

Research Article

The Effect of The Use of Debit Cards and Electronic Money (E-Money) on Public Consumption Expenditures in Pematangsiantar City

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Abstract.

This study aims to determine the effect of the use of debit cards and electronic money (e-money) on public consumption expenditure of Pematangsiantar City. The population in this study are Pematangsiantar City people who have debit cards and electronic money (e-money). The sampling technique used in this study was purposive sampling technique. The number of samples is 100 respondents. This study uses primary data obtained from a questionnaire and then analyzed by multiple linear regression. Based on the results of the t test (partial), there is a significant influence between the use of a debit card on the consumption expenditure of Pematangsiantar City. Furthermore, the use of electronic money (e-money) has a significant effect on the consumption expenditure of the Pematangsiantar City community. Based on the test results of the coefficient of determination (Adj R²), the value was 0.638 (63.8%). This shows that the variations in consumption expenditure of Pematangsiantar City can be explained by debit cards and electronic money. While the remaining 36.2% is explained by other factors not included in this study. This is because non-cash payments are easy to use and psychologically, it is easier for anyone to spend their money in cash than in cash. The results of this study indicate that the people of Pematangsiantar City are consumptive, especially those under 40 years of age. There is a need for increased socialization regarding non-cash transactions, because it cannot be denied that in the Pematangsiantar City area there are still some people who do not quite understand non-cash transactions, especially those aged 40 years and over.

Keywords: e-Money; debit cards; public consumption

1. Introduction

The dynamics of people's lives today have given birth to new patterns of thought that have also developed along with the times, including in terms of consumption expenditure patterns. Public consumption expenditure is one of the macroeconomic variables. Consumption itself is an activity to spend income to get various goods and services so that all human needs can be met. Until now, human needs continue to develop along with the times and the increase in the income he receives. Humans

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are not only required to meet their basic needs, but also involve other needs such as education, health, transportation, communication, transactions and so on.

The concept of consumption is a translation from English Consumptions, which means expenditures made by households on goods and services with the aim of meeting the needs of those who make these purchases. The consumption of each household varies depending on one's income, and no two households spend their money with exactly the same needs[1]. Consumption expenditure is influenced by several factors, one of which is technological developments. Technological advances in the payment system have shifted the role of cash as a means of payment into a more economical and efficient form of non-cash payment. The efficiency of this payment system can be measured from the level of accuracy, accuracy and speed. Electronic payment systems have become an option for transactions that occur in various regions in Indonesia. Based on this background, researchers are interested in examining how "The Effect of the Use of Debit Cards and Electronic Money (E-money) on Public Consumption Expenditures in Pematangsiantar City".

1.1. Previous Research

Concluded that Ease has no effect significant to the decision to use E-Money. While security and benefits have a significant effect on the decision to use E-Money on Surakarta students. Concluded that Performance expectations, business expectations and feelings of security have no effect against the use of E-money. Concluded that the use of debit cards and electronic money (E-Money) has a positive effect on the use of student consumption. Concluded that age, income, perceived benefits, lifestyle and sales promotion have an effect on the interest in transacting with debit cards[2] [3] [4] [5].

1.2. Consumption Expenditure

Consumption Expenditures are often defined as the act of fulfilling food and drinks only. But actually consumption is broader than the above definition, consumption is an act of using the final goods and services that are ready to be used by humans to meet their needs. Meanwhile, consumption is a function of income that can be spent. Consumption is the goods or services purchased by consumption households. It can be concluded that consumption expenditure is expenditure to buy various goods and

services produced by individuals or households that are carried out regularly or only temporarily to meet all needs and also increase satisfaction[6].

1.3. Payment System

According to Bank Indonesia, a payment system is a system that includes a set of rules, institutions, and mechanisms used to transfer funds to fulfill an obligation arising from an economic activity. Meanwhile, according to Listfield and Montes-Negret, the payment system is a regulation, standard, and instrument used to exchange financial value between the two parties involved to escape from obligations.

