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## **FACTORS INFLUENCING DIGITAL PAYMENT CONSUMPTION PATTERNS: EVIDENCE FROM UNS STUDENTS**

**Fabian Kusuma Ramadhan\*<sup>1)</sup>, Agustinus Suryantoro<sup>1)</sup>, Dyah Maya Nihayah<sup>2)</sup>**

<sup>1)</sup>Faculty of Economics and Business, Universitas Sebelas Maret, Indonesia

<sup>2)</sup>Faculty of Economics and Business, Universitas Negeri Semarang, Indonesia

\*Corresponding author: bianrama77@gmail.com

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### **ABSTRACT**

This study aims to see the influence of income, savings, expenditure, age, gender, and education level on the possible consumption patterns in the use of digital payments, especially OVO among UNS Students in Surakarta. Research data is primary data taken using a questionnaire. The data analysis technique in this research is multiple linear regression analysis. The results of this research are that the Income, Savings and Education variables do not have a significant influence on the possibility of consumption patterns in the use of digital payments. Meanwhile, the variables Expenditure, Age and Gender have a significant influence on the possibility of consumption patterns in using digital payments.

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## **1. INTRODUCTION**

Technological developments have presented new functions for digital financial services, one of which is digital payment. Usage of digital payment often associated with a person's consumptive behavior, but this statement is still a pro and cons for researchers. Previous research shows that the use of electronic money has a significant effect on student consumption expenditure (Mayasari, 2022; Ramadani, 2016). Meanwhile, Ouma et al. (2017) in his research had different results, namely the use digital payment enabling households to save expenses.

This difference of opinion results in different factors of use digital payment. Factors affecting use digital payment in the study of Ouma et al. (2017) are age and income factors, while educational factors do not affect usage digital payment, in this study, it is also stated that saving is a relevant factor for the object of research. While the factor that significantly influence consumption spending in (Mayasari, 2022; Ramadani, 2016) research is spending electronic money.

Other factors that support the use Digital Payment shown by Anggriani & Indasari (2018) and Putra & Santika (2018) regarding gender, women will tend to be more impulsive in spending online, regarding low transaction risk (Kerviler et al., 2016), and Daulay et al. (2020); Hawari et al. (2020); Kim et al. (2010); Zhou (2013) regarding ease of transaction and efficiency. Meanwhile, factors that resist use digital payment shown by research by Arango et al. (2015) and Bondeson & Lindbom (2018) regarding the ease of transactions with cash, meanwhile Putritama (2019) and Stella & Sanjaya (2020) regarding transaction security.

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Differences of opinion and the various factors that influence it are interesting to study within the scope of students, but all of the research above only looks for factors that influence consumption related to the use of digital payments but has not calculated the consumption probability of this topic. This research will complement the above research. Students have different characteristics and consumption patterns for each individual. There will certainly be differences in the factors that influence consumer behavior. Therefore this study will analyze the effect of using digital payments on the probability of student consumption patterns. digital payment growing rapidly and presenting various companies competing in providing the best service in the provision of services digital payment.

Bank Indonesia stated that in 2018, Indonesia had 38 applications digital payment which has an official license, such as Go-Pay, OVO, LinkAja, DANA, Jenius, and others. Based on a survey conducted by DailySocial.id in the Fintech Report 2018 of 825 respondents who use fintech, Go-Pay is the most popular digital payment service compared to other application services. As many as 79.39% of the respondents used the Go-Pay service, followed by Lippo Group's Digital Payment service, OVO, with 58.42% users, Telkomsel T-Cash with 55.52% of users, and newcomers to the Digital market Payment, namely FUNDS, is 34.18% of users (DailySocial.id, 2018). The use of electronic money in Indonesia has become a trend that continues to increase, this is because the Indonesian people have confidence in this trend. The level of public trust in digital payment This has a rapid increase as evidenced by the increase in transactions through electronic money. The efficiency offered by the product digital payment become a special attraction for the community.

In recent years, Indonesia has begun to open up to financial innovation products, this can also be reflected in the number of electronic money transaction values which can be seen in Bank Indonesia (BI) data, the volume value of digital payment transactions has increased drastically. From 2009 to 2019 there was an increase of 145,165,468 million rupiahs. Even in 2019, the increase in the number of transaction values looks very drastic compared to previous years. This shows that Indonesia has just entered the digital economy era in the last few years. This increase is due to the culture of society that Indonesia has just been able to accept the development of this renewable technology, and besides that the government is also encouraging the use of electronic money to replace the role of cash in Indonesia.

There are many positive and negative impacts on the use of digital payments that make consumer behavior different (Putritama, 2019). Likewise, consumer patterns in the variety of choices and types of services offered make existing consumer patterns different. Consumers, especially students, may save their money in banks even though digital payment services exist that facilitate transactions, or consumers, especially students, who use digital financial services, will be more inclined to continue making transactions because they are tempted by promotions offered by digital payment service providers (Deka, 2020; Rathore, 2016).

