

COMMUNITY PERCEPTION OF THE EFFECTIVENESS OF USING E-MONEY IN NORTH SUMATRA AS A PAYMENT SYSTEM

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Abstract

This E-money is a non-cash payment service. Based on data from Bank Indonesia, North Sumatra representative of digital financial services was able to record transactions worth Rp 346 billion at the end of 2018. For 2019 electronic money transactions in North Sumatra are expected to continue to increase. Seeing this phenomenon, through this research we want to find out how the public perception about the effectiveness of using e-money as a payment system in North Sumatra. Researchers used TAM (Technology Acceptance Model) as the basis for conducting research. This research uses a quantitative descriptive research using primary data by collecting data through 450 questionnaires that have been collected and analyzed to examine hypotheses related to the model. The results of the study indicate that the perception of benefits significantly influences the effectiveness of using e-money with a significance value of $0.00 < 0.05$. Perceptions of convenience significantly influence the effectiveness of using e-money with significance values $0.00 < 0.05$. Trust has a significant effect on the effectiveness of using e-money with significant value $0.00 < 0.05$. And all variables X have a simultaneous effect on the effectiveness of e-money (Y) usage by 70.3%.

Key words: Traditional Markets, Economic Improvement, Societ

INTRODUCTION

Payment systems in economic transactions have progressed rapidly along with the development of sophisticated technology. Advances in technology in the payment system have replaced the role of cash (currency), which is known to the public as a means of payment in general, into non-cash payments that are more effective and efficient. This is supported by the increasing number of companies or shopping centers in Indonesia that accept payment transactions using a non-cash payment system. *E-money* is a non-cash payment service. Bank Indonesia noted that the number of e-money payment instruments circulating in the community has shown a significant increase from the 20 publishers that play in this segment. The following is data on the number of e-money circulating in the community according to Bank Indonesia records.

Table 1. The number of e-money circulating in Indonesia

2014	2015	2016	2017	2018	2019
398.439.154	477.322.243	400.439.154	720.252.661	1.542.055.053	759.636.563

Data Source : Bank Indonesia (2019)

Based on the narrative of the Head of Bank Indonesia Representative for North Sumatra, Wiwiek Sisto Widayat who was referred from Medanbisnisdaily.com - Medan. On Wednesday, 03 April 2019 12:34 WIB he stated that the number of e-money usage in North Sumatra was also increasing. The use of electronic money is increasing every period. Based on data from Bank Indonesia (BI) Representative of North Sumatra (Sumut), this digital financial service was able to record transactions worth IDR 346 billion at the end of 2018. This realization is far above transactions in 2017 which was only IDR 8 billion. The Head of the BI Representative for North Sumatra said the skyrocketing electronic money transactions were due to the 'jump' of users in 2018. "That's because of price penetration by OVO related to payments for shopping bills. Of course,

With the existence of non-cash payment instruments such as e-money which is part of the policy in the payment system by Bank Indonesia, it will be able to optimize people's purchasing power which at the same time has an impact on increasing the country's economy and the economy in North Sumatra in particular. Because e-money itself provides convenience and security for people who in this case are e-money users. On the other hand, if the electronic money card is broken or the chip is no longer legible, you cannot claim or return the remaining balance on the card, this is certainly quite risky and requires extra care when you store the card in your wallet. In addition, electronic money also has some limitations in terms of the value of money.

Seeing the development of the use of e-money in North Sumatra which has been described above, and the various advantages and disadvantages of the e-money payment system, then through this research we are going to do, we want to know how the influence of public perception regarding the effectiveness of using e-money as a payment system in North Sumatra. Where the researcher uses TAM (Technology Acceptance Model) as a reference basis for conducting research. Researchers determine the independent variables used are perceived benefits, perceived ease and trust and the dependent variable is the effectiveness of the use of e-money.

RESEARCH METHOD

Place and time of research

This research takes place or object of research in North Sumatra. The research was carried out for three months, from April to June 2019.

