CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

1. Object / Subject of the Research

The population used in this study is intellectual capital intensive of the company listed on the Indonesia Stock Exchange (IDX) and Stock Exchange of Thailand (SET). Meanwhile, the samples used are high IC intensive company. The research period was in 2018, so the research period used the most updated data.

2. Data Type

The data used in this research were secondary data. The secondary data used in this study were taken from the annual report of high IC intensive company registered on the Indonesia Stock Exchange and Stock Exchange of Thailand.

3. Sampling Technique

The sampling method used was purposive sampling, which was the selection of samples using consideration and certain criteria determined by the researcher.

The company's sampling technique in the study was conducted based on the following criteria:

a. Companies that had a financial year ending in December 31 and published a complete annual report for 2018.

b. Companies that had complete data related to research variable.

c. The high IC intensive company listed in the Indonesia Stock Exchange and Stock Exchange of Thailand in 2018.

4. Data Collection Technique

Data were collected using secondary data search through documentation method. Documentation was done using documentary data sources such as financial reports and annual reports during the observation period in the study.

5. Operational Definition of Research Variables

a. Dependent Variables

The dependent variables used in this study are intellectual capital disclosure and firm value. Intellectual capital disclosure is the role of the company in providing information in the form of activity companies that comes from intangible assets and can be used as public transparency and accountability in the form of annual report results that can be used by interested parties. Intellectual capital disclosure as the dependent variable is used to test factors that influence intellectual capital disclosure. Dependent variable in this study is the level of intellectual capital disclosure in annual reports stated by Intellectual Capital Disclosure Index. This study used an index disclosure of 60 items developed by Meca and Martinez (2007). The percentage of the disclosure index is as a total calculation according to the formula as follows:

$$\textbf{Score} = (\textstyle\sum di/M) \times 100\%$$

Index:

Score = dependent variable intellectual capital disclosure index (ICD Index)

di = given with number 1 if it is disclosed in a report, and given with number 0 if it is not expressed in annual report

M = total number of items measured (60 items).

Firm value is the value of an entity that is considered important by certain parties. This value is a reflection of all company activities. Investors prefer when the company's value gets higher. The firm value in this study is measured using ratio price to book value (Rahayu and Sari, 2018). The formula to measure PBV is:

$$\mathbf{FVA} = \mathbf{PBV} = \frac{\textbf{Share price per share}}{\textbf{Book value per share}}$$

b. Independent Variables

1) Board Independence

Board independence is the total of independent director that exist in the company (Haniffa and Cooke, 2002). The board independence is measured by the ratio of the total number of independent directors divided the total number of directors.

2) Board Size

Board size is the number of members that exist on the organization's board of directors. Board size in the companies is proxied by the total number of members of the board of directors (Baldini and Liberatore, 2016).

3) Board Gender (percentage of female director)

Board of directors is a group of people who have been appointed as the leader of a company. The female directors in this study were the presence of female board members on the board of directors. This study used a proxy with the percentage of the total female directors over total directors in the company (Tejedo *et al*., 2017).

4) Audit Committee

Audit committee is responsible to the board of commissioners in helping carry out the duties and functions of the board of commissioners. Audit committee in this research was proxied by the number of members of the audit committee owned by the company (Haji, 2015).

5) Foreign Ownership

Foreign ownership is the number of shares owned by foreign parties which can mean individuals or institutions to the company's shares in Indonesia. Foreign ownership in this

research was proxied by percentage of shares owned by the foreign investors (Muttakin *et al*., 2015).

6) Control Variables

a) Profitability

Profitability is the company's ability to earn profits. The measurement of profitability in this research is Return on Asset (ROA), which is a ratio that measures the level of profit of a company by showing the rate of return generated by management for the capital invested in the company (Dewi and Sudiartha, 2017). The formula to measure profitability is:

$$\mathbf{ROA} = \frac{\mathbf{Net\ Profit}}{\mathbf{Total\ Assets}}$$

b) Firm Size

Firm size is a description of the company that shows the success of the company which can be reflected in the total assets of the company (Dewi and Sudiartha, 2017). The formula to measure firm size is:

SIZE = Ln (total asset)

6. Data Analysis

a. Descriptive Statistics

Descriptive statistical tests are used to provide data presentation, description and description accompanied by calculations

in order to clarify the conditions or characteristics of the data in question (Nazaruddin and Basuki, 2016). This study used measurements of mean (mean), standard deviation, maximum, and minimum.