## 2. RESEARCH METHODS

The types of data from this study are primary and secondary data, primary data obtained from distributing questionnaires in the form of income, savings, expenditure, age, level of education, consumption probability and gender. Secondary data sources were obtained from Universitas Sebelas Maret (UNS) academics in the form of population data for undergraduate students at Universitas Sebelas Maret (UNS).

The population of this study was active undergraduate students at Universitas Sebelas Maret (UNS) and the total population was 23,715. The analytical method of this study using logistic regression analysis is one of the statistical techniques that is widely used to estimate the relationship between variables in a study. The logistic model in research can be expressed in the following function:

$$\ln(P_1 : 1 - P_1) = Y_1 = \beta_1 + \beta_2 I_t + \beta_3 S_t + \beta_4 E_t + \beta_5 A_t + \beta_6 G_t + \beta_7 Ed_t + u_i$$

Where as:

Y = Consumption Pattern Probability

I = Monthly Income

S = Savings for a Month

E = Amount of Digital Payment Expenditures

A = Student Age

G = Student gender

Ed = Student Education Level

### 3. RESULTS AND DISCUSSION

#### Descriptive Statistics

With 11 Faculties and 1 Postgraduate Program, UNS has 6 programs ranging from Doctoral programs to Vocational programs. Total study programs owned by UNS are 179 Study Programs. The number of students is 37,062. Respondents with the age of 21 years are the most respondents with a total of 46 respondents. Respondents with the age of 24 years are the least number of age groups, namely 1 respondent. The average age of the respondents in this study was 20.82 years or rounded up to 21 years. The sex of the 100 respondents who were female was 70 respondents and those who were male were 30 respondents.

It can be seen that 64 respondents in this study were students who live in boarding houses. While the other 36 respondents are students who live with their parents. Class of 2016 with a total of 58 responses or 58.00% of 100 respondents. Class of 2015 is the class group that has the fewest respondents, namely 3 respondents. This is because most of the 2015 Batch students have graduated, so the number of respondents is small.

Income data is obtained by the author from questions regarding the amount of pocket money or salary per month. This is done considering that the respondents are students, the majority of the income money they have is pocket money given by their parents. That as many as 70 respondents from the total definitely used digital payment in one month. While 32 other respondents do not necessarily use digital payment in one month.

It is known that OVO dominates the application Digital Payment which is often used among students of Universitas Sebelas Maret (UNS). As many as 57 out of 100 respondents said that OVO was one of the most frequently used applications. As many as 99% of respondents in this study argue that Digital Payment easy to understand, only 1% mentioned that Digital Payment not easy to understand. As many as 98% of respondents agree that Digital Payment provide convenience in transactions.

As many as 94 respondents feel safe doing transactions with Digital Payment, while 6 other respondents felt insecure transacting using Digital Payment. Shows that 70% of respondents definitely use Digital Payment in one month, but currently only 15% of respondents in this study make Digital Payment as the main means of payment.

The value of the coefficient of determination ( $R^2$ ) from McFadden of 0.311282 which means that consumption patterns that affect the probability of eleventh march university students in using digital payments are explained by the logit regression mode of 31.12% and the remaining 68.88% is explained excluding other variables outside the model. The odds ratio can be calculated for each independent variable, that is:

- a. Income Variable = Students with higher incomes will use digital payments 0.9999967 times more often than students with lower incomes

- b. Savings Variable = Students with higher savings will use digital payments 1.0000050 times more often than students with lower savings
- c. Expenses = Students with higher digital payment spending will use digital payments 1,0000129 times more often than students with lower savings
- d. Age = Students with a more mature age will use digital payments 2.7096256 times more often than students with a younger age
- e. Gender = Female students will use digital payments 13.6513250 times more often than male students
- f. Education Level = Students with higher semester levels will use digital payments 0.5171324 times more often than students with lower semester levels

### L Ratio Likelihood Test Results

Test the feasibility of the model through the statistical likelihood ratio (LR) test as follows:

H<sub>0</sub> = The independent variable is thought to be insignificant to the dependent variable.

H<sub>a</sub> = The independent variable is suspected to be significant to the dependent variable.

The chi-squares calculated value is :

$$\begin{aligned} LR &= 2 (LLURE - LLR) \\ &= 2 (-17.46856 - (-25.36389)) \\ &= 2 (7.89533) \\ &= 15.79066 \end{aligned}$$

The critical value of chi-square at alpha 5% and df 6 = 15.79. The calculated chi square is greater than the critical chi square. The results reject the null hypothesis and the model is feasible.

### Independent Variable Significance Test

This logit regression model uses the maximum likelihood method and the significance test for the independent variable uses the Z distribution.

