020

Based on table 1.2, it can be seen that the interest in using e-money in most of the respondents is in the moderate category (64%). Respondents' perceptions of the benefits of using e-money are mostly categorized as moderate (42%). The respondents who have a perception of the ease of using e-money in the medium category also make up the majority, which is 59%. Based on these results, it is necessary to increase public interest in using e-money in order to realize a cashless society.

4.3 Data analysis

Data analysis using regression. Previously, the classical assumptions were tested, namely normality, heteroscedasticity, and multicollinearity. Tests using the One sample Kolmogorov-Smirnov test get an asymp.sig value of 0.051 > 0.05, which means the data is normally distributed. The VIF value is less than 10 (3.994) and the Tolerance is more than 0.1 (0.250) which indicates that the independent variable does not have multicollinearity. Heteroscedasticity testing uses a scatter plot which shows the points spread above and below the line so that there is no heteroscedasticity problem. Data processing using the SPSS 26 program obtained the following results:

Table 1.3
Regression Test Results

Variable	B	T	Sig
Benefit	0.533	5,790	0.000
Perception			
Ease of use	0.160	2,230	0.028
Constant	-0.008		
F Nilai value	121.559		
Sig F	0.000		
R^2	0, 715		

Source: data processed, 2020

The values of the constants and regression coefficients in table 1.3 can be expressed in the following equation (ii):

$$Y = - 0.008 + 0.533 X1 + 0.160 X2 \ldots.. (i i)$$

Information :

Y = interest in using *e money*
X1 = perceived benefits
X2 = ease of use
β 1.2 = coefficient

This equation shows that interest in using e-money will increase by 0.533 if the perception of benefits increases by 1 while the perception of convenience remains. Likewise, the interest in using e-money will increase by 0.160 if the perception of convenience increases by 1 while the perception of the benefits remains.

Simultaneous testing gets an F value of 121.559 and a significance value of 0.000. A significance value of less than 0.05 (α = 5%) indicates that the perception of benefits and ease of use together affects the interest in using e-money . The coefficient of determination of 0.715 indicates that interest in using e-money is influenced by perceptions of benefits and ease of use by 71.5%, while 28.5% is influenced by other factors.

4.4 Hypothesis test

The results of the regression test in table 4.3 show a partial test of the perceived benefits of getting a significance value of less than 0.05 (ρ value = 0.000). The significance value of less than 0.05 means that the perception of benefits partially has a positive and significant effect on the interest in using e-money . The higher the perceived benefits will increase the interest in using e-money . On the other hand, the lower the perception of the benefits, the lower the interest in using e-money .

Ease of use in table 4.3 gets a significance value of 0.023. A significance value of less than 0.05 (α = 5%) means that the ease of use partially has a significant positive effect on the interest in using e-money . The higher the perception of convenience will increase the interest in using e-money . On the other hand, the lower the perception of convenience, the lower interest in using e-money .

5. Discussion

Perceptions of benefits and ease of use in this study proved to have a positive and significant effect on interest in using e-money . The positive and significant effect of perceived benefits on interest in using e-money is indicated by a significance value less than the value of = 5% and the regression coefficient which is positive. Likewise, the significant positive effect of ease of use on interest in using e-money is indicated by a significance value that is less than the value of = 5% and the regression coefficient is positive.

The results of this study support the research conducted by Phonthanukitithaworn et.al (2016) which concluded that perceived benefits have a significant influence on interest in using e-money . The significant effect of perceived benefits on interest in using e-money in this study is also in line with Utami's (2017) research. This study also obtained results that support the research of Tan et.al (2014), Husaeni (2017) who found that ease of use had been identified as having a direct effect on behavioral interest in adopting e-money services .

The perceived benefits of using e-money indicate a person's belief that the use of e-money will improve their performance. E-money is perceived to make work faster, more useful, increase productivity and increase effectiveness and develop performance at work. The higher the perceived benefit means that the more someone believes that the use of e-money will improve their performance. Perceptions of the benefits of using e money in improving performance encourage the emergence of a tendency to learn and try to use e money . This means that the higher the perception of

the benefits of using e-money will increase interest in using e-money . On the other hand, if the perception of this benefit is getting lower, it will reduce the interest in using e-money .

The ease of using e-money reflects a person's belief that using e-money will make it easier. The use of e-money is believed to be easy to learn, controlled, clear and easy to understand, flexible, increased skills, easy to use. This ease of use gives rise to a tendency to learn and try to use e-money . Higher confidence about the ease of using e-money will increase interest in using e-money . Conversely, low confidence in the ease of using e-money will reduce interest in using e-money .

6. Conclusions and Suggestions

Based on the analysis that has been done, it can be concluded that the respondents' interest in using e-money is mostly in the moderate category, which is 64%. The variable perception of the benefits and the ease of use variable have a positive and significant influence on the interest in using e money . However, there are still limited problems in this study, because the variables used are only able to measure 71.5% while 28.5% is influenced by other factors, such as product innovation.

6.1 Suggestion

Suggestions that can be given based on the conclusions are:

1. Interest in using e-money needs to be increased because with the development of technology, the use of e-money in the community will provide many benefits. Behavior to use e-money will increase along with the high public interest in using e-money
2. Increased interest in using e-money by increasing perceptions of the benefits that will be obtained by using e-money , because it has been proven to have a positive and significant effect. Perceptions of the ease of using e-money can also be used as a way to increase interest in using e-money because it has been proven to have a positive and significant effect
3. stakeholders should implement non-cash payments (both card-based and internet-based) so that people's preferences can be met
4. Previous research can add other variables in addition to perceived benefits and ease of use as factors that can increase interest in using e-money .

6.2 Managerial Implications

Stakeholders can apply e-money in every transaction made (both card-based and e-wallet) so that people have many choices of payment utilization (transactions).

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