CHAPTER III

RESEARCH METHODOLOGY

3.1   Research Design

In this research, the researcher used the quantitative method and research design that the researcher used in this research which is explanatory research. The explanatory research used to understand and became clear to define each variable that investigated dependent variables and the independent variable. According to Sugiyono (2011), quantitative research method can be defined as a research method that is based on the philosophy of positivism sample and is used to examine the population or a particular sample using the research data, instrument of research, quantitative data analysis or statistics with the aim to test the hypothesis that has been set. Furthermore, according to Singarimbun & Effendi (1995) explanatory research explained the relationship between the variable and the previous study that have been formulated before.

The variables of this research consist of two variables, namely the independent variable and dependent variable. The independent is a variable that is changed or controlled scientific experiment to test the effects on the dependent variable. The independent variables in this research are perceived usefulness, perceived ease of use, and perceived value. While the dependent variable is the primary interest of the researcher that is being tested and measured, in this case, is the behavioral intention (Bougie & Sekaran, 2013, p. 69).

3.2 Research Location

The object or location is a place or area where the research takes a specific place to observe. It will provide an overview representing the variables studied through the data obtained. The research location for this research will be in Malang City.

Malang is also the second most populous city in East Java after Surabaya, reaching 895,387 residents living in the city (Wikipedia, 2017). The large number of residents in Malang became a good market for the company to promote their digital wallet products. Furthermore, the researcher chooses Malang as a place to do the research due to the consideration of location adjacent to the researcher as well as the limitations of time and expense.

3.3 Research Populations and Sample

In the methodology section of dissertation, the researcher need required to provide details about the population and sample study.

3.3.1 Research Population

Population is a generalization region consisting of objects or subjects that have certain characteristics that are applied by researchers to learn and then make a conclusion based on research.

Based on understanding above, the researcher takes a conclusion that populations are object or subject where in a certain region and fulfill specific terms and condition that has related issues with the researcher's problems. Population that the researcher used is OVO user in Malang.

3.3.2 Research Sample

Sample is a part of the population and characteristic that consists of the total population itself. Sample itself is a subset of the population, consisting of many elements which can be said as the member of the population (Sekaran & Bougie, 2013, p. 241). Generally, there are two types of research sampling: probability sampling and nonprobability sampling (Sekaran and Bougie, 2013, p. 245).

Sampling in this research was conducted using non-probability sampling in the purposive sampling method. There is no authoritative number of registered and actual digital wallet users. It is why the reason that respondents were chosen from the OVO digital wallet users are not calculated because of the changing of the users are unstable. In other words, OVO digital wallet user is uncountable in certain time, and everyone who used OVO digital wallet is the sample.

Non-probability method is used because of the uncertainty of total OVO users. Purposive sampling is used to easy understanding of sample criteria that relevant to the researcher's purpose where it is expected that the selected sample has accurate information for the purpose of the researcher. The criteria in sampling's respondent in this research are the all-ages user, either men or female, that already use OVO digital wallet in the last two months.

The total of the sample that used in this research is 150 respondents with these compositions:

1. The user already used minimum one time of OVO digital wallet.

2. The users are used their account and real.

3.3.3 Sample Size

Based on the criteria of the population, there will be a lot of people included in the criteria. The research will be hard to find and observe the whole population that might happen due to financial constraint, human resource, and time. Due to effectiveness and efficiency observation, The determination of total sample according on Roscoe (1975) that quoted by Sekaran & Bougie (2013) who provide guidance for determine the amount of sample, sample size for every researchers in ranged of 30 – 500, so this research use as many as 150 respondent and already fulfill a standard minimum that be appointed.

3.4 Data Collection

Data was collected using both primary and secondary methods. Primary data is a close-ended questionnaire as an instrument administered by the researcher to obtain data from respondents. The secondary data were collected for review of relevant literature about the variables and theories from journal articles, textbooks, Internet, and any relevant publications. The questionnaire was divided into two that is the first part consisted of the background information and the second part comprised of items that measure perceptions and acceptance of digital wallet.

