Behavior Users of E-Money for Payment in E-Toll Based on Assessment Technology Acceptences Model

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ABSTRACT

The objective of this research is to know and analyze the influence of *Ease of Use Perceived, Convenience Perceived, Quality of Service Provider,and Security Perceived* to user behavior in using E-Money on E-Toll payment. The theory used in this research is *Technology Acceptences Model*. Data source used in this research is primary data. This study used the method of online questionnaire survey through *Googleform* which was distributed to 151 respondents who came from the students of Accounting Department Force 2015-2017 Faculty of Economics and Business Brawijaya University. *The analysis technique used is factor analysis and multiple linear regression*. In this research using *SPSS 2.3* software to test the research data. The results showed that the influence of ease of use perceived, convenience perceived, quality of service provider, security perceived gave positive and significant influence to E-Money user behavior on E-Toll payment. The more modern technological developments in finance can improve the economy in Indonesia and simultaneously with the increasing ability of community acceptance of technological developments using E-Money on E-Toll payments.

Keywords: Consumer Behavior, TAM, E-Money, E-Toll

INTRODUCTION

Background

The recent development of technology has grown so rapidly including the payment system. Non cash based payment system that is more familiar with E-money has been a warm conversation and becomes the latest trends in the payment system. The development of this technology is intensively carried out by the government in order to reduce the use of cash in society by running national non-cash movements or in Indonesia called by (GNNT).

The most of interesting is a payment system toll booth across Indonesia turned into E-toll or toll electronically. This is one of the technological developments being intensified by the government so that road users must have E-money in order to use the toll road. All this is one proof of the government's intention to face increasingly fierce competition in creating new innovations. According to Kotler (2000), service quality is the authority of the characteristic form of goods or services that shows its ability to satisfy the needs of the user, both visible and hidden.

The popularity of E-money rises lately. Ease of use and liability of use in a number of places make the use number jumped significantly. Based on Bank Indonesia's Payment System Statistics, as of December 2017, electronic money amounts to 90 million instruments.

The growth has doubled compared to growth from 2015 to 2016 which amounted to 33.7%. Rapid growth is also evident from the electronic money infrastructure. By December 2016 the number of readers was still 374,861 units. However, by the end of 2017 the number had jumped to 691,331 units. Some of the factors increasing the use of electronic money in Indonesia are the obligation of payment of non-toll tolls and the development of online transportation.

The reason researcher chose the object in the student accounting major period of 2015-2017 Faculty of Economics and Business Brawijaya University, Malang which has been using e-money or electronic money for payment. Consideration of

accounting major student who have used the e-money for payment in e-toll. The researcher find the nearest responden such as students accounting major have same experience who have transportation such car. The students were using car or driven byself for going on some where using toll. The intensity of student have car their own for going to campus. The students has easily to have e-money by their self because we can buy it without making account in bank, only buy it on mini market or bank who distribute the e-money.

Now in modern era does not close the possibility of students can travel anywhere with their own vehicles. Students also surely feel supported by the effort there is a way toll, students can wherever quickly and easily. The government's efforts to create inter-regional connecting roads also make it easier for students as the community to enjoy the latest services from the government. Students come from all regions in Indonesia. students are also helped in education, if there is a need to meet the education will have a good impact. The students also has same problem using e-money for payment in e-toll, such as payment need time to detect by the service provider, run out of stuck payment, distance of size people and car.

LITERATURE REVIEW

SystemDefinition

The system is derived from the Latin (systēma) and the Greek (sustēma) is a unity consisting of components or elements connected together to facilitate the flow of information, matter or energy to achieve a goal. This term is often used to describe a set of interacting entities, in which a mathematical model can often be made.

The system is also the unity of the interconnected parts that reside within an area as well as having moving items, common examples such as states. The state is a collection of some other unity elements such as interconnected provinces that form a state in which the role as the mobilizer of the people who are in that country (Wikipedia ,2018).

