CHAPTER III

RESEARCH METHODOLOGY

3.1   Research Object

According to Sugiyono (2014), an attribute or trait or value of a person, object or activity that has a certain variation set by the researcher to be studied and then drawn conclusions. In short, the research object is the problems in the research that will be studied. In this research, the objects that will be studied are investment tutor class and Yuk Nabung S (variable X); accounting and management students' interest to invest (variable Y). The objects and subjects chosen in this research are based on the problems explained in the research background.

3.2   Variable Operationalization

Sekaran and Bougie (2013:127) explain that the level of abstraction in abstract statements or concepts must be reduced by describing them into a form of behavior or observable characteristics. Reducing the abstraction level is done through variable operationalization.

Variables are those that can distinguish or bring variation in values. Values can vary at various times for the same object or person, or at the same time for different objects or people (Sekaran & Bougie, 2011:115). The main purpose of variable operationalization is that a variable can be measured so that the

researcher can collect data and then perform a statistical analysis to draw a conclusion.

Dimensions are recognized as broad characteristic of a variable. Dimensions must be explicitly explained regarding characteristics that should be included or excluded (Sekaran, 2003). Each dimension has elements that must be measured with an applicable measurement tool. Several variables in this research are depicted as follow:

3.2.1 Dependent Variables

According to Uma Sekaran (2009:116) the dependent variable, also known as criterion variables, is a variable that is the main concern of the researcher. This is the main variables that depend on, or to explain the variability, or to predict (Sekaran & Bougie, 2016).

The purpose of analyzing dependent variables, according to Sekaran & Bougie (2016: 88), is: Through analyzing the dependent variable (i.e., finding what variables influence it), it is possible to find answers or solutions to the problem. For this purpose, researchers will be interested in quantifying and measuring the dependent variable, as well as other variables that affect this.

In this research, the dependent variable is accounting and management students' interest to invest (Y). Investment interest is a strong desire for someone to learn everything related to investment to the point of practicing it (investing). There are various factors that affect a student's interest to invest. It can be internal factors, external factors, or knowledge capability.

3.2.2 Independent Variables

Independent variable (predictor variable) is defined as something that can affect dependent variable whether it is a positive or negative way. The existence of independent variable will be followed by a dependent variable. If there is an increase of independent variable, there will be an increase or decrease independent variable and vice versa (Sekaran, 2003). The independent variables of this research are investment tutor class (X1) and campaign program (X2).

a. **Investment Tutor Class**

Investment tutor class is an additional learning outside the one provided by the lecturer. It is no longer apply passive learning because many recent studies (e.g. Bonwell & Eison, 1991; Michel, et al., 2009) suggest that the passive method may not be the most effective way for students to learn. It adopt teaching techniques that encourage students to actively engage in the material because classroom engagement has been found to promote deeper levels of thinking and better facilitate encoding, storage, and retrieval than traditional lecture (McGlynn, 2005; Peck, Ali, Matchock, & Levine, 2006) Active learning strategies can range from appropriate use of media and electronic resources (Serva & Fuller, 2004) to homework assignments (Bolin, Khramtsova, & Saarnio, 2005) and quizzes (Crone, 2001) to demonstrations (Zaitsev, 2010) and group projects (Kreiner, 2009).

Other than that Duncanson (2003) reports on the importance of students' workspace and relates it to the fact that the space in a room delivers a silent message to students, where the flow and shift of distance between people is part of the communication process. Another important aspect is Indoor environmental

quality (IEQ). The mechanism underlying this effect is that poor IEQ could affect students' health and well-being, leading to absenteeism and a reduction in their academic performance. Thus, the dimensions of investment tutor class are an active learning process, indoor environment quality, and students well-being.

b. Campaign program

Campaign program meant in this research is Yuk Nabung Saham by the Indonesia Stock Exchange (IDX). This program made to invite the public to invest in the capital market by share saving, which means buying shares regularly and periodically (yuknabungsaham.idx.co.id). The objectives of the program are to raise public awareness of the Indonesian Capital Market and public interest in investing with the *'Nabung Saham'* mechanism. In addition to this campaign is also intended to shift the habits of Indonesian people who initially saved into investing, so that the Indonesian people began to move from saving society to investing society.

The campaign was created with a simple language, easy to digest and interesting, but it raises the curiosity of the public, which is expected to attract people to start investing, from the saving society into investing. This is in line with what Aaker said, that good brand naming is easy to remember, easy to say, easy to write and understand and can be explained (Aaker, 1996).

Campaign activities are essentially goal-oriented communication actions (Venus, 2005), in this case, IDX has two goals. The first goal is Literacy and the second goal is Inclusion. At the literacy stage, IDX collaborates with the Financial Services Authority (OJK), as the IDX operational supervisory body, carrying out

information-giving activities and understanding the importance of investing (education). Activities carried out in the form of seminars, workshops, and others. The second goal is inclusion which is more to the action, together with securities companies, IDX seeks to encourage and invite potential investors to start trying and opening share accounts or mutual funds. In conclusion, the dimensions of the campaign program are a good brand name and campaign strategy.