Data collection method is using offline questionnaire method. The researcher spread the questioner offline; this method has been done to get the data more accurately. The deployment is conducted through paper's questioner that will be completed by the respondent of OVO user in Malang. The researchers conducted several steps in the adoption of the questions.

First, the researcher looked for questions according to the desired construct. Second, the researcher translated the questionnaire inquiries from English into Indonesian. Third, the researcher conducted a consultation with the supervisor dealing with the research questionnaires translation approval. Fourth, the researcher conducted a pre-test or pilot test. The pilot test is an important step in developing the questionnaires to test how much the respondents have understood the meaning of each question. The researcher distributed the questionnaire to the respondent; the researcher conducted a re-examination in order to avoid bias in the collection of data on actual research. These steps are taken to avoid bias in the collection of research data.

After performing the previous steps, the researcher conducted real research. The researcher distributed the questionnaire directly to user OVO in Malang. This process will be implemented for one month simultaneously along with the offline questionnaire.

Then, after the researcher reached the minimum target of questionnaires, the researcher continues to perform data processing of the respondents. Furthermore, the data was tested using Statistical Package for the Social Science (SPSS) ver.23.0.0.0, and conclusions were drawn from the analyzed data.

3.5 The Operational Definition

The title of this research is "the effect of perceived usefulness, perceived ease of use, and perceived risk on behavioral intention on the digital wallet (a case study of OVO user in Malang)". Therefore, there are several variables of the research which describes:

1. Perceived Usefulness (X.1)

Perceived usefulness is defined as user's subjective probability that is using a special step to develop job performance. Perceived usefulness is explained as the feel that uses particular systems to increase a performances (Davis *et al*., 1989). The indicators of Perceived Usefulness are:

1. X.1.1 Job performance

2. X.1.2 Effectiveness

3. X.1.3 Increase productivity

4. X.1.4 Time

5. X1.5 Useful

2. Perceived Ease of Used (X.2)

Perceived ease of used is the degree to which an individual believes that using a particular information technology system would be a free effort that means to be easier to use than another is more likely to be perceived by the user. Perceived Ease of Used is explained as the feel that uses a particular system or services would be free of effort (Davis *et al*., 1989). The indicators of Perceived Ease of Used are:

1. X.2.1 Convenient

2. X.2.2 Simplicity

3. X.2.3 Interaction

3. Perceived Value (X.3)

Based on this research there are four dimensions of perceived value were identified, namely functional value, emotional value, social value, and spiritual value were revealed the important dimension. Besides, according to Sumaedi (2018), the indicators of attitude toward using are:

1. Valuable

2. Acceptable

3. Worth

4. Behavioral intention To Use (Y.1)

Intention to use is how likely it is the users intended to use the system (Davis *et al*., 1989). The indicators of Intention to Use are:

1. Y.1.1 Idea

2. Y.1.2 Interest

3. Y.1.3 Fun

3.6   Questioner Design

The questionnaire is an instrument for collecting data, which is operationalized in the form of questions. Making questionnaires in this research is not in the question as in general, but made in the form of options formed in several cards that will be compiled. Making this questionnaire is referred to as a plan card or stimuli and is assisted by using statistical software (SPSS version 2.3.0.0.0). The total questions are 14 questions. The responses over a number of items tapping a particular concept or variable can be analyzed from item by item to calculate a total or summated score for each respondent by summing across items.

The following tables summarize the form of the indicators of the constructions as applied in this research with the code constructions on Table 3.1.