Information Definition

Information is a message (speech or expression) or collection of messages consisting of order sequences of symbols, or meanings that can be interpreted

from a message or a collection of messages. Information can be recorded or transmitted. It can be recorded as signs, or as a signal by wave. Information is the type of event that affects a country from a dynamic system. Concepts have many other meanings in different contexts. Information can be said as knowledge gained from learning, experience, or instruction. However, this term has many meanings depending on the context, and is generally closely related to concepts such as meaning, knowledge, negentropy, perception, stimulus, communication, truth, representation, and mental stimulation.

Accounting Information System

Horngen (2005:5) defines accounting as an information system that measures business activity, processes data into reports, and communicates results to decision makers. According to Romney and Steinbart (2000:2), the accounting information system consists of people, procedures and information technology. Romney and Steinbart (2000:6) also stated that the development of a new information technology will affect the design of an accounting information system. Meanwhile, according to Bodnar and Hopwood (2003:1), accounting information system is a collection of resources, such as human and equipment designed to transform financial data and other data into information communicated to decision makers.

The accounting information system is a collection of resources, such as human, equipment, procedures and information technology used to process the data into information in the form of corporate financial statements and then the results communicated to the decision makers both internal parties, namely management and external parties company. To support transactions with one another, an accounting information system will form a subsystem that work in accordance with its specialization.

Payment System

The payment system is a system that includes a set of rules, institutions and mechanisms used to implement the transfer of funds to meet an obligation arising from an economic activity. Payment system is a system associated with the transfer of a certain amount of money from one party to another party. The medium used for the transfer of value of money is very diverse, ranging from the

use of a simple payment tool to the use of complex systems and including various institutions and rules.

Consumer Behavior

Consumers are everyone who uses goods and / or services available in the community environment, for the sake of self, family, other people or other life masters. Consumers have diversity and diversity because it covers all individuals of different ages, backgrounds, customs and culture, education, and socioeconomic circumstances. How consumers behave and what factors influence the behavior to be learned.

According to Kotler and Keller (2008), the so-called consumer behavior is the study of how individuals, groups and organizations choose, buy, use and place goods, services, ideas or experiences to satisfy their desires and needs.

The central point of attention in the marketing process is the consumer. Appropriate and efficient marketing policies can occur when marketing learns what consumers need and want. Consumer studies provide guidance for introducing and improving products or services, setting appropriate prices, planning product delivery, composing messages, and developing other marketing activities. In the consumer behavior model, the process begins with stimuli marketing and other stimuli that come from outside such as economics, technology, culture, and politics. A series of stimuli was influenced and influenced the psychology and characteristics of consumers, which then continues to the purchasing decision process.Thus, decision making in the buying phase will be influenced by various factors. Several factors that influence consumer behavior, according to Kotler and Keller (2008), namely are:

1. Cultural Factors
2. Social Factors
3. Personal Factors
4. Psychological Factors

E-Money

Electronic money is a manifestation of the modern banking system. The definition of electronic money according to Indonesian bank regulation No.16/8 / PBI / 2014 is a mean of payment that meets the 4 elements, namely:

1. Issued on the value of the money deposited in advance to the issuer
2. The value of money stored electronically in a media server or chip
3. As a mean of payment to a merchant who is not an issuer of electronic money.
4. The value of electronic money maintained by the issuer shall not constitute deposits as referred to in the laws governing banking.

In a publication issued by the Bank for International Settlements (BIS) in October 1996 defining electronic money is a product that has a stored value or prepaid in which a certain amount of money is stored in an electronic media owned by a person. Electronic money (e-money) is a means of payment that can be used for various types of payments (multi purposed), unlike a phone card that is a single-purpose prepaid card.E-Money is divided into two groups, based on its type:

A. Prepaid Software

Software-based product (prepaid software) often called digital cash. The e-money product included in this group is in principle an application (software) which is then installed into a Personal Computer (PC) running on a standard operating system. This product is developed to conduct transactions through a computer network (internet). Based on observations made by the BIS working group, e-money products based on this software are still relatively small.