1.4. Framework

The framework aims to provide an overview of the content of the study as a whole, so that it is easier to understand the direction and objectives to be studied. The frame of mind can be seen as follows:

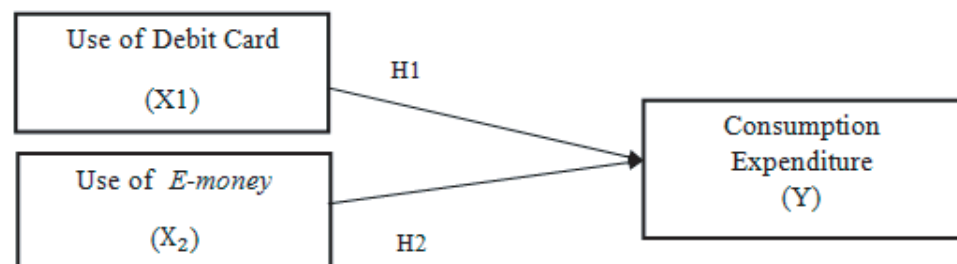


Figure 1: Framework.

2. Methods

This research is included as an associative research. Associative research is research that looks for the relationship or influence of the independent variable (X) on the dependent variable (Y). The influence of the independent variable using a debit card (X_1) and the use of electronic money (e-money) (X_2) on the dependent variable on public consumption expenditure of Pematangsiantar City (Y). The research was conducted in June 2020.

In this study, the population is Pematangsiantar City who have debit cards and electronic money (e-money). The criteria for respondents used in this study are people aged 18 years and over who live in Pematangsiantar City and have a debit card

and electronic money (e-money). The sampling technique was determined using the Unknown Populations formula. This is because the number of the population is not known with certainty. The Unknown Populations formula is used as follows:

$$n = \frac{Z^2 \cdot p \cdot q}{d^2} \quad (1)$$

Information : n: Number of Samples, Z: Standard level is normal with a value of 1.96, p: Estimated Population Proportion with a value of 0.5, d: Interval / deviation with a value of 0.1, q : 1-p

Based on this formula, the minimum sample size for this study is as follows:

$$n = \frac{Z^2 \cdot p \cdot q}{d^2}, n = \frac{(1.96)^2 \cdot (0.5) \cdot (0.5)}{d^2}, n = 96.04 \quad (2)$$

The sample in this study was 96.04, so it can be rounded up to 100 people.

The variables in this study consisted of two independent variables (Independent Variable), one dependent variable (Dependent Variable). The independent variables in this study are the use of debit cards (X_1) and the use of electronic money (e-money) (X_2), while the dependent variable is the consumption expenditure of the Pematangsiantar City community (Y).

This analysis is used to determine the extent of the influence of the independent variables, namely: The effect of using a debit card and electronic money on the dependent variable, namely: Consumption Expenditures, with the formula :

$$Y = a + b_1 X_1 + b_2 X_2 + e \quad (3)$$

Information : Y = dependent variable, namely consumption expenditure, X_1 = Use of a debit card, X_2 = Electronic money (e-money), a = variable / constant number, b_1 , b_2 = regression coefficient, e = Residual (Error term).

The coefficient of determination (R^2) is used to measure the percentage of variation in the dependent variable which can be explained by the independent variables in the model. The value of (R^2) has a range between 0-1, if the range value is closer to number 1, the independent variable is getting better and estimates the dependent variable.

3. Results and Discussion

3.1. Research Results

3.1.1. General description of Pematangsiantar city

Pematangsiantar City is geographically located in the central part of North Sumatra, located on the line 2° 53 '20 "North Latitude (LU) and 99° 1' 00 " - 99° 6 '35" East Longitude (BT). The population of Pematangsiantar City in 2019 reached 255,317 thousand people spread over 8 sub-districts. With a male population of 124,533 thousand and 130,784 thousand women.

Pematangsiantar city is only about 128 km from Medan and 52 km from Parapat so that it often becomes a crossing city for tourists who want to visit Lake Toba.

3.1.2. Description of research object

The questionnaires that have been filled in by the respondents are then examined for completeness.

TABLE 1: Characteristics of Respondents by Age.

Number	Age	Amount	Percentage
1	18-25 years	84	84%
2	26-40 years	10	10%
3	> 40 years	6	6%
Amount		100	100%

Source: Primary Data Processed, 2020

From the table above the characteristics of respondents according to age, it is known that there are 84 respondents aged 18-25 years (84%), 10 respondents aged 26-40 years (10%), and 6 respondents aged over 40 years (6%). This means that the majority of respondents who have ATM / debit cards and electronic money (e-money) are 18-25 years old.

