

CHAPTER III

RESEARCH METHOD

3.1. Population and Sample

When we doing the research it is imposible to survey every population that we determine because the population is too wide and to massive. To make inferences about the characteristics of a population, researchers can use a random sample. When researching an aspect of the human mind or behavior, researchers simply cannot collect data from every single individual in most cases. Instead, they choose a smaller sample of individuals that represent the larger group. If the sample is truly representative of the population in question, researchers can then take their results and generalize them to the larger group (Cherry, 2018).

Size of samples in this study are according to Rao Purba (2006), as stated in formula below :

$$n = \frac{z^2}{4(moe)^2}$$

Explanation :

n = Sample size

Z = The confidence level in determining the sample is 95% = 1.96

moe : Margin of error or maximum error that can be tolerated, here set at 10%

Using the formula above, the following calculations are obtained:

$$n = \frac{1,96^2}{4(0,1)^2}$$

$$n = \frac{3,8416}{0,4}$$

$$n = 96,04$$

Based on the calculation results above, the number of samples needed in this study is 96.04 respondents. The number of minimum samples is 96 but for convenience it is rounded to 100.

3.2. Data Type

This research used primary data collected directly from research objects and used convenience sampling. Because there are several independent variables the questionnaire was initially developed in English. The questionnaire was put on the web through a free web hosting service. The respondent of this research are those who have use or have not been use electronic money and come from variative background such as some students in Yogyakarta and Jakarta, employee, housewife, businessman that qualified to use electronic money. Respondent in this research should be in the age above 18 and all of respondents in this research are Indonesian citizen.

3.3. Data Collection Method

The data collection method in this research was non probability sampling. This type of sampling will be used if the researcher wants to get more detailed data from the data previously obtained. The selection of sample elements is based on his own reasoning

wisdom. On this non probability sampling, each element is not known whether or not the opportunity to become the elamen of the sample. In this type of sample, not all elements have the opportunity to be selected as samples, thus the findings of the study using sampling of this type cannot be directly generalized as a result of research on the population. The purpose of the researchers using this type of sampling is to eneralize the population that is not too important, compared to the findings obtained when doing a study, or researchers have obstacles so that they save the resources they have (Maila niamas, 2017).

3.4. Operational Variable Definition

In scientific research, scientists, technicians and researchers utilize a variety of methods and variables when conducting their experiments. In simple terms, a variable represents a measurable attribute that changes or varies across the experiment whether comparing results between multiple groups, multiple people or even when using a single person in an experiment conducted over time. In all, there are six common variable types (Agravante, 2018). To get data with interval value, respondent required to choose 1 to 6 from the scale.

The value of 1 to 6 is the level of respondent's conformity toward each question. 1 value related with "highly not agree". One or value that close to one is a value that shows respondent conformity level is low toward the question. 6 value is related with "highly agree". Value that is close to this value shows high level of conformity toward questionnaire.

3.4.1. Perceived Ease of Use (E)

Perceived ease of use utilize primary data gathered from questionnaire. Perceived ease of use is a level of user believed that technology can be applied conveniently. To measure level of capability, researcher submitted 4 indicators adapted from Venkatesh and Davis (2003).

3.4.2. Perceived Usefulness (U)

Perceived usefulness utilize primer data gathered from questionnaire. Perceived Usefulness (U) is one of the independent constructs in the Technology Acceptance Model (TAM). It is the degree to which a person believes that using a particular system would enhance his/her job performance (F.D Davis, 1989). To measure the level of capability, researcher submitted 4 indicators adapted from Venkatesh and Davis (2003).

3.4.3. Attitude Toward Using E-money (A)

Perceived usefulness utilizes primer data gathered from questionnaire. Both perceived usefulness and perceived ease of use predict attitude toward using the system. It defined as the user's desirability of his or her using the system. A user's overall attitude toward using the given system is hypothesized to be a major determinant of whether or not he actually uses it. Attitude and perceived usefulness influence the individual to actually use the system (Bagozzi et al., 1992). To measure the level of capability, the researcher used 4 indicators

3.4.4. Behavioral Intention to Use E-money

Behavioral intention to use electronic money utilize primer data gathered from questionnaire. According to Agudo et al. (2014), acceptance studies focus on the predictors of system adoption and use, with behavioral intention to use the system as a proxy for actual use. BI is behavior-specific and operationalized by direct questions such as "I intend to [behavior]," with Likert scale response choices to measure relative strength of intention. Intention has been represented in measurement by other synonyms and is distinct from similar concepts such as desire and self-prediction (Armitage & Conner, 2001). To measure level of capability, researcher used 4 indicators.