Table 3.1

Questioner Layout

Variable	Indicator	Code	Question	Source
Perceived usefulness	Job performance	PU1	Using Ovo digital wallet can accelerate my transaction process	Davis *et al*. (1989)
	Effectiveness	PU2	Transaction using OVO digital wallet is effective	
	Increase productivity	PU3	Using OVO digital wallet make ease to do transaction	
	Time	PU4	Using Ovo Wallet can save my time	
	Useful	PU5	Accessibility of Ovo digital wallet is obvious and simple to understand	
Perceived ease of use	Convenient	PEOU1	Ovo digital wallet capable for any transaction	Davis *et al*. (1989)
	Simplicity	PEOU2	Ovo digital wallet easy to used	
	Interaction	PEO3	Ovo digital wallet is simple to operate and adapt to the new advanced	
Perceived value	Valuable	PV1	Compared with time and money, the service was valuable	Sumaedi (2018)
	Acceptable	PV2	At the price has been paid, the service was acceptable	
	Worth	PV3	It was worth using OVO digital wallet than the others	
Behavioral intention to use	Planning	BIU1	I plan to use OVO digital wallet	Davis *et al*. (1989)
	Intention	BIU2	I intend to use OVO digital wallet	
	Prediction	BIU3	I would reuse OVO digital wallet	

Source: Primary Data, Processed in 2019

3.7 Measurement Scale

Distribution of the questionnaire is conducted through offline. Offline distribution will be conducted by directly spread questioner to OVO. The following is the measurement scale used in this research questionnaire.

According to Sugiyono (2012: 135), measurement scale is an agreement used as a reference to determine the short length of the interval that is in the gauge. This research used measurement with a rating scale (rating scale). According to Sunyoto (2014: 96), this scale provides a rating on each alternative answer to the question item by perceiving a certain condition on the object under study and the raw data to be interpreted into qualitative. The scale used is from 1 to 4, in which there is no statement to choose "neutral". So the respondent is expected to choose the right choice and not choose "neutral". The following rating scale used in this research uses four options by avoiding the neutral choices of respondents:

Table 3.2
Measurement of scale

Strongly Agree	4
Agree	3
Disagree	2
Strongly Disagree	1

Source: Primary Data, Processed in 2019

3.8 Research Test instrument

Data processing is done to test the hypothesis of statistical research with multiple linear regressions as a means of testing. According to Sugiyono (2014), measuring instrument research in a study referred to as research instruments. The

number of research instruments depends on the number of research variables that have been set for research. In this case, the instrument used is a questionnaire in order to obtain a truly valid result; it is necessary to test the instrument that is used, the instruments are validity and reliability.

3.8.1 Validity Test

Validity test is a technique to test the questionnaire that the instrument used in research to get the obtained data can be (valid) or (invalid). There are several types of validity test according to Sekaran and Bougie (2010:158) that is used to test the validity of measurement. Validity test is led to determine the ability of the instrument to measure when it is supposed to be measured; the research uses a different term to denote them. The researcher analyses the validity of research instrument by entering the items of respondents per each variable to put into the calculation of validity analysis program named SPSS. Testing criteria are done as follows, if the count of r (coefficient) ≥ r table (test 2 sides with sig. 0.05), the instrument items significantly correlated to the questions, so the total score is declared invalid and the opposite or invalid if the count r < r table.

3.8.1 Reliability Test

Reliability test shows the extent of the measurement without bias (free error). Reliability test demonstrates the accuracy and consistency of an instrument in doing the measurement (Abdillah & Hartono, 2015:196). A questionnaire is said to be reliable if one's response to a statement is consistent or stable over time. In SPSS, this test can be analyzed by using:

1. Cronbach's Alpha

Cronbach's alpha is used to measure the lower limit value of reliability of a

construct that can be declared the reliability if the value should be > 0.6.

3.9 Classical Assumption Test

Classical assumptions test is done to determine the condition of the existing data. To determine the proper analysis models, this research is testing whether the regression line is obtained by linear and it can be used for forecasting. The three models which are:

3.9.1 Normality Test

According to Ghozali (2011), normality test purposes is to test whether in the regression model the disturbing variable or residual variable has a normal distribution. The method used to test the normality is the Kolmogorov-Smirnov test. The significance of the result of the Kolmogorov-Smirnov is >0.05. Having this number means that the data is normally distributed. If it is less than 0.05, the data is not normally distributed. Therefore, it can detect the normality. Principally, the normality of Data can be seen by looking at the spread of the data (points) on the diagonal axis on the graph or histogram of the residual. Normal and abnormal data can be described as follows:

1. If the data spread around the diagonal line follows the direction of the diagonal line or histogram chart, it shows that the pattern normally distributed, and then the model regression meets the assumption of normality.

