
Analysis Consumer Sustainable Intention Of E-Money Using Theory DOI and Theory TPB

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ABSTRACT

This research is designed for investigate factors whar make consumers intent to use the e-money for payment transaction at e-marketplaces. Constructs from two theoretical frameworks, i.e. the Diffusion of Innovation Theory (DOI), integrated with Theory of Planned Behavior (TPB) were used to guide the study. Quantitatively 300 samples were distributed to respondents with a cross-sectional survey, but to overcome the bias of the research response, 350 respondents used a cross-sectional study to consumers with the highest level of online purchases in the city of Padang. Relevant hypotheses were formulated and tested using the SEM-PLS technique. The results indicate that all variables significant supported. The findings confirmed that consumer innovation has significant impact toward the intention to use e-money, which this factor is new insight have not proven in several studies. In other hand, the personal norms, perceived behavioral control and attitude is also confirmed the significant effect intent to use e- money. The implications of this study drives for practice and research and future research.

Keywords: *Consumer Innovation, Personal Norms, Attitude, Intention to Use*

INTRODUCTION

Innovation on the tools of electronic payment or non-cash affect the behavior of consumers in adopting digital technology (Bachdar, 2018). Electronic money (e-money) is one of innovation and alternative transaction pembayaranonline that make consumers feel easier in the transaction (Al-Laham, Al- Tarawneh, & Abdallat, 2009). This innovation into electronic payment which is characterized as the replacement of physical currencies. This is the

replacement currency as payment mechanisms such as credit card (Seetharaman and John, 2009). Innovation in a business transaction into a new technology that a strong impact on business activity (Stewart, 2013). Bank Indonesia give permission to the organizers of the e-money that is multiply the issuer of e-money. Increasing the amount of an issuer of e-money also open the opportunity of considering the business of e-money is still popping up in Indonesia. Therefore, the share of the market penetration of e-money business is still quite good, which can be the basis for the issuer to issue e-money. In addition, the impact of the pandemic Covid- 19 has become an important issue towards a cashless society so that the government promote the use of e-money as payment tool to reduce the use of cash which became one of the sources of the spread of the virus (Bank Indonesia, 2019; Bank Indonesia, 2020)

The interconnectedness of the consumers with the problems that occur in online payment transactions very underlying consumer behavior in receive technological innovation (Arslan et.al, 2013; Beneke, et.al,2012; Berteau & Moisescu, 2011). The emergence of cases of customers in online transactions as well as to new policy of Bank Indonesia for the cost of refilling the balance of e-money influence consumer behavior in the use of digital payments. It becomes a consideration of consumer payment innovation such as e-money (Bhattacharjee, 2001; Chao,et.al, 2011). The literature of the past a lot of analyzing of e-money on the intention of the consumer, but limited to one theory of technology adoption, such as TAM, UTAUT (Mufingatun et.al, 2020). Previous studies mengungkapkan that the Theory of the adoption of the technology used is not enough to describe consumer intentions, so it is necessary to do development studies through a combination of several theories of technology adoption.

In the study, the issues encountered are relevant to the Theory of Diffusion of Innovation (DOI) because it is influenced directly from the innovations of the consumer on the intention of use as well as the Behavior Theory of Planned (TPB) on the factors of attitude and perception of the controller behavior [Ajzen, 1985; Ajzen, 2002; Ajzen, 1991; Doosti, et.al, 2016). The gap is very significant found in previous research related to this study, the analysis of which does not specifically discuss the indicator variables used to see the use of e-money (Balakrishnan, et.al, 2014; Chen, et.al, 2017; DeFranco & Morosan, 2017). The trend of consumers who are increasingly turning on the online transactions by using e-money is

constantly increasing in Indonesia (Bank Indonesia, 2019; Bank Indonesia, 2020; Khatimah & Perengki, 2017; Regulation of Bank Indonesia, 2012). According to data from Bank Indonesia, the increase occurred in August 2020, which is the nominal value of the transaction amounted to Rp17,23 trillion and the volume of transactions amounted to 386,7 million. This shows innovation-based payment digital or non-cash chance is very high transition of the payment methods traditionally.

