

CHAPTER III

METHODOLOGY

A. Subject and Object Research

1. Object of Research

According to (Sugiyono, 2014) “object of research is scientific goals to get data with the certain purposes and functions about something objectives, valid, and reliable regarding certain of variable. Object within this research is one of the big markets in Yogyakarta, which is Superindo.

2. Subject of Research

According to (Arikunto, 2016) stated that the subject of research is to limit the subject of research as an object, thing or person where the data for the research variable is inherent, and at issue. Subject in this research is society of Yogyakarta.

2. Types of Data

Data needed within this research is primary data and secondary data. Primary data is the source of data obtained directly without any intermediary. As mention by (Sugiyono, 2014), explained that primary data is data obtained directly from the original source or place where the author conducted a study to be observed and recorded. Primary data can be got by conducting interview and etc. Secondary data is the source of research data obtained through intermediary such as book, note, and internet. Both primary and secondary data is obtained through:

1. Questionnaire

Questionnaire is one of the collected information techniques that study regarding attitudes, belief, behavior and characteristic of people. By questionnaire, the author can measure what is found from interview. Thereby, this research will distribute the questionnaire across society who purchase in one of the biggest markets in Yogyakarta, which is Superindo. According to (Sukardi, 2012), there are several advantages by using questionnaire, which are:

- a. It can revealed someone opinion or response both individual and group against the problems.
- b. It can be distributed to respondent which large in short time
- c. Maintain the objectivity of respondents from external impact on a problem under study
- d. Maintain the confidentiality of respondents to answer according to personal opinions.
- e. Because it's formatted as letter, the cost is cheaper
- f. The use of time is relatively flexible in accordance with the time that has been given by researchers
- g. It can capture information on large scale with a fast time

2. Observation

Observation is an attempt to conduct a direct review of the study site. To get the information regards system payment in four big markets

in Yogyakarta, namely Hypermart Jogja City Mall, Indogrosir, Super Indo and Mirota Godean.

3. Technique Sampling

1. Population and Sample

Population is the area of generalization in the form of the subject or object researched to be learnt and made the conclusion whereas sample is a portion of the population taken for research. Sampling is needed provided the population to be studied is large and researcher has limited time and money to reach all.

To decide the sample from population, then the author needs formula to get the results. According to (Roscer on Sekaran, 2006) gives sample references:

- a. Sample size more than 30 and less than 500
- b. If the sample is broken down into sub-sample (men/women, junior/senior, and so on), sample size minimum 30 each category
- c. Within multivariate research (including multiple linear regression), sample size should be 10 times larger from the number of variable in research.
- d. To simple experimental research with experimental control strictly.

Sample size is based on the level of accuracy or error desired by the researcher. The greater error term, the smaller the number of samples. The greater number of sample, the less chance of error. To determine the

number of sample, the author applies slovin formula. Based on the report from Central Bureau of Yogyakarta Statistic, the amount of population in Yogyakarta reaches 431.939,000 with standard of error is 10%. Slovin formula applies as follow:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{431.939,000}{1 + 431.939,000(0,1)^2}$$

$$n = 100$$

Notes:

n= number of sample

N= number of population

e= standard of error

By using slovin formula to determine how many the respondents, the results obtained reaches 100 respondents.

2. Technique Sampling

This research adjures sample with non-probability sampling technic along purposive sampling method. Non-probability sampling and sampling techniques are not chosen randomly. Elements of the population selected to be the sample can be caused of chance or other factors previously planned by the researcher. (Sugiyono, 2014), defined that purposive sampling is sampling technique with a particular

consideration in accordance with the desired destination. Unit sample is connected in accordance with the certain criteria that apply based on the research purposes. Criteria for selected respondent, namely: society of Yogyakarta with standard age is above 17 years.

4. Technique for Data Collection

The whole of variables can be measured with likert scale. Scale Likert indicates from 1 to 5 which is a person's attitude or perception of an event or statement given in the form of questionnaire.

Table 3.1

Instrument of Scale Likert

| No. | Statement | Score |
|-----|-------------------|-------|
| 1. | Strongly Agree | 5 |
| 2. | Agree | 4 |
| 3. | Neutral | 3 |
| 4. | Disagree | 2 |
| 5. | Strongly Disagree | 1 |

Source: (Sugiyono, 2004)

1. Model Analysis

Analysis method that is used for this research is multiple linear regressions. Multiple linear regression is one of the statistical techniques used to determine what kind of model to connect one dependent variable (Y) to other variable predictors, to a predictor variable where the number of p is less than the number of observation (n). Here is multiple linear regression model as follow :

$$Y_t = \beta_0 + \beta_1 X_{i1t} + \beta_2 X_{i2t} + \beta_p X_{ip_t} + \epsilon_i$$

Where Y is the value of the dependent variable with observations to- i , $\beta_0, \beta_1, \beta_2, \dots, \beta_p$ is unknown parameter, $X_{i1}, X_{i2}, \dots, X_{ip}$ Is the value of independent variables from observation to- i and ε_i is error random and normally distributed with an average zero and variance σ^2 .