Table 1. Independent Variable Significance Test

Variable	Coefficient	Std Error	z statistic
Income	-0.00000329	0.00000143	-2.309413
Saving	0.000005	0.0000052	0.961538
Expenditure	0.0000129	0.00000541	2.387147
Age	0.996181	0.855552	2.498030
Gender	2,612186	1,045698	1.165372
Education	-0.65904	0.582039	-1.132296

Source: Processed data, 2022

H<sub>0</sub> = Variables of Income, Savings, Expenditure, Age, Gender, and Education Level presumably have no effect and are not significant to the variable Probability of Student Consumption Patterns.

H<sub>a</sub> = Income, Expenditure, Savings, Gender, Age, and Education Level variables are suspected and significant to the Probability Variable of Student Consumption Patterns.

Z<sub>α</sub> = with alpha 5% (0.05) = 1.645

- a. Income: Shows the Zstatistic of income is -2.309 which smaller than to  $Z_a$  (1.645). So the conclusion is accept  $H_0$ , means the Income variable does not affects the probability of student consumption patterns.
- b. Saving: Shows the Zstatistic of saving is 0.9651 which smaller than to  $Z_a$  (1.645). So the conclusion is accept  $H_0$ , means the Saving variable does not affects the probability of student consumption patterns.
- c. Expenditure: Shows the Zstatistic of expenditure is 2.3871 which greater than to  $Z_a$  (1.645). So the conclusion is accept  $H_a$ , means the Expenditure variable affects the probability of student consumption patterns. The expenditure variable has a significant influence on the probability of consumption patterns in using digital payments because many students spend through digital payments to fulfill their consumption patterns.
- d. Age: Shows the Zstatistic of Age is 2.4980 which greater than to  $Z_a$  (1.645). So the conclusion is accept  $H_a$ , means the Age variable affects the probability of student consumption patterns.
- e. Gender: Shows the Zstatistic of expenditure is 1.1653 which greater than to  $Z_a$  (1.645). So the conclusion is accept  $H_a$ , means the Gender variable affects the probability of student consumption patterns. The gender variable has a significant influence on the probability of consumption patterns in using digital payments because students, especially the female gender, use digital payments more as a means of payment to fulfill their consumption.
- f. Education: Shows the Zstatistic of Education is -1.1322 which smaller than to  $Z_a$  (1.645). So the conclusion is accept  $H_0$ , means the Education variable does not affects the probability of student consumption patterns.

### Probability of Students Using Digital Payment

To find out the student's decision in the use digital payment by using the independent variables the level of income, spending, expenditure, age, gender, and education level produce logistic regression as follows:

$$\text{Probability\_consumption} = 1 - \text{@clogistic} (-(-14,4147979997 - 3.2921792114e-06 * \text{Revenue} + 5,0034636378E-06 * \text{Savings} + 1,29232387466E-05 * \text{Expenditures} + 0.996180963484 * \text{Age} + 0.996180963484 * \text{Gender} + 0.996180963484 * \text{Education}))$$

Based on the equation, the researcher can predict the probability of students consuming digital payment. For example, if a 21-year-old 8th semester student has an income level of 1,100,000, a savings rate of 170,000, and an expenditure level of 235,000, then the probability of consuming digital payment as follows:

$$\text{Probability\_consumption} = 1 - (-(-14,4147979997 - 3,2921792114e-06 * 1,100,000 + 5,0034636378E-06 * 170,000 + 1,29232387466E-05 * 235,000 + 0.996180963484 * 21 + 0.996180963484 * \text{Gender} + 0.996180963484 * \text{Education}))$$

$$\text{Probability\_Consumption} = 4.8683$$

Consumption probability prediction value:

$$P_i = \frac{1}{1 + e^{-z_i}} \\ = \frac{1}{1 + e^{-4.8683}} \\ = 0,9923722093$$

The probability of consuming digital payments for 8<sup>th</sup>-semester students who are 21 years old with an income level of 1,100,000, a savings rate of 170,000, and an expenditure level of 235,000, is 0,9923722093.

Non consumption probability prediction value:

$$\begin{aligned}\text{Probability of Not Consumptive} &= 1 - P_i \\ &= 1 - 0,9923722093 \\ &= 0,0076277907\end{aligned}$$

Meanwhile, the probability of not consuming digital payments is 0.0076277907.

The calculation results above it shows that Universitas Sebelas Maret (UNS) students have a more consumptive tendency in using digital payments (Fatmasari et al., 2019; Lin et al., 2020).

#### 4. CONCLUSION

Based on the results of this research, the conclusions is the effect of the independent variables on the dependent variable: Income, Saving, and Education variables does not have a significant influence on the probability of consumption patterns in using digital payments. Meanwhile Expenditure, Age, and Gender variables have a significant influence on the probability of consumption patterns in using digital payments. Beside that, this research also shows that UNS students have a more consumptive tendency in using digital payments

The recommendation from the results of this research is that students are expected to be wiser in transactions so as not to become consumptive and the recommendation for further research is to add other more relevant variables and increase the number of respondents.

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