

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

#### **A. Research Object**

Research object is a core of research problematics (Arikunto, 2010). On this research, the research object is public health's new student of STIKES Muhammadiyah Samarinda who become customers on Islamic bank. The sample on this research is 60 new students of public health department. The location of this research is STIKES Muhammadiyah Samarinda.

#### **B. Type of Data**

The type of data on this research is quantitative research. Quantitative research is a data in a form of digit (Suryahadi & Purwanto, 2016). Moreover, in this research using a primary data. In this research primary data obtained by self-administered questionnaire, it is a data collection technique with distribute the questionnaire and fulfill by the respondents (Soehartono, 1995).

#### **C. Sampling Technique**

This research carried out with non probability sampling. It is a sample that chosen from the population, thus every member has not similar probability or chance to be the sample (Suryahadi & Purwanto, 2016). Based on this research, sample will be taken by purposive sampling. Purposive sampling is based on the consideration that focus on particular goal (Suryahadi & Purwanto, 2016). To

determine sample of respondent, researcher using Slovin formula (Sevilla et. al) described at the research by (Kristiani, 2008). The formula can be seen as the explanation below:

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

Description :

n = Number of sample  
 N = Number of population  
 e = Margin of error

So that,

$$n = \frac{139}{139 \cdot (0,1)^2 + 1}$$

$$n = \frac{139}{139 \cdot 0,01 + 1}$$

$$n = \frac{139}{1,39 + 1}$$

$$n = \frac{139}{2,39}$$

$$n = 58 = 60 \text{ sample}$$

#### **D. Data Collection Technique**

According to Sugiyono, data collecting can be done in various of settings, various of sources and various of ways (Sugiyono, 2003). On this research, the researcher use primary data. It obtained by self-administered questionnaire, it is a data collection technique with distribute the questionnaire and fulfill by the

respondents (Soeharto, 1995). It is conducted to determine deeply the problem of public health's new student of STIKES Muhammadiyah Samarinda become customers on Islamic bank.

#### **E. Operational Definition of Research Variable**

Variable is research object or what is the focus of the research (Arikunto, 2010). Dependent variable is variable that affected or which become due of independent variable, while independent variable is a variable that affects dependent variable (Soegiyono, 2013).

On this research, the dependent variable is the reason (Y) of public health's new student of STIKES Muhammadiyah Samarinda become customers on Islamic bank. While, the independent variables in this research are knowledge (X1), service (X2) and location (X3).

This research is seen from 3 dimensions, they are knowledge, service and location. These variables as a measurement of factors that influence public health's new student become customers on Islamic bank by using Likert Scale, which is scoring 1-5 to know respondent agreement of questions in the questionnaire. Category of scale explained as the table below:

**Table 3.1**  
**Likert Scale Categories**

| No. | Category          |
|-----|-------------------|
| 1   | Strongly Disagree |
| 2   | Disagree          |
| 3   | Netral            |
| 4   | Agree             |
| 5   | Strongly Agree    |

Source: (Utami, 2013)

#### **F. Instrument and Data Quality Test**

To test the quality of the instrument, this research using two tests, namely validity and reliability test. Validity test is the level of validity and reliability of the measurement tool (Basuki & Yuliadi, 2014). The instrument said valid if the measuring instrument used to obtain the data is valid or can be used to measure what should be measured (Sugiyono, 2004).

#### **G. Hypothesis and Data Analysis Test**

Analysis of the regression model is used to examine the relationships between variables. Generally, a variable is influence other variables, the first variable called dependent variable, while the second variable called independent variable (Gujarati, 2006). Empirical specification model regression analysis with the following model (Gujarati, 2006):

$$Y = \beta + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu_i$$

Description:

- Y : The reason of public health's new student of STIKES Muhammadiyah Samarinda become customer on Islamic bank
- $\beta$  : Constant
- X1 : Knowledge of public health's new student of STIKES Muhammadiyah Samarinda about Islamic bank
- X2 : Service of Islamic bank
- X3 : Location of Islamic bank
- $\beta_1, \beta_2, \beta_3$  : Regression Coefficient
- e : Error caused random factors (error)

This research will be conducted with the multiple regression model. The data will be processed by SPSS version 15.0. To measure the data whether is it good data or not, the data tested by validity and reliability testing. This research use classical assumption test and statistical test. Based on the book of Electronic Data Processing (Basuki & Yuliadi, 2014), described as follow:

#### 1. Validity and Reliability Test

Validity test aims to measuring the instrument. It could be said valid means the instrument used to obtain the data is valid or can used to measure what should be measurd (Sugiyono, 2004). While, reliability test aims to set whether the instruments (questionnaire) can be used more than once, at least similar respondents will produce consistent data. In other word, reliability test characterizes the level of consistency. The good of reliability coefficient value is more than 0,7 means good enough and more than 0,8 means good.

## 2. Classical Assumption Test

Before testing the multiple regression, it needs to test classical assumption to ensure the regression equation obtained has accuracy in estimation, unbiased and consistent.

### a. Normality Test

Normality test used to see whether the dependent variable and the independent variables are normally distributed or not. The criteria of normality test are:

- If the significant value on Kolmogorov Smirnov  $< 0,05$  the data is not normal distribution.
- If the significant value on Kolmogorov Smirnov  $> 0,05$  the data is normal distribution.

### b. Multicollinearity Test

Multicollinearity test is used to determine whether there is a correlation between the independent variables and the regression model. To test multicollinearity, it can be seen based on the VIF (Variance Inflation Factor).

The hypothesis of multicollinearity test are:

- $H_0$ :  $VIF < 10$  mean it is not affected by multicollinearity.
- $H_a$ :  $VIF > 10$  mean it is affected by multicollinearity.

### c. Heteroscedasticity Test

Heteroscedasticity test aims to know whether there is inequality variance from residual of an observation to other observation. Regression model which is not happen heteroscedasticity is good regression model. Regression model said non heteroscedasticity if the significance is more than 0,05.

### 3. Statistical Test

Statistical test requires to prove whether there is a correlation between the independent variable and the dependent variable. From the multiple regression coefficient would be known each variable. Statistical test consists of:

#### a. F Test

F test aims to know the effect of independent variables simultaneously that shown by Anova table. The criteria of F test are:

- If the significant value  $> 0,05$  so that the  $H_0$  accepted and  $H_1$  rejected. In other word, independent variable simultaneously not significant influence the dependent variable.
- If the significant value  $< 0,05$  so that the  $H_0$  rejected and  $H_1$  accepted. In other word, independent variable simultaneously significant influence the dependent variable.

b. t Test

t test is used to know the influence of each independent variable partially, it shown by Coefficients table, its hypothesis formulation are:

- $H_0$ : the independent variable is not influence the dependent variable significantly.
- $H_1$ : the independent variable is influence the dependent variable significantly.

c. R Square Test ( $R^2$ )

R square test is a value that indicate how much the independent variables explain the dependent variable, it shown by Summary Model table. R square in the regression equation susceptible to the addition of independent variables, where the more of number of independent variables involved, the R square value will be greater.