According to Venkatesh and Davis (2003), there are 4 questions that indicate perceived ease of use as follow:

1. Using electronic money is intelligible and easy to understand.
2. In my opinion using electronic money does not require much effort.
3. I feel handy to get electronic money service to do transaction.
4. In my opinion electronic money is convenient to use

According to Venkatesh and Davis (2003) there are 4 questions that indicate perceived usefulness as follow:

1. Using electronic money improves my performance to do transaction.
2. Using electronic money improves my productivity.
3. Using electronic money improves my efectivity to do transaction.
4. Overall electronic money is usefull for my transaction activity

This research questionnaire was adapted from Ajzen & Fishbein (1980) formulation about theory of reasoned action that contains behavioral intention to use new technology aspect. There are 4 questions that indicate attitude toward using electronic money as follow:

1. Using electronic money for my paymnet activity is favorable.
2. I think it is a good idea to use electronic money.
3. I enjoy to use electronic money.
4. Using electronic money is pleasurable.

This research questionnaire was adapted from Ajzen & Fishbein (1980) formulation about theory of reasoned action that contains attitude toward using new technology aspect. There are 4 questions that indicate behavioral intention to use new technology such as:

1. I will use electronic money in the future.
2. In my opinion using electronic money is handy.
3. For me, using electronic money on a regular basis is extremely pleasant.

3.5. Data Analysis Technique

Data analysis technique in this research was multiple linear regretion analysis with SPSS program because it was suitable to test several factors. There were several steps in multiple linear regretion analysis :

3.5.1. Descriptive Analysis

The data gathered were procesed. The processed data was able to describe the data result that come from respondent's answer from each variable.

3.5.2. Descriptive Statistics

This research used descriptive statistics. According to Narkhede (2018), descriptive statistics enable researchers to describe variables numerically and statistics describes a variable focusing on two aspects: the central tendency and the dispersion . Descriptive statistics describes systematically the implementation of environmental disclosure using secondary data of companies listed in SET. Therefore, through this statistical tool, the description of each data variable (government ownership, company age, company size, profitability, leverage, international operations, and environmental performance) can be identified by using minimum, maximum, mean, and standard deviation.

Descriptive statistics involves summarizing and organizing the data. Thus, it can be easily understood. Descriptive statistics, unlike inferential statistics, seeks to describe the data, but it does not attempt to make inferences from the sample to the whole population. In this research the data was described in a sample. This generally means that descriptive statistics, unlike inferential statistics, is not developed on the basis of probability theory (Narkhede, 2018).

3.5.3. Data Quality Test

a. Validity Test

Validity encompasses the entire experimental concept and establishes whether the results obtained meet all of the requirements of the scientific research method. For example, there must have been randomization of the sample groups, and appropriate care and diligence shown in the allocation of controls (Shuttleworth, 2008). In this research, there were 4 variables to be tested, such as behavioral intention to use electronic money, attitude toward using electronic money, perceived usefulness, and perceived ease of use toward electronic money.

b. Reability Test

Reliability is translated from the word reliability which means things that can be trusted (hold the test). A test is said to have high reliability if the test provides steady (even) results data even though given at different times to the same respondent. A fixed test result or if it changes then the change is not significant then the test is said to be reliable. Therefore reliability is often referred to as trustworthiness, reliability, stability, consistency, stability, and so on. Reliability concerns the problem of the accuracy of measuring instruments. This accuracy can be assessed by statistical analysis to determine measurement errors. Reliability is easier to understand by considering aspects of stabilization, accuracy, and homogeneity. An instrument is considered reliable if the instrument can be trusted as a measure of research data (Fred N kerlinger, 1990).