B. Prepaid Card

Card-based products (prepaid cards) E-money in the form of card-based products are often referred to as electronic wallet. Card-based products are principally intended for direct face (face to face) payments, but currently some card-based products can also be used for internet payments by adding certain tools on a user's computer. This type of product uses card media with integrated circuit technology (IC) otherwise known as "IC card" which contains microprocessor chip (chip). IC cards can be classified into two types: smart cards and memory cards. Smart card has a function to perform data processing and storage functions.

C. Non-Cash National Movement in Indonesia

Recognizing the inconvenience and inefficiency of cash usage, Bank Indonesia took the initiative and will continue to encourage the development of a society accustomed to using non-cash payment instruments by launching this movement. With the following objectives:

1) Provide experience using payment instruments using cards and electronic money for people who are just starting to use the non-cash payment instrument, so it can cause habits in transacting regularly.
2) Encourage increasing use of payment instruments using cards and electronic money in community transactions.
3) Learn the behavior of people who have bank accounts and have payment instruments using cards or electronic money. With this program expected can see a change in community behavior to use the instrument if the community is facilitated with various conveniences such as the presence of many merchants and uniform infrastructure.
4) Provide education about electronic money either through socialization, information center, seminar, or talk show.
5) Encourage increasing frequency of e-money usage.

Technology Acceptance Model Theory

Technology acceptance model is a model of acceptance of information technology system that will be used by the user. TAM describes two factors that predominantly influence the integrase of technology. The first fact is the user's perception of technological usefulness. The second factor is the perception of ease of use. Both of these factors affect the willingness to utilize technology (usefulness).

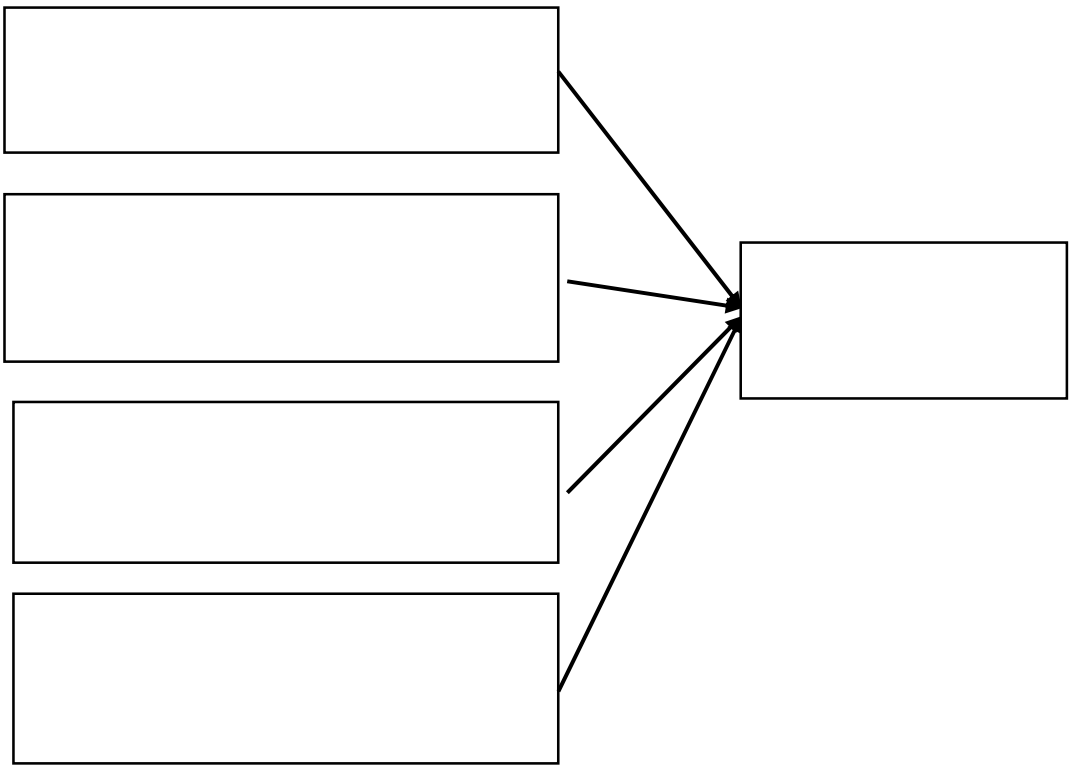
Technology acceptance model (TAM) aims to explain and estimate user acceptance of an information system (Jogiyanto, 2008). TAM describes a causal relationship between belief in the benefits of an information system and its ease of use, and the behavior, purpose, and actual use of the user / user of an information system. This technological acceptance model was introduced by Davis (1989) based on the Theory of Reasoned Action (TRA) model introduced by Ajzen and Fishbein (1980). TRA model can be applied because the decision made by