b. Classic Assumption Test

The classic assumption test is carried out in order to obtain the results of data analysis that meets the testing requirements (Fitriani, 2012). The purpose of this classic assumption is to find out whether or not in the results of multiple regression has deviations from the classical assumptions. Classic assumptions test used in this study include normality test, autocorrelation test, multicollinearity test, and heteroscedasticity test, the description is as follows:

1) Normality test

The normality test is a test to measure whether or not the data get normal distribution (Pratama, 2016). Normality test method used in this study is the One-Sample Kolmogorov-Smirnov Test. The basis of his decision is as follows:

a) If Asymp Sig 2 tailed > significance level ($\alpha = 0.05$), then the data were normally distributed.

b) If Asymp Sig 2 tailed < significance level($\alpha = 0.05$), then the data were not normally distributed.

2) Autocorrelation Test

Autocorrelation test is useful to find out whether there is a correlation between the residuals in one observation and in other observations in the regression model (Nazaruddin and Basuki, 2016). The autocorrelation testing method generally uses a Durbin Watson (dW test) with the provisions as the following:

a) If the value of dW is smaller than dL or greater than 4-dL then the null hypothesis is rejected, which means there is autocorrelation.

b) If the value of dW is between dU and 4-dU, then the hypothesis is accepted, which means there is no autocorrelation.

c) If dW is between dL and dU or between 4-dU and 4-dL, it does not produce definite conclusions.

The values of dU and dL can be obtained from the Durbin Watson statistical table, depending on the number of observations and the number of independent variables to be used in the study.

3) Multicollinearity Test

Multicollinearity tests are useful for knowing the correlation or linear relationship between independent variables

(Nazaruddin and Basuki, 2016). Multicollinearity detection can be seen through the Variance Inflation Factors (VIF) value. Data are said not to be affected by multicollinearity if the value of Tolerance > 0.1.

4) Heteroscedasticity Test

Heteroscedasticity test aims to test whether or not inequality occurs variance, from one observation residual to another in regression model. Research data can said to be good if not exposed to heteroscedasticity. If variance from the residual one observation to another observation remains, then it is called heteroscedasticity. To detect whether or not there is heteroscedasticity, this research used glejser test and park test. If the value of sig > 0.05, it can be said that it is not exposed to heteroscedasticity.

c. Hypotheses testing

This study used multiple regression analysis (Multiple Regression Analysis), which is to see the effect of dependent and independent variables. The multiple regression model used to test the hypothesis in this study is:

$$\mathbf{ICD = \alpha_0 + \alpha_1\ BIND + \alpha_2\ BSIZE + \alpha_3 BGEN + \alpha_4 ACOMM + \alpha_5 FOWN + e}$$

Index:

ICD = Intellectual Capital Disclosure

α_0 = Constant

α_1 α_2 α_3 α_4 α_5 = Regression Coefficient

BIND = Board Independence

BSIZE = Board Size

BGEN = Board Gender

ACCOM = Audit Committee

FOWN = Foreign Ownership

e = Error

The second regression model used was simple regression analysis. The second model was to examine the effect of ICD levels on firm value. The equation model used is:

FVA = α0 + α_1ICD + α_2PROF + α_3FSIZE + e

Index:

FVA = Firm Value

α_0 = Constant

α_1 α_2 α_3 = Regression Coefficient

PROF = Profitability

FSIZE = Firm Size

d. Adjusted R^2

The coefficient of determination test is to see ability independent variable in explaining variations in changes in the dependent variable. The coefficient of determination can seen from the adjusted R^2 value, where to interpret the magnitude of the coefficient of determination must be changed in form percentage. Then the rest (100% percentage coefficient) determination) is explained by other variables that do not enter inside model.

e. F-Test

The F-test basically shows whether all independent variables are together (simultant) to the dependent variable. The results of the F test can be seen in the ANOVA table in the sig column. If the probability value is < 0.05 or 5%, it can be said that there is a significant effect together between independent variable on the dependent variable. However, if the significant value is > 0.05 or 5%, then there is no significant influence together between variable free and the dependent variable.

f. T-test

The t statistical test is used to partially test each variable. The results of the t test can be seen in the table of coefficients in the sig column. If the probability of the t value is significant < 0.05 or 5% regression coefficient is in line with the hypothesis, it can be said that there is an influence among independent variables and partially

bound. However, if the probability of a value of is significant > 0.05 or 5%, then it can be said that there is no significant influence among independent and dependent variables. Hypothesis is supported if the regression coefficient value is positive and has a significant value < 0.05 or 5%.