Table 3.1 Variable Operationalization

Variables	Dimension	Indicator	Item
Investment Tutor Class (X1)	Active learning process in class, (e.g. Bonwell & Eison, 1991; Michel, et al., 2009)	Use of media and electronic sources	1
		Frequency of Quizzes	2
		Frequency of Demonstration and Simulation	3
		Frequency of Group Projects	4
	Indoor environmental quality (IEQ), E. Duncanson, (2003)	Thermal Comfort	5
		Indoor Air Quality	6
		Visual Comfort	7
		Acoustic Comfort	8
	Students Well-Being, N.M. Jamaludin, N. Mahyuddin, F.W. Akashah (2016)	Comfort	9
		Concentration	10
		Learning Performance	11
Campaign Program (X2)	Good Brand Name (Aaker, 1996)	Easy to remember	12
		Easy to say	13
		Easy to write and understand	14
		Can be explained	15
	Campaign Strategy (Adiguna, R. S., 2018) (Venus, 2005)	Awareness	16
		Education	17
		Engagement	18

Table 3.1 Variable Operationalization (Continued)

Variables	Dimension	Indicator	Item
Investment Interest (Y)	Internal Factors and Technical Capability (Halim, 2015) (Dewi Fatmasari, 2011)	Understandability of overall investment concept	19
		Understandability of how to conduct transaction in stocks market	20
		Ability to analyze market based on theory and reality	21
		Ability to make decision	22
		Willingness to learn more about investment	23
		Willingness to try buy/sell stocks voluntarily	24
	Soft-skill enhancing experiences (Kusmawati, 2011) (Sukmadinata, 2010)	Frequency of joining investment classes outside campus	25
		Frequency of joining trading competition	26
		Frequency of joining investment analysis competition	27

3.3 Population and Sample

3.3.1 Population

Population refers to the entire group of people, events, or things of interest that the researcher wishes to investigate (Sekaran and Bougie, 2016). The population also marks as any object in generalization area that possesses a certain quality to observe then result in conclusion (Sugiyono, 2011).

Target population, according to Sekaran and Bougie (2010: 262), can be expressed in terms of elements, boundaries, and time. whereas Cooper and

Schindler (2014: 667), define the target population as people, events, or records containing information desired by researchers in determining whether the sample or census must be selected. in this study, the target population is Accounting Students in Universitas Padjadjaran batch 2015 & 2016 and Management Students in Universitas Padjadjaran batch 2013 to 2015.

3.3.2 Sample

A sample is a group of cases, participants, events, or records consisting of a part of the target population, carefully selected to represent the population (Cooper & Schindler, 2014:358). The sampling technique in this study was total sampling. Total sampling is a sampling technique where the number of samples is the same as the population (Sugiyono, 2011). Reasons for taking total sampling because this research has several variances and criteria that must be identified such as:

1. Accounting students of Universitas Padjadjaran that attend Investment Tutor Class and the investment simulation while the program Yuk Nabung Saham already existed, which are batch 2015 and 2016. Amount of students that fulfill the requirement is 232 students

2. Management students of Universitas Padjadjaran that attend Investment Tutor Class while the program Yuk Nabung Saham already existed, which are batch 2013 to 2015. Amount of students that fulfill the requirement is 76 students

Total sample for this research is 308.

3.4   Type and Source of Data

The type of data used in this research is primary data. Primary data according to Sekaran & Bougie (2016) is a way in which data collected from original sources on the variable of interest for the specific purpose of the study (Sekaran & Bougie, 2016). The source of the data is from the questionnaire that will be distributed to accounting and management students in Universitas Padjadjaran.

3.5   Data Collection Methods

1.   Questionnaire

A questionnaire is a technique of collecting data which is done by giving a set of questions to respondents to be answered (Sugiyono, 2011). The questionnaire used in this study is a closed type of questionnaire, so respondents only choose the answer options that have been provided.

In this research, the questionnaire used in this study is a closed type of questionnaire, so respondents only choose the answer options that have been provided. The questionnaire will be distributed through a google form, but the researcher will directly guide the filling of questionnaires. Google form will effectively capture respondents and acquire data faster and easier rather than print it out, but to anticipate the lack of understanding from the respondent, the researcher will guide the filling.