In order to ease the way, the author uses SPSS program software as the analyses tool. Analysis with multiple linear regressions is used to identify the factors influencing cash usage as the form of payment. The dependent variable in this research is cash usage while the independent variables are manageable, flexibility, transaction volume, and charge for non-cash payment.

In this research, the determinants of cash usage as the system payment will be executed by the math formula, which is:

$$CU = f(\text{MEN}, \text{FLEX}, \text{TOV}, \text{CNP})$$

The specification of that formula:

$$CU_t = b_0 + b_1 \text{MEN}_t + b_2 \text{FLEX}_t + b_3 \text{TOV}_t + b_4 \text{CNP}_t + \mu_t \dots \dots \dots$$

Where:

CU = cash usage

b_1, b_2, b_3, b_4 = regression coefficient

b_0 = intercept

μ = error term

MEN_t = manageable

FLEX_t = flexibility

TOVt = transaction of volume

CNPt = charge for non-cash payment

5. Operational Definition Variable

According to (Sugiyono, 2014), operational definition is determination of the contract or the nature to be studied so that it becomes a variable that can be measured. In order to ease the understanding of the variables term, the author puts some operational limitation below this:

1. Manageable is some kind of way that easy to manage money in every situation. The limitation of manageable is easy to manage the expenditure of money.
2. Flexibility is standard of ease achieved by people, towards an object, service, or environment. It is measured by easy to be accessed in every place so that result satisfaction.
3. Transaction volume is the total number of transactions processed from, to or through goods and services. The cash usage based on how many volume transaction they have.
4. Charge for non-cash payment means additional expenses, which does not exist through cash payment.
5. Cash usage is the payment tool that is used in accordance with money function. It has limitation as the way of society to pay the goods and services.

6. Instrument Quality Test

It explains validity and reliability test. Every questionnaire approach, it must conduct both of those tests which are validity and reliability.

1. Validity test

Valid means that instrument can be used to measure what actually be measured (Sugiyono, 2014). It purposes to know whether the questionnaire is right or wrong. Questionnaire will be valid provided can be seen by using bivariate pearson method which is r table.

2. Reliability test

A test conducted to measure a questionnaire, which is an indicator of a variable or construct. As for the method used to test the reliability of questionnaires can be seen through the formula coefficient alpha cronbach. The questionnaire is reliable when the answer is continuously constant or stabile gradually.

Table 3.2

Reliability Level Based on Alpha

| Alpha | Reliability Grade |
|---------------|-------------------|
| 0,00- to 0,20 | Less Reliable |
| 0,20 to 0,40 | Rather Reliable |
| 0,40 to 0,60 | Enough Reliable |
| 0,60 to 0,80 | Reliable |
| 0,80 to 1,00 | Very Reliable |

Source: (Sugiyono, 2004)

This research is claimed reliable when the value of construct reliability (CR) >0,6.

7. Data Analysis and Hypothesis Test

The research needs some analytical data and interpreted with some purpose that is to answer the researcher questions, in order to reveal certain phenomenon (Sugiyono, 2014). Method chosen to analyze the data must suit with the research pattern and variables. Afterwards, there will be hypothesis test, it examines the suitability of hypothesis itself. It starts with analyzing classical assumption,

1. Compatibility Test

- a. R^2 (coefficient determinant), the function is to behold how much the dependent variable can be influenced by independent variables.
- b. F-Test, the function is to behold statistical significance of the regression coefficients simultaneously. Provided $F_{count} > F_{table}$ then H_0 is rejected and H_1 is accepted.
- c. Partial Test (t-test), the function is to behold statistical significance of the regression coefficients partially. Provided $F_{count} > F_{table}$ then H_0 is rejected and H_1 is accepted.

2. Classical Assumption Test

Classical assumption is analysis conducted to assess whether in an ordinary least square multiple linear regression there are classic assumption problems. There are several steps to test it, namely:

a. Normality test

It is used to determine whether sample data has been drawn from a normally distributed population (within some tolerance).

b. Heteroskedasticity test

Refers to the circumstance in which the variability of a variable is unequal across the range of values of a second variable that predicts it. The aims of heteroscedasticity test are to identify the existence of deviation from the terms of classical assumption at the regression model.

c. Multicollinearity test

This test refers high degree of correlation (linear dependency) among several independent variables.