The adoption of technology on the consumer gradually will look increased. On the other hand, innovation pembayarn that was introduced in 2017 and then within pasa entry level introduction on the innovation of the consumer. This is due to the attitudes and behavior of the controls are in the middle of the community tend to be slow in accepting the new technology (Roger, 2013; Fishben, 1996). Nevertheless, the value of the amounts of such transactions increased compared to July 2020 as much as 381,5 million transactions. The transaction is valued at Rp16,09 trillion. The phenomenon of increase in the value increased by 31 percent. As the impact of the increase in such transactions, then it can be compared to the average transactions e-money in 2019 with a value of Rp12,09 trillion per month. The overall value of the transaction of electronic money throughout the year 2020 has reached 80 percent. The analysis is reviewed from the total value of the transaction in 2019. Public interest against e-money which is very high is influenced by consumers who are increasingly innovative to the development of digital technology. The norm of the personal is the main driving force of behavior (Hsu, et.al, 2012; Khatimah & Halim, 2016; Khatimah & Halim, 2016). Consumer attitude becomes a thing critical, which is very feared by a disincentive for consumers in the use of e- money as a thorough evaluation conducted by the consumer. based on the above phenomenon, this research was conducted with the aim to identify consumer intentions to use e-money approach to the theory of TPB and the theory of DOI. The results of the research contribute to the development of science, industry and the study of further research.

LITERATURE REVIEW

The theory of Diffusion of Innovation (DOI). The theory of Diffusion of Innovation was first developed by Roger in 1983. This theory describes how an innovation was launched to ease individuals to communicate an innovation in the group or group social in the community.

There are levels of the social system in the Theory of Diffusion of Innovation includes the Innovators that are categorized as the inventor of an innovation that is ready to be adopted; Early Adopters include the individual or the environment that is close to the innovator; Early Majority is someone who is ready to adopt the technology innovation for the first time; Late Majority is a condition in which an environment is likely to be slow in adopting technological innovations.; and the last of which is a sluggish or group which is difficult to open yourself to new innovations.

H1 Innovation consumers have a significant effect on intention to use e-money

Dalam konteks e-money, konsumen diharapkan menjadi inovasi dalam bentuk pembayaran digital. Beberapa studi telah membuktikan bahwa, tidak semua inovasi konsumen memiliki pengaruh intention di atas intention konsumen mengadopsi. Namun, beberapa studi sebelumnya tidak spesifik dan detail menjelaskan intention konsumen adopt e-money (Khatimah & Halim, 6). Even most of the addresses in the field, such as electric bicycles (Li et al., 2021a) (Li et al., 2021b, e-scooters and bikes (Flores & Jansson, 2021), online check-in (Lin and Filieri, 2015)

Behavior theory of Planned (TPB). Behavior theory of planned (TPB) developed by Ajzen which is a continuation of the theory of unwarranted action (TRA). In detail, this theory allows any behavior that potential to do the activity can plan and control yourself. More broadly, the absence of intention or intention of an individual describing how large a behavior that is planned. With the Intentions or the intentions of an individual can drive on aspects that become the driving force of such behavior.

H2 Attitudes significantly influence the intention to use e-money

H3 Norm of the personal significant effect on intention to use e-money

Studies have proven a significant relationship attitudes and norms of the personal becomes a very important factor in predicting consumer intentions. Various fields have been tested, including a restaurant, drugs, robots, tourism up to the platform of e-marketplace (Bartels and Reinders, 2011; Fort-Rioche & Ackermann, 2013; Chang, 2017; Cha, 2020, Suryaningsih, 2020). On the other hand, the attitude and the normal personal yet widely discussed in detail, mainly on the personal. Kecenderungan previous studies only limited in

consideration of subjective norms, without considering the norm of the personal (Khatimah & Halim, 2016; Sun et al., 2020). In detail, the research framework as below:

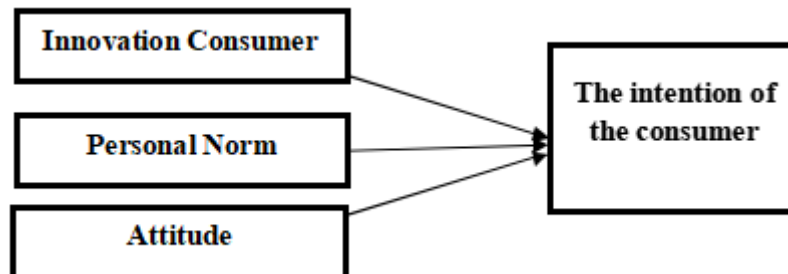


Figure 1. Research Model

Furthermore, the attributes of a variable like below.

1. I will use the e-money as a new product, although I have yet to hear it 2. I included the first people in the circle of my friends who use e-money 3. I know more than others about how to use e-money 4. I will be interested enough to use e-money when I heard the new products available in the store	Innovation consumer
1. Will be very wrong for me to use e-money as a means of payment 2. I abuse the means of payment using e-money would make me feel better	Attitude
1. Using e-money make it easier to pursue a lifestyle that is prosperous. 2. I can avoid the problem of online transactions with the habit of using 3. I feel comfortable with myself when I use the e-money I like the use of e-money	Personal Norm

METHOD

This research is a descriptive study with a quantitative approach to obtain more comprehensive, objective, valid, and reliable data. This study applies a combined DOI and TPB model to explore the intention to use e-money against e-money in Padang City. The sample in this study focuses on respondents who live in the city of Padang with the highest level of online purchases. The sample size of this study is based on the opinion (Hair, et al.