Research Forms and Types

This research uses a form of quantitative descriptive research that is carried out on an object and conditions it as it is.

Method of collecting data

Data collection techniques carried out in this study were through questionnaires and documentation. The questionnaire was given with the help of a google form to the research sample referred to here, namely the e-money user community.

Validity test

Validity is the accuracy and suitability of measurement, valid means that the tool can measure what it wants to measure (Riyanto, 2011). Based on the results of the simulation carried out to

27 questionnaire statements, where as many as 25 statements were declared valid because the value of $r_{count} > r_{table}$ (Riyanto, 2011).

Reliability Test

Reliability testing in this study is said to be reliable if Cronbach's Alpha is greater than the constant (0.6) (Riyanto, 2013). Based on the tests carried out on 25 statements that have been valid Cronbach's Alpha score is 0.914 (>0.6) (Riyanto, 2011). So the questionnaire has been reliable carried out for research.

Population and Sample

The population in this study is the e-money user community in North Sumatra. Researchers do not know for sure how many e-money users there are in North Sumatra. To make the population more effective in this study, e-money users are used as the population, namely users who have an age limit of 19-50 years. The sampling technique used was simple random sampling technique which was done randomly.

The population in this study is unknown, so the formula used to calculate The number of samples taken in this study using the formula Lemeshow et al (1990).

$$n = \frac{z^2_{1-\frac{\alpha}{2}} P(1-P)}{d^2}$$

Information :

n = Number of samples

$z_{21-\alpha/2}$ = z score at 95% confidence = 1.96

P = maximum estimate = 0,5

d = alpha (00.05) or sampling error = 5%

Through the above formula, the number of samples to be taken is:

$$n = \frac{z^2_{1-\frac{\alpha}{2}} P(1-P)}{d^2}$$

$$n = \frac{1,96^2 \cdot 0,5(1-0,5)}{0,05^2}$$

$$n = \frac{3,8416 \cdot 0,25}{0,0025}$$

$$n = 384,16 = 385$$

The minimum sample based on this formula is 385 respondents. So that the sample of this study were 405 respondents.

Data analysis method

The data analysis method in this study uses multiple linear regression analysis with the tools used to find the relationship between these variables is software or SPSS software. The stages of research activities start from the preparation of instruments taken from previous research and then the instruments are tested. After being tested, it is distributed to respondents via google form. Furthermore, the data is collected based on the sample population and the data obtained is analyzed with SPSS version 20. It will produce data output that interprets the relationship between variables.

The requirement to be able to perform multiple linear regression analysis is the classical assumption test.

Classic assumption test

- ✓ Normality test
- ✓ Multicollinearity test
- ✓ Heteroscedasticity test

Multiple Linear Regression Analysis

Multiple linear regression analysis was used to determine the effect of perceived benefits, perceived convenience, perceived trust and perceived risk on interest in using e-money. The multiple linear regression equations are as follows.

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

Y = Effectiveness of Using E-Money

a = Constant

b_{1,2,3} = Regression Coefficient X₁, X₂, X₃

e = Random Error

Coefficient of Determination (R²)

The value of the coefficient of determination is indicated by the value of Adjusted R Square instead of R Square from the regression model because R Square is biased towards the number of independent variables included in the model, while the adjusted R Square can fluctuate if an independent variable is added to the model (Ghozali, 2011).

F Uji test

The F test was conducted to determine the level of significance of the relationship between the independent variables together with the dependent variable. The F test in this study was conducted based on the significance value and the Fcount value. According to Imam Ghozali (2011: 101) if the value of sig. < 0.05, it means that the independent variable (X) simultaneously affects the dependent variable (Y). And according to V. Wiratna Sujarweni (2014; 154), if the value of Fcount > F table, it means that the independent variable (X) simultaneously affects the dependent variable (Y).