The operationalization of data measurement uses an interval scale, which is using the Semantic Differential scale which is one of the ways to determine

scores based on a bipolar assessment. According to Cooper and Schindler (2006: 340), a semantic differential scale is a measure of psychology used to measure an object using a bipolar scale. With a semantic differential scale, the variables to be measured are translated into two poles, namely good and bad, high-low, always-never, big-small and others that relate to positive and negative poles. Measurement using a semantic differential scale produces interval data. The following are examples of questionnaires using a semantic differential scale:

No	Statement		1	2	3	4	5	
1	Investment tutor class was...	**Helpful**	V					**Not Helpful**

2. Literature Review

The literature review refers for examining recent (or historically significant) research studies, company data, journals, books, or industry reports that act as a basis for the proposed study (Cooper, 2013). It is employed to straight the basis of this research and investigation on past useful information to conduct this research. The aim for gaining much literature review ensures there will be no ignorant variables from past research.

3.6   Unit of Analysis

The unit of analysis is the level of unity of data collected during the next phase of data analysis (Sekaran, 2013). According to Hamidi (2005) states that the unit of analysis is the unit under study which can be an individual, group, object

or setting of social events such as individual or group activities as the subject of research.

The unit of analysis of this research are the perception from accounting and management students of Universitas Padjadjaran. The focus would be students' financial literacy about investment, awareness of the Yuk Nabung Saham campaign program, and investment interest.

3.7   Data Analysis Method

According to Sekaran & Bougie (2016), data analysis has three objectives, which are getting a feel for the data, testing the goodness of the data, and testing the hypotheses developed for the research. Feel for data can be obtained through checking the central tendency and the dispersion. Sekaran & Bougie (2016) stated that the mean, the range, the standard deviation, and the variance in the data will give the researcher a good idea of how the respondents have reacted to the items in the questionnaire and how good the items and measures are. Then, it is also important to test the goodness of data, which are represented by reliability and the validity of the data.

a. Reliability Test

According to (Sekaran, 2003), the reliability of a measurement means that it is without bias and consistent across time and various items in the measurement. It indicates that the measurement has stability and consistency in which it is the goodness of measure. Stability of measures refers to the ability to remain the same in the given over time. It means that no matter when the data is taken, it remains

able to capture respondents. Consistency refers as a measurement is indicative of the homogeneity that it must hang together as a set. It must be able to independently measure identical concept that overall respondents receive the same meaning.

In this research, Cronbach's alpha is employed for analyzing the reliability of measurement.

Cronbach's Alpha Score	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.8 \leq \alpha < 0.9$	Good
$0.7 \leq \alpha < 0.8$	Acceptable
$0.6 \leq \alpha < 0.7$	Questionable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Thus, the Cronbach's alpha is accepted when it is 0.6 or more.

b. Validity

Factorial validity can be established by submitting the data for factor analysis. The results of factor analysis (a multivariate technique) will confirm whether or not the theorized dimensions emerge (Sekaran & Bougie, 2016). In other words, validity shows the extent of the relevance of each question asked or what is measured in the research.

The validity of data can be measured through the formula of The Pearson correlation coefficient, often referred to as the Pearson R test, which is:

$$r = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum (X)^2 - ((\sum X)^2)(n \sum (Y)^2 - ((\sum Y)^2))}}$$

Explanation:

r: correlation coefficient Pearson product moment

n: number of respondents

$\sum X$: Sum of X Score

$\sum Y$:S um of Y Score

The validity of data is confirmed by the result of Pearson calculation. The correlation of coefficient must be more or equal of 0.3 to be recognized as valid.

3.7.1 Method of Successive Interval

The researcher used an ordinal scale in order to collect data from the respondents. Meanwhile, the data should be transformed into an interval. Hence, the method of a successive interval is used to convert the ordinal data into interval (numerical) data.

3.7.2 Classical Assumption Test

The collected data have to be tested with the classic assumption test before analyzing and processing the data in multiple regression analysis. This section consists of a normality test, multicollinearity test, autocorrelation test, and heteroscedasticity test.

3.7.2.1 Normality Test

Normality test is a statistical process which is conducted to know whether the data is distributed normally or not (Ghozali, 2013). The researcher uses Kolmogorov Smirnov (K-S) to do the normality test. Since that, the data can be determined as a normal distribution when the significance value of the data is >0.05.

3.7.2.2 Multicollinearity Test

The purpose of multicollinearity testing is to identify whether a correlation among independent variables occurs. Good regression model must not have a correlation among the independent variable. If independent variables are correlated with each other, those variables are not orthogonal. The orthogonal variable refers to an independent variable that acquire zero correlation among independent variable. Value of tolerance and variance inflation factor (VIF) is derived in order to identify multicollinearity within the regression model. Both of those calculations identify which independent variable determine other independent variables. Low tolerance value equals high VIF due to:

$$VIF = \frac{1}{Tolerance}$$

- Tolerance value < 0.1 or VIF > 10 then multicollinearity occurred.
- Tolerance value > 0.1 or VIF < 10 then multicollinearity is not occurred.

3.7.2.3 Autocorrelation Test

Autocorrelation test is a method that required to test whether there is a correlation between the period t with the previous period (t-1) (Ghozali, 2006). In this research, Durbin-Watson (DW test) is being a user. The criteria