individuals to receive a system of information technology is a conscious action that can be explained and predicted by the intent of perpetrators.

Conceptual Framework

This study is based on some previous researches. There are several 4 independent variables and 1 dependent variable. This study develops 4 independent variables that influence E-money user behavior on E-toll payment using the Acceptance Model Technology Theory approach and a dependent variable, consumer behavior. Based on previous researchers, the first independent variables used in the study is perceived ease of useas developed by Wibowo (2015) and Fitri (2016) which uses the perceived ease of useas the independent variable in their researches.

The second independent variables is convenience perceived developed by Poon (2008) and Widiastuti (2016) studies which analyze the convenience use perceived in their research. The third independent variable is the quality of service providers as developed by Zuna (2015) and Widiastuti (2016), and the last independent variable is a security perceived as developed by researchers Utami and Kusumawati (2017) and Qubith (2016).



RESEARCH METHODS

Based on the problem behavior user of E-money for payment in E-toll under the study, the type of this research is quantitative research with descriptive approach. Quantitative approach is research variable can be in form of objects, people or activities to be researched or studied and concluded, reveal the relationship between variables and finding the point of research. Descriptive technique is a technique of collecting, managing, simplifying, presenting and analyzing data in order to provide relevant figures related to the numbers.

The location of this research was Malang city. This location was chosen because Malang is one of the big cities in Indonesia. This is based on the extent to which people in the city of Malang use E-Money as a means of payment. Malang is known as city of education. So that the accessible respondents for the researcher are Students of Accounting period years in 2015-2017 of Faculty Economics and Business, University Brawijaya. The reasons of researcher choose students because their opinion of developing technology could renew the weakness more accurately for the next steps of government improving payment system technology in Indonesia.

Population

Population refers to a set of individuals with distinctive characteristics of concern in a study. The population in statistics is not limited to a group of people, but also animals or anything else that concerns us. Population is a generalization region consisting of: objects / subjects that have certain qualities and characteristics set by researchers to be studied and then drawn conclusions. So, the population is also not just the number of objects / subjects studied but includes all the characteristics / properties owned by the subject / object (Sugiyono, 2013: 80).

In this study, the population was accounting student batch 2015, 2016, and 2017 of Economics and Business Faculty, UniversitasBrawijaya who used E-money as a means of E-toll payment. The population based on batch are 278 for 2015, 303 for 2016, and 286 for 2017. Total amount of population is 867.

Sample

Sample is a part of the population (Indriantoro, 2002). Sampling method of this research used stratified random sampling technique. This method sampled a member of the population from selected from each group (Thoifah, 2015). This technique is chosen to get a sample that can represent accounting department of economics and business Faculty batch 2015,2016 and 2017.

In determining the sample, this study used the opinion expressed by Roscoe (1975) in Thoifah (2015: 19). The research with multivariate analysis (multiple linear correlation or regression for example), should select 10x sample of the number of variables studied. In this study, there are 5 independent variables used in this study. Therefore, the number of samples is at least amounted to 5x10 = 50 samples. In this case, from 3 batch years 2015, 2016, and 2017, the number of samples used in this research was 50x3 = 150 samples.

Method of collecting data

Data collection method used is survey method by using questionnaire as data collection tool. Understanding the questionnaire is an information-gathering technique that enables the analysis of the attitudes, beliefs, behaviors, and characteristics of some key people within the organizational system that may be affected by the proposed system or existing systems. data collection method used is survey method by using questionnaire as data collection tool. Understanding the questionnaire is an information-gathering technique that enables the analysis of the attitudes, beliefs, behaviors, and characteristics of some key people within the organizational system that may be affected by the proposed system or existing systems.