Hypothesis testing

Hypothesis testing in this study was carried out with partial t (multiple linear regression) based on the significance value and partial t test (multiple linear regression).

RESULT AND DISCUSSION

Description of Research Object

The object of this research is the community of e-money users in North Sumatra. This research uses the method *simple random sampling* done randomly. In determining the research sample using the formula Lemeshow et al (1990). Where the minimum sample in the study was 385 respondents. Because the population in this study is not known for certain, so the sample used in this study as many as 405 people who use e-money, where the number of samples according to the researcher can represent the object of research.

Table 2. Details of the research sample

Criteria	Amount
Number of Samples	405 people (100%)
Man	171 people (42.4%)
Woman	234 people (57.6%)
19-50 years old	405 people (100%)
Student	271 people (66.9%)
Teachers and Lecturers	52 people (13.4%)
Private and BUMN Employees	80 people (19.8%)

Source: Data processed, 2019

There are 405 samples that can be said to be in accordance with the criteria set in this study. The sample will be used to analyze and test the research hypothesis

Distribution of Samples by Region

The sample in this study is the community of e-money users spread throughout North Sumatra, which consists of 33 regencies/cities taken by simple random sampling with a random technique.

Table 3. Distribution of research sample areas

Kabupaten/Kota	Jumlah (Persentase)
Kota Medan	72 orang (17,8%)
Kota Ciumingitoli	5 orang (1,2%)
Kota Binjai	18 orang (4,4%)
Kabupaten Toba Samosir	11 orang (2,7%)
Kabupaten Tapanuli Utara	19 orang (4,7%)
Kabupaten Tapanuli Tengah	16 orang (4%)
Kabupaten Tapanuli Selatan	3 orang (0,7)
Kabupaten Simalungun	34 orang (8,4%)
Kabupaten Serdang Bedagai	5 orang (1,2%)
Kabupaten Samosir	10 orang (2,5%)
Kabupaten Pakpak Barat	4 orang (1%)
Kabupaten Nias Utara	3 orang (0,7%)
Kabupaten Padang Lawas Utara	2 orang (0,5%)
Kabupaten Padang Lawas	2 orang (0,5%)
Kabupaten Nias Selatan	2 orang (0,5%)
Kabupaten Nias Barat	2 orang (0,5%)
Kabupaten Nias	3 orang (0,7)
Kabupaten Mandailing Natal	7 orang (1,7%)
Kabupaten Langkat	10 orang (2,5%)
Kabupaten Labuhan Batu Utara	4 orang (1%)
Kabupaten Labuhan Batu Selatan	2 orang (0,5%)
Kabupaten Labuhan Batu	9 orang (2,2%)
Kabupaten Karo	9 orang (2,2%)
Kabupaten Humbang Hasandutan	12 orang (3%)
Kabupaten Deli Serdang	34 orang (8,4%)
Kabupaten Dairi	19 orang (4,7%)
Kabupaten Batakara	6 orang (1,5%)
Kabupaten Asahan	10 orang (2,5%)
Kota Tebing Tinggi	21 orang (7,9%)
Kota Tanjungbalai	8 orang (2%)
Kota Sibolga	8 orang (2%)
Kota Perintang Siantar	37 orang (9,1%)
Kota Padang Sidempuan	9 orang (2,2)

Source: Data processed, 2019

Probability Plot Normality Test

The results of the normality test based on the probability plot show that this regression model is normally distributed (Ghozali, 2011: 161).