2010) which states that the sample size should be 10 times the number of research indicators. Quantitatively 350 samples were distributed to respondents but to overcome the bias of the research response, 300 respondents were distributed in a cross-sectional study by distributing questionnaires to consumers in the city of Padang. Analysis of the data used is quantitative analysis of the distribution of questionnaires using SmartPLS software. The data analysis technique in this study uses a variant-based Partial Least Square - Structural Equation Modeling (PLS-SEM) (Fornell & Cha, 1994; Fornell & Larcker, 1981; Ghazali & Hengku, 2015).

RESULT AND DISCUSSION

The results of the analysis were tested by using SEM-PLS. Respondents of this study with a total sample of 300 people. Here are the results if the descriptive number of respondents by gender, age group, and work.

Table 2. The Number of Respondents Based on Age

Gender	Men Women	110	36,7%
		190	63,3%
Group age	≤ 20 years	55	18,3 %
	20 – 25 years old	137	45,7 %
	25 – 30 years old	102	34 %
	30 – 35 years old	6	2%
Occupation	Students	100	33,3%
	Self-employed	59	19,7%
	Civil servants	120	40%
	Others (Housewife)	21	7%

Based on table 2, it can be seen that the respondent's data shows that more women answer the questionnaire, which is 63.7% or 190 people, while men are 36.7% or 110 people. The majority of respondents in this study were dominated by the age group of 20-25 years as many as 137 people with a percentage of 45.7%, then respondents aged 25-30 and respondents aged 20 years as many as 18.3% and respondents. On the other hand, 40%

of respondents or 120 people who answered the questionnaire were civil servants by profession. Next, test the convergent validity, discriminant, and reliability. This stage aims to analyze the indicators that exist in the measurement model. In the loading factor, each value on the measurement indicator must be more than 0.7. Based on result in table 3, it can be seen that all the indicators contained in the construct have met the requirements with a loading factor value of more than 0.7. In Table 2, the value of AVE showed more than 0.5. This means that the validity convergent has been eligible.

Table 2. AVE

Question items	Average Variance Extracted (AVE)
Consumer Innovation	0,547
Intention to use e-money	0,656
Personal Norms	0,676
attitude	0,864

Meanwhile, table 3 shows the results of the validity of the discriminant is greater than the loading of other indicators. This means that all indicators have been qualified.

Tabel 3. Discriminant Validity

Item Variables	Loading	Variable
IK1	0,701	Consumer Innovation
IK2	0,740	
IK3	0,739	
IK4	0,778	
NM1	0,809	Intention to use e-money
NM2	0,847	
NM3	0,825	
NM4	0,757	
NP1	0,817	Personal Norms
NP2	0,846	

NP3	0,804	
S1	0,861	Attitude
S2	0,886	

Variable Items	Cronbach's Alpha	Composite Reliability
Consumer Innovation	0,732	0,828
Intention to use e-money	0,825	0,884
Personal Norms	0,762	0,862
Attitude	0,701	0,866

Next, a test was conducted on composite reliability. Based on table 3 it was found that the composite reliability value was > 0.7 . This means that all variables are feasible and meet the criteria to be tested.

Table 4. Reliability Value

Item Variable	Consumer Innovation	Personal Norms	Attitude	Intention to use e-money
IK1	0,714	0,329	0,214	0,487
IK2	0,723	0,401	0,361	0,492
IK3	0,861	0,298	0,302	0,321
IK4	0,761	0,327	0,400	0,263
NP1	0,473	0,711	0,292	0,320
NP2	0,390	0,821	0,413	0,469
S1	0,260	0,311	0,887	0,389
S2	0,380	0,409	0,822	0,493
S3	0,275	0,378	0,789	0,443
S4	0,419	0,441	0,812	0,309
NM1	0,372	0,198	0,388	0,711
NM2	0,328	0,371	0,349	0,849

NM3	0,255	0,332	0,461	0,807
NM4	0,310	0,372	0,202	0,840

Tabel 5. R-square value

Variable		R Square	R Square Adjusted
Intention to use e-money		0,561	0,552

In the structural model test, there are two things that must be considered, namely the R-square value and the path. Based on table 5, the results of the model test show that the R-Square value is greater than 0.5. This value is categorized in the moderate model as seen from the grouping of R-Square values of 0.75, 0.5, and 0.25 (Cohen, 1988). The next stage of the path coefficient test with the condition that the t-value is greater than t-table (1,97) and p-value is less than 0.05. The analysis of the inner model aims to see the effect of the variables being tested.