The questionnaire is distributed to the sample to be filled so that the data can represent the entire population. in the process the researcher can directly come to the respondent and give the questionnaire. in addition to increasing the number of respondents, researchers can use electronic devices such as web survey application presented by google.com to facilitate researchers to spread the questionnaire to Students of Accounting period years in 2015-2017 of Faculty Economics and Business, University of Brawijaya Malang.

Analysis Data Method

Factor analysis is a multivariate analysis method based on correlation between variables. Factor analysis includes one statistical technique that can be used to provide a relatively simple description through the reduction of the number of variables called factors. Factor analysis is used to reduce data or summarize, from the old variables that are converted to slightly new variables called factors, and still contain most of the information contained in the original variables (Supranto, 2004).And Multiple Linear Regression Analysis Statistical tool used to determine the effect of one or several variables on a single variable.

The influencing variable is often called the independent variable, the independent variable or the explanatory variable. The influenced variable is often called the dependent variable or dependent variable.This research uses the help of *SPSS 2.3 Software* in searching for variable relationships used in this research.

RESULT OF RESEARCH AND DISCUSSION

Description of Respondents Characteristic

This descriptive analysis is intended to illustrate the respondent characteristics. Based on the result of research on 151 respondents, the data shows information about respondents' age, sex, and information about their E-money usage. The result of recapitulation of the frequency distribution collected from the questionnaire about the characteristics of the respondents. The age of the respondents according to the results of the study.From 151 respondentswith the ages of 20-22 years as the most 78 people (51.7%). The result that the gender of the respondents from 151 was mostly female with 81 people (53.6%) and 70 male students (46.4%). Therefore, the female respondent was slightly more than male respondent. batch students was 57 people (37.7%)were students of 2016. Most of the respondent use E-money from Bank Mandiri 41 people (27.2%).

Analysis of Factor Test

From several indicators on each variable, factor reduction is made into 1 factor, to combine all the indicators into 1 data for the measured variable called the scores factor. So that when regression test is done, the study can use factor scores result of factor reduction from all indicator of each variable tested.

Kaiser Meyer Olkin Measure of Sampling Adequacy	0.904
Bartlett Test of Sphericity Approx. chi-square	1662.673
df Sig.	66 0.000

The KMO and Bartlett's test numbers are 0.904 with a significance at 0.000. Since the KMO and Bartlett's test numbers is above 0.5 and the significance is far below 0.05 (0.000 <0.05), the existing variables and samples can be further analyzed.

Multiple Linear Regression Test

Variable	Regression coefficient (b)	Std. error	Beta (β)	t_{hitung}	Sig.	Explanation
X1	0.465	0.041	0.465	11.402	0.000	Significant
X2	0.477	0.041	0.477	11.687	0.000	Significant
X3	0.412	0.041	0.412	10.102	0.000	Significant
X4	0.379	0.041	0.379	9.279	0.000	Significant
R	= 0.870					
R Square	= 0.757					
Adjusted R square	= 0.750					
F_{hitung}	= 113.686					

The analysis used is multiple linear regression analysis. This analysis is used to calculate the magnitude of influence of independent variables consisting Ease

of Use (X1), Convenience (X2), Quality of Service Provider (X3), Security (X4) on dependent variable (Y) that is consumer behavior (Y) at PT. JasaMarga (Persero)Tbk.

The value of multiple correlation coefficient (Multiple R) of 0.870 which states the degree of closeness relationship between consumer behavior (Y) at PT. JasaMarga(Persero) Tbk. with E-money user behavior on E-toll payment based on technology acceptance model consisting Ease of Use, Convenience, Quality of Service Provider, Security reaching 0.870 and strong relationship between E-money user behavior indicator on E-toll payment based on acceptance model technology with consumer behavior in the use of E-Money.