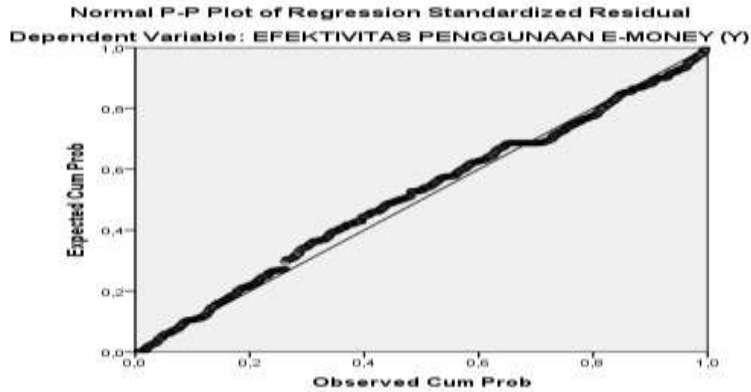


Figure 1. Probability plot normality test

Kolmogorov-Smirnov . Normality Test

The normality test uses the Kolmogorov-Smirnov significance value. This model is normally distributed where the significance value is 0.217 (> 0.05) (Ghozali, 2011).

Table 4. Kolmogorov-Smirnov . normality test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		405
Normal Parameters ^{a,b}	Mean	.0E-7
	Std. Deviation	3,99999769
Most Extreme Differences	Absolute	,052
	Positive	,030
	Negative	-,052
Kolmogorov-Smirnov Z		1,053
Asymp. Sig. (2-tailed)		,217

a. Test distribution is Normal.
b. Calculated from data.

Source: Data retrieved by spss, 2019

Multicollinearity Test

The results of the multicollinearity test show the point of occurrence of multicollinearity symptoms because the tolerance value is > 0.100 and the vif value is < 10.00 for each independent variable (Ghozali, 2011: 107-108).

Table 5. Multicollinearity test

Collinearity Statistics	
Tolerance	VIF
,471	2,123
,383	2,614
,594	1,683

Source: Data retrieved by spss, 2019

Scatterplots . Heteroscedasticity Test

Heteroscedasticity test using scatterplots showed no heteroscedasticity symptoms. This is because there is no clear pattern (wavy, widening and then narrowing) in the scatterplots image, and the points spread above and below the number 0 on the Y axis (Ghozali 2011: 139).

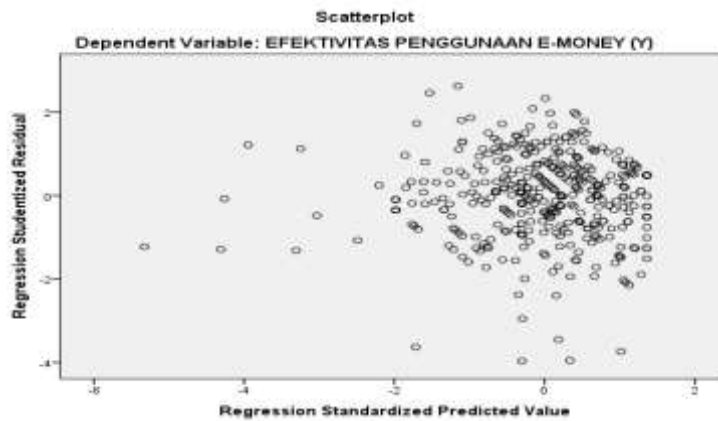


Figure 2. Scatterplots . Heteroscedasticity Test

Heteroscedasticity Test

In the Glejer test, there were no symptoms of heteroscedasticity because the significance value of the three independent variables was > 0.05 (Ghozali 2011).

Table 6. Heteroscedasticity test

t	Sig.
4,017	,000
1,665	,097
-1,342	,180
-,904	,366

Hypothesis test

In this section, we will discuss the results of statistical tests, which are the answers to the results of accepting and rejecting hypotheses. There are three results of hypothesis testing, namely the overall t-test, the overall f-test and the coefficient of determination, which is an explanation of the acceptance and rejection of the hypothesis.