3.5.4. Hypothesis Test

The analysis that used in this research was multiple regression analysis, was by observing effect of behavioral intention, attitude toward using electronic money, perceived usefulness, and perceived ease of use toward electronic money service usage.

Hypothesis testing tool in this research used multiple regression analysis with the equation model as follow:

$$U = \alpha + \beta_1 XE + \varepsilon$$

$$A = \alpha + \beta_1 XU + \beta_2 XE + \varepsilon$$

$$BI = \alpha + \beta_1 XA + \beta_2 XU + \varepsilon$$

Explanation :

BI : Behavioral intention

A : Attitude toward using electronic money

U : Perceived usefulness

E : Perceived ease of use

β : Regression Coefficient

ε : Error

a. T Test

To test the truth in hypothesis in this research, the test applied in T test. T test is commonly used to determine whether the mean of a population significantly differs from a specific value (called the hypothesized mean) or from the mean of another population. A t-test is commonly used to determine whether the mean of a population significantly differs from a specific value (called the hypothesized mean) or from the mean of another population.

According to Ghozali (2011), basically T test is used to show the impact of an independent variable individually. The decision based on significant value ratio that has been set was 5% ($\alpha = 0.05$). If counted significance is more than α , H_0 is accepted. It means that this variable does not give impact on dependent variable. Whereas, if the significance is less than α , H_0 is rejected. It means that the independent variable gives impact on dependent variable.

b. Determinant Coefficient Test (R²)

According to Ghozali (2011), the determinant coefficient (R²) is able to give measurement on how the model can explain the dependent variable variation. Determinant coefficient value are between 0 to 1. The low value of R² means limited capability to explain dependent variable. Otherwise, the value which is close to 1 means the independent variable provides almost every information needed to predict the dependent variable.

The disadvantage of determinant coefficient (R²) is bias toward dependent variable in the model. Therefore, most of the researcher uses adjusted R² value when

they evaluated proper regression model. If the dependent variable increases, R² will also increase.

c. Path Coefficient

According to Ghazali (2011), a path model analysis systematically compares which path that can directly or indirectly give impact on the independent variable and dependent variable.

3.5.5. Operational Hypothesis

Based on previous research and theoretical hypothesis, this research used zero hypothesis (H₀) and alternative hypothesis (H_a). This research tested the zero hypothesis (H₀) to prove whether H₀ is rejected or accepted. The hypothesis were stated as follows:

H1: There is a positive relationship between perceived ease of the use of e-money and perceived usefulness of the use of e-money.

H₀₁: $\beta_1 \leq 0$; perceived usefulness does not give positive impact on attitude toward using using e-money.

H_{a1}: $\beta_1 > 0$; perceived usefulness gives positive impact on attitude toward using e-money.

H2a: There is a positive relationship between perceived usefulness and attitude toward using using e-money.

H₀₂: $\beta_2 \leq 0$; perceived usefulness does not give positive impact on attitude toward using using e-money.

Ha2: $\beta_2 > 0$; perceived usefulness gives positive impact on attitude toward using e-money.

H2b: There is a positive relationship between perceived ease of using e-money and attitude toward using e-money.

H03: $\beta_2 \leq 0$; perceived ease of using e-money does not give positive impact on attitude toward using e-money.

Ha3: $\beta_2 \leq 0$; perceived ease of using e-money gives positive impact on attitude toward using e-money.

H3a: There is a positive relationship between attitude toward using of e-money and behavioral intention to use e-money.

H04: $\beta_2 \leq 0$; attitude toward using of e-money does not give positive impact on behavioral intention to use e-money.

Ha4: $\beta_2 \leq 0$; attitude toward using of e-money gives positive impact on behavioral intention to use e-money.

H3b: There is a positive relationship between perceived usefulness of e-money and behavioral intention to use e-money.

H05: $\beta_2 \leq 0$; perceived usefulness of e-money does not give positive impact on behavioral intention to use e-money.

Ha5: $\beta_2 \leq 0$; perceived ease of using e-money gives positive impact on attitude toward using e-money.