The coefficient of determination (R-square) is 0.757, while the corrected coefficient of determination of the error factor or bias with the aim to approximate the accuracy of the model in the population used Adjusted R Square is = R2) of 0.750. The coefficient of determination (R-square) expresses the influence of E-money user behavior indicator on E-toll payment based on model of technology acceptance to consumer behavior (Y) at PT. JasaMarga (Persero)Tbk. This means that 75.7% of the diversity of consumer behavior (Y) at PT. JasaMarga(Persero) Tbk. influenced by E-money user behavior on E-toll payment based on technology acceptance model consisting Ease of Use, Convenience, Quality of Service Provider, Security. While the remaining 24.3% is determined by other factors outside the variables studied. The hypothesis is done with the F test of simultaneous testing Fcount at 113.686 with a significance value (0.000) which is much smaller than alpha 0.05, so Ho is rejected.determined by the existence of E-money user behavior on E-toll payment based on the technology acceptance model in the regression equation Y is = (-1.3x10-16) + 0.465 X1 + 0.477 X2 + 0.412 X3 + 0. 379 X4.

The T test significant level (significance) is at 5% (0.05), the constants significance value (p) at 1.0 larger than 0.05, it can be concluded that the constant has no significant effect on the regression model.

CONCLUSION AND RECOMMENDATION

This study was conducted to determine the variables that influence consumer behavior as the behavior of E-money users on E-toll payments. In this study, the independent variables are ease of use variables (X1), convenience (X2), quality of service providers (X3) and security (X4) while the dependent variable used is consumer behavior (Y). The result significantly related to support between dependent and independent. From the relation of variable positively related giving an effect. The developing technology acceptance by young generation or student in accounting major.

Based on the analysis, it can be concluded that:

1. The perceived ease of use in using E-money on E-toll payments, consumersis easy to use E-money on E-toll pay. This will influence consumer behavior to use the technology. Consumers can accept it well which is in line with the changes desired by the government. With user-perceived convenience, can explain that the user has understood clearly and easily in the use of e-money on e-toll payments. Users have felt the ease. So users do not require excessive effort such as cash payment.
2. The convenience aspect of using E-money on E-toll payments affects consumer behavior to use this technology. This technology provides a sense of comfort during its use to customer. So, consumer behavior is sure to switch and use this payment method. Consumers are no longer need to use cash or carry too much cash to pay toll. Setting up E-money helps users focus more on driving and toll roads becomes more convenient.
3. The quality of the service provider is the next aspect influencing consumer's behavior. With support from the government, PT JasaMarga (Pesero) Tbk and Bank Mandiri(Persero) Tbkare able to provide quality services related to this technologically changes. This fact can change the consumer behavior to use E-money on E-toll payment. This support makes people sure to use E-money on E-toll payments. The impact is more positive with less queue of vehicles, faster payment, and driving using the toll road feels more comfortable and gives confidence in the community.
4. The last aspect is that security in using E-money on E-toll payments has an impact on consumer behavior on this payment technology. Consumers feel the

security provided. Of course, it is not easy to prepare cash on toll gate payment. With the development of payment, the operator can change the behavior of consumers switching to E-money for toll payment as a proof of security provided.

From the overall result, convenience becomes dominating factor influencing consumer behavior. It can be said that consumer use of new technology is in line with the increasing economic system in Indonesia.

Suggestion

Based on the above conclusions, There were some suggestions for the company and other parties, among others:

With increasing non-cash payments such as E-money. it is expected that there will be no change in the toll payment. As has been stated previously, the government should play more role in this respect. The main purpose of this technological development is to provide convenience to the community and better services. In the future, such services will grow more and can answer all the needs of the Indonesia economy.

Based on the result, the consumer is expected to be more open in accepting the latest technological changes, especially E-money. The free variables in this research are very important in influencing consumer behavior. It is expected that this research results can be used as a reference for further research to develop and consider other variables to be studied.

Research Limitations

The author realizes that this research as limitations. This research is students as a sample, the limited of time that can not represent the use of electronic money by other group of professions. Otherwise this limited could be completed by the future researcher for the addition some information in minor thesis or other.

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