Multiple Linear Regression Analysis

This analysis is used to determine the magnitude of the independent variable to the dependent. The results of the analysis of the coefficients of the regression model are as listed in Table 8 below:

Table 7. t-value and significance

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	6,409	1,421		4,509	,000
PERSEPSI MANFAAT (X1)	,764	,108	,280	7,075	,000
PERSEPSI KEMUDAHAN (X2)	1,067	,099	,471	10,732	,000
KEPERCAYAAN (X3)	,485	,086	,198	5,631	,000

Based on the table above, the regression model obtained is as follows:

$$Y = 6.409 + 0.764X_1 + 1.067X_2 + 0.485X_3$$

From the results of the linear regression equation can be interpreted as follows:

1. The constant (c) of 6.409 means that if the independent variable is constant or equal to zero (0), then the magnitude of the effectiveness of using e-money is 6.409 units.
2. For the perceived benefit variable, the coefficient value is 0.764 with a positive sign, which means that if the perceived benefit variable increases by 1 unit, the effectiveness of using e-money will increase by 0.764 units with the assumption that the other independent variables are constant.
3. For the perceived convenience variable, the coefficient value is 1.067 with a positive sign, which means that if the perceived convenience variable increases by 1 unit, then the perception of the use of e-money will increase by 1.067 units with the assumption that other independent variables are constant.
4. For the trust variable, the coefficient value is 0.485 with a positive sign, which means that if the confidence variable increases by 1 unit, the perception of the use of e-money will increase by 0.485 units with the assumption that other independent variables are in constant condition.

F Uji test

The F statistical test basically shows whether all the independent variables included in the model have a joint effect on the dependent variable, and to test whether the regression model used is correct. Based on the results of the analysis conducted, the independent variable (X) affects the dependent variable (Y) simultaneously or together. With a significance value of 0.000 (<0.05) (Ghozali, 2011) and a calculated F value of 319.023 (> F table 2.637) (Sujarweni, 2014).

Coefficient of Determination Test

The coefficient of determination test is a test used to find out how much the ability of the independent variable as a whole is on the dependent variable. In this study using the

adjusted R2 value when evaluating which regression model is the best. Based on the analysis, the value of Adjusted R Square is 0.703, this means that the effect of the variables X1, X2, and X3 simultaneously on the Y variable is 70.3% (Ghozali, 2011).

Table 8. The results of the coefficient of determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,839 ^a	,705	,703	4,015

a. Predictors: (Constant), KEPERCAYAAN (X3), PERSEPSI MANFAAT PERSEPSI KEMUDAHAN (X2)

b. Dependent Variable: EFEKTIVITAS PENGGUNAAN E-MONEY (Y)

Hypothesis testing

The results of data analysis on the research hypothesis show that perceived benefits have a significant positive effect on the effectiveness of using e-money with a significance value of 0.000 (<0.05) (Ghozali, 2011) and a t-count of 7.075 (>ttable 2,249) (Sujarweni, 2014). Perceptions of convenience also partially have a positive and significant effect on the effectiveness of using e-money with a significance value of 0.000 (<0.05) (Ghozali, 2011) and a t-count value of 10,732 (>ttable 2,249) (Sujarweni, 2014). Trust partially has a positive and significant effect on the effectiveness of using e-money with a significance value of 0.000 (<0.05) (Ghozali, 2011) and a tcount value of 5.631 (>ttable 2,249) (Sujarweni, 2014).

CONCLUSIONS AND RECOMMENDATIONS

The findings show that perceived benefits have a positive and significant effect on the effectiveness of using e-money. This means that when e-money is increasingly providing positive benefits to the community, e-money is one of the effective payment systems in North Sumatra. Furthermore, the perception of convenience has a positive and significant effect on the effectiveness of using e-money. This means that when e-money services make it easier for users, the effectiveness of e-money as a payment system will be even greater. Likewise, trust has a positive and significant effect on the effectiveness of using e-money. What this means is that when e-money services give more confidence in security issues to their use, then the effectiveness of e-money as a payment system will be even greater. Based on the results of this study, people can use e-money as an alternative payment. For researchers who want to research about the same thing, it is better to use a more accurate method so that the research results are truly representative

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