TABLE 2: Characteristics of Respondents Based on Gender.

Number	Gender	Amount	Percentage
1	Male	37	37%
2	Fimale	63	63%
Amount		100	100%

Source: Primary Data Processed, 2020

3.2. Instrument Test

3.2.1. Validity test

The calculation of the validity test was performed using Pearson’s Product Moment correlation technique with the SPSS 23 program. To measure the level of validation of each item (item) in the questionnaire then the results are compared with the product moment r (table) at a significance level of 5% and the number of respondents 100 people obtained r table of 0.195.

3.1.1.1. Debit Card Usage Variable (X_1)

Testing the validity of the debit card use variable consists of 5 question items, while the results can be seen in the following table.

TABLE 3: Results of the Validity Test of Using a Debit Card.

Item	r Product Moment	r table	Information
1	0,777	0,195	Valid
2	0,794	0,195	Valid
3	0,799	0,195	Valid
4	0,803	0,195	Valid
5	0,768	0,195	Valid

Source: Primary Data Processed, 2020

3.1.1.2. Variable Use of Electronic Money (X_2)

Testing the validity of the variable use of electronic money (e-money) consists of 5 question items, while the results can be seen in the following. Table 4 shows that the variable use of electronic money (e-money) has valid criteria for all statements based on the criteria r count is greater than r table (0.195).

TABLE 4: Results of the Validity Test of the Use of Electronic Money (e-money).

Item	r Product Moment	r table	Information
1	0,793	0,195	Valid
2	0,854	0,195	Valid
3	0,853	0,195	Valid
4	0,872	0,195	Valid
5	0,860	0,195	Valid

Source: Primary Data Processed, 2020

3.1.1.3. Variable Expenditure of Pematangsiantar City Community(Y)

Testing the validity of the public consumption expenditure variable consists of 7 question items, while the results can be seen in the following. Table 5 shows that the variable consumption expenditure of Pematangsiantar City has valid criteria for all statements based on the criteria r count is greater than r table (0.195).

TABLE 5: Results of the Validity Test for Public Consumption Expenditures.

Item	r Product Moment	r tabel	Information
1	0,618	0,195	Valid
2	0,684	0,195	Valid
3	0,755	0,195	Valid
4	0,739	0,195	Valid
5	0,791	0,195	Valid
6	0,672	0,195	Valid
7	0,726	0,195	Valid

Source: Primary Data Processed, 2020

3.2.2. Reliability Test

Measurement of reliability using the Cronbach alpha (α) statistical test. A variable is said to be reliable if it has a cronbach alpha of more than 0.60. The results of the reliability test are briefly shown in Table 6. From the results of the reliability test shown in the table, it can be seen that all question items from each of the variables in this study are reliable. This is indicated by the cronbach alpha value of each variable with a value of more than 0.60.

TABLE 6: Reliability Test Results.

Number	Variable	Cronbach Alpha	Information
1	Use of a Debit Card	0,803	Reliabel
2	Use of Electronic Money	0,816	Reliabel
3	Public Consumption Expenditure	0,777	Reliabel

Source: Primary Data Processed, 2020

3.3. Multiple Linear Regression Analysis

Hypothesis testing in this study uses multiple linear regression analysis. The results of multiple linear regression analysis can be seen in the following table 4.14. From the

TABLE 7: Multiple Linear Regression Results.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.825	1.386		4.925	.000
	X1	.397	.094	.346	4.239	.000
	X2	.634	.098	.528	6.471	.000

a. Dependent Variable: Y

Source: Primary Data Processed, 2020

results of the multiple regression analysis above, the following equation can be obtained :

$$Y = 6.825 + 0.397 X_1 + 0.634 X_2 \quad (4)$$

From this equation it can be explained that :

1. If the variable use of debit cards and use of electronic money (e-money) is constant (0), then the variable consumption expenditure of Pematangsiantar City will remain at 6.825 because the constant value shows a value of 6.825.
2. The coefficient value of using a debit card (X1) is 0.397 with positive parameters, this shows that if the use of a debit card increases by one unit, the amount of public consumption expenditure in Pematangsiantar City will increase by 0.397 units and the opposite assumption is fixed.
3. The coefficient value for the use of electronic money (X2) is 0.638 with positive parameters, this indicates that if the use of electronic money (e-money) increases by one unit, the decision to use e-money will increase by 0.638 units and vice versa, other assumptions are fixed.