Table 6. Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
Consumer Innovation -> Intention to use e-money	0,213	0,225	0,075	2,833	0,005
Personal Norms -> Intention to use e-money	0,505	0,497	0,074	6,858	0,000
Attitude -> Intention to use e-money	0,153	0,152	0,060	2,546	0,011

Based on the results of the analysis in Table 6, it can be described as follows:

- a. Hypothesis testing Consumer Innovation has an effect on the intention to use e-money. In Table 7 obtained T-Statistics $2.833 > 1.96$ and P.Value $0.005 < 0.05$, then H_0 is accepted so that it can be concluded that Consumer Innovation has an effect on intention to use e-money. In the original sample estimate, the value of 0.213 shows the direction of the relationship between Consumer Innovation and Intention to use positive e-money.
- b. Testing the hypothesis that Personal Norms affect the intention to use e-money. In Table 7 obtained T-Statistics $6.858 > 1.96$ and P.Value $0 < 0.05$, then H_0 is accepted so that it is concluded that Personal Norms affect the intention to use e-money. In the original sample estimate, the value of 0.505 shows the direction of the relationship between Personal Norms and Intentions to use positive e-money.
- c. Testing the hypothesis that attitudes affect intentions using e-money. In Table 7 obtained T-Statistics $2.546 > 1.96$ and P.Value $0.011 < 0.05$, then H_0 is accepted so that it is concluded that Attitude affects the intention to use e-money. In the original sample estimate, the value of 0.505 shows the direction of the relationship between Attitudes and Intentions using positive e-money.

The results show that consumer innovation has a direct influence on consumer intentions to use e- money. Although innovation in payment instruments using e-money is a concept that was recently introduced to the public, the fact is that the Covid-19 condition forced people to immediately adopt e- money (Rogers, 2003). When viewed from the significant growth of transactions from year to year, it shows the position of consumers in the early adopter innovation diffusion stage. This proves that consumers have had a high level of innovation adoption (Heidenreich and Handrich, 2017). Consumers' innovativeness towards new product innovations that very quickly describe the characteristics of society as a whole. Although many have discussed consumer innovation on the intention to use new products, (Li et al., 2021b) but the results of model and structural tests in the context of e-money in general, have not discussed much in detail. The limitation of previous studies is that they do not specifically and in detail explain the consumer's intention to adopt e-money (Khatimah & Halim, 2016). In fact, most of them

discuss fields, such as electric bicycles (Li et al., 2021a) (Li et al., 2021b), online check-in (Lin and Filieri, 2015).

As in the tests conducted on green transportation innovation, the results of the analysis prove that the mobility of e-bike and e-scooter users consider themselves innovative and non-users do not. This happens because micro vehicles such as e-bikes or e-scooters are relatively environmentally friendly (Flores & Jansson, 2021). On the other hand, there are studies that show insignificant results so that the hypothesis is rejected. As in consumer innovation on purchase intentions on the iPad 2 and is not significant. This gap proves that the consumer innovation factor from the theory of diffusion of innovation is important to study on the intention to use e-money as a contribution to this research.

Furthermore, attitude is the most important factor that influences a person's behavior. In addition, personal norms are conceptualized as the basis for a person's behavior. In this case, both factors are derivatives of TPB or the theory of planned behavior (Ajzen and Fishbein, 2000). Previous studies found it in various forms such as when shopping at e-marketplaces (Wu & Qi, 2010). Personal attitudes and normal have not been discussed in detail, especially on personal norms. The tendency of previous studies to be limited to considering subjective norms, without considering personal norms (Khatimah & Halim, 2016; Sun et al., 2020). The limitation of the study is a new gap and a contribution to this research is that personal attitudes and norms are significant and have influence to the intention to use new innovative products.

CONCLUSION

This study adds to the contribution to theory and previous studies, especially in the literature and science about how consumers' intention to use e-money is seen from consumer innovation factors, attitudes and personal norms. The results of this study indicate that the impact of the Covid-19 pandemic has become an important issue for a cashless society so that the government is promoting the use of e-money for payment to reduce using of cash which is one source of the spread of the virus. Consumer innovation, personal attitudes and norms affect consumer intentions to use e- money. Otherwise, three factors, the personal norm factor has the most dominant influence. This shows that the personal norm factor that can influence consumers' intentions to use e-money is strong or weak. This proves that

personal norms are able to regulate consumer behavior. The overall findings show that it is very important for personal norms to be tested further, for example by looking at the indirect relationship of these personal norms to consumer intentions to use e-money.

Based on the findings of this study, the personal norm factor has the greatest influence. Given the very importance of this personal norm, entrepreneurs need to increase their knowledge, insight and ability so that consumers have consistency in using e-money. In addition, the organization's internal strategy needs to be properly structured regarding the transition of non-cash payments through digital platforms.

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