2. If the data spread far from the diagonal line and does not follow the direction of the line diagonal or histogram graph, it does not show a pattern of distributed normal, so regression model does not meet the assumptions of normality.

3.9.2 Multicollinearity

Multicollinearity is a test that is often encountered by a statistical phenomenon in which two or more independent variables in multiple regression models are highly correlated (Sekaran & Bougie, 2013:319). The common way to identify multicollinearity is by determining the amount of value inflation factor (VIF). The steps to identify multicollinearity assumption are:

1. If the VIF value is smaller than 10 (VIF < 10), there is no multicollinarity problem

2. If the value < 1, there is no multicollinarity problem

3.9.3 Heteroscedasticity

According to Ghozali (2011), heteroscedasticity test is useful to know whether there was dissimilarity of the variance of residuals some observations with other observations in the regression model. To test whether there is problem heteroscedasticity or not, it can be done by looking whether there is a certain pattern in the scatterplot graph, between SRESID and ZPRED where the Y-axis is the residual and the X axis is the X that has been predicted. If there is a specific pattern on a regular basis on the scatterplot graph then there is an indication that there heteroscedasticity. If there is no clear pattern, so there is no heteroscedasticity.

3.10 Data Analysis Method

According to Sugiyono (2014), data analysis can be defined as activities that include:

1. Grouping data by variable and respondent type

2. Tabulating data based on variables from all respondent

3. Presenting data of each variable studied

4. Perform calculation to answer the problem formulation, and

5. Perform calculations to test the hypothesis that has been proposed

Based on the statement above, the method of data analysis conducted in this research is explanatory research with a quantitative approach using multiple regression analysis to find out the relationship between the dependent variables, and dependent variable. The data was compiled, sorted, edited, classified, and entered into a computer for analysis using statistical packages for social scientists (SPSS). Data is manipulated using cross tabulation. Multiple regression analysis is used to determine the relationship between dependent and independent variables.

3.10.1. Multiple Regression Model

This model is used to explain the effect of the independent variable on the dependent variable to make the equation of line multiple linear regression models. Multiple linear regression models was used to analyze the influence of independent variables consisting of perceived usefulness (X1), perceived ease of use (X2), Perceived value (X3), and the dependent variable is behavioral intention to use (Y).

This research is using the data with interval scale that measuring with use like scale. Equation model of multiple linear regression analysis in this research can be formulated:

$$Y = a + \beta 1 X1 + B \beta X2 + B \beta X3 + e$$

Where:

Y   = Behavioral intention to use

X1   = Perceived usefulness

X2   = Perceived ease of use

X3   = Perceived value

a   = Constanta

β 1,….. β 3 = coefficient regression independent variable

e   = error item

3.10.2 Determination Coefficient (R^2)

Coefficient of determinant (R^2) is essential to measure how far the ability of the model is able to explain variations of the dependent variable. The coefficient of determination is between zero and one. A small value of R^2 means that the ability of variables independent in explaining the dependent variable is very limited. When the value is near to point >1(one), it means that the independent variables provide almost all the information needed to predict the variation of the dependent variable (Ghozali, 2011).

3.11 Hypothesis Test

In this research, the probability score is based on the basic theory that underlies the hypothesis testing, which explained below:

H_0: there is no significant positive influence between the independent variable and the dependent variable

H_1: there is significant positive influence between the independent variable and the dependent variable

Underlying decision:

1. P (probability) < (level of significance / α) 0.05 resulting H_0, H_1 accepted

2. P (probability) > (level of significance / α) 0.05 resulting H_0, H_1 rejected

F-test or F-table:

1. F count > F table then it will reject H_0, and accept H_1

2. F count < F table then it will accept H_0, and reject H_1

T-test or T-table:

1. T count > T table then it will reject H_0, and accept H_1

2. T count < T table then it will accept H_0, and reject H_1

3.12 Dominant Test

To compare which variables give the most influence on Behavioral Intention to Use, it used standardize regression coefficient Beta. It is the result of an analysis that carried out on the variable that has been set.