4. Hypothesis Test Results

5. Coefficient of Determination (R²)

The results of the determination coefficient test (R²) are shown in the following table :

The result of the determination coefficient test (Adj R²) is 0.638, which means that the influence of the variable Debit Card Use, Electronic Money Use, on Public Consumption Expenditure is 63.8% while the remaining 36.2% is influenced by other factors not included in the this research.

TABLE 8: Determination Coefficient Test Results.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,803 ^a	,645	,638	2,904

a. Predictors: (Constant), Penggunaan Uang Elektronik, Penggunaan Kartu Debit

Source: Primary Data Processed, 2020

3.3.1. F test (simultaneous test)

If the calculated F significance is less than 0.05 then Ho is rejected, which means that the independent variable simultaneously influences the dependent variable. N = number of samples; k = number of dependent and independent variables. $df_1 = k - 1 = 3 - 1 = 2$, for $df_2 = n - k = (100 - 3) = 97$. Then the value of f table = 3.09 is obtained.

TABLE 9: F Test Results.

ANOVA ^a						
	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1486.229	2	743.114	88.097	.000 ^b
	Residual	818.211	97	8.435		
	Total	2304.440	99			

a. Dependent Variable: Y
b. Predictors: (Constant), X₂, X₁

Source: Primary Data Processed, 2020

Based on the data in the table above, it is known that F count or F statistic is 88.097 while F table is 3.09. Based on these data, it is known that simultaneously F count > F table so that Ho is rejected and Ha is accepted, meaning that together the use of a debit card (X1) and the use of electronic money (X2) has a significant effect on Public Consumption Expenditure in Pematangsiantar City (Y). So this shows that the proposed hypothesis is accepted (proven).

3.3.2. T test (partial test)

The t test basically shows how far the influence of one explanatory or independent variable individually in explaining the variation of the dependent variable.

Based on the t test results table above to determine the effect of each independent variable partially on the dependent variable is as follows :

1. Effect of Debit Card Use (X1) on Public Consumption Expenditure in Pematangsiantar City (Y), In table 4.17 the t_count value for debit card use is

TABLE 10: T Test Results.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.825	1.386		4.925	.000
	X1	.397	.094	.346	4.239	.000
	X2	.634	.098	.528	6.471	.000

a. Dependent Variable: Y

Source: Primary Data Processed, 2020

4.239, while the t_{table} value (table) is 1.984. Then it is known that $t_{\text{count}} (4.239) > t_{\text{table}} (1.984)$ with a significance value of $0.000 < 0.50$. So the hypothesis that says there is an effect of using a debit card on the consumption expenditure of Pematangsiantar City (H_a accepted, H_0 rejected), it means that partially there is a significant effect between the use of debit cards on the consumption expenditure of Pematangsiantar City.

2. Effect of Electronic Money Use (X2) on Public Consumption Expenditures in Pematangsiantar City (Y), In table 4.17 the value of t_{count} for the use of electronic money (e-money) is 6.471 while the t_{table} value (table) is 1.984. Then it is known that $t_{\text{count}} (6.471) > t_{\text{table}} (1.984)$ with a significance value of $0.000 < 0.50$. So the hypothesis that says there is an effect of the use of electronic money (e-money) on the consumption expenditure of Pematangsiantar City (H_a accepted, H_0 rejected), meaning that partially there is a significant effect between the use of electronic money (e-money) on the consumption expenditure of Pematangsiantar City.

4. Conclusions

Based on the results of the effect of using debit cards and electronic money (e-money), it can be taken as The use of a debit card has a significant effect on the consumption expenditure of the Pematangsiantar City community. Based on the results of the t test, it is known that the use of a debit card with a t value of $4.239 >$ from the t table value of 1.984 with a significance value of $0.000 <$ of 0.05 P. The use of electronic money (e-money) has a significant effect on the consumption expenditure of the people of Pematangsiantar City. Based on the results of the t test it is known that the use of electronic money with a t value of $6.471 >$ from the t value (table) 1.984 with a significance value of $0.000 <$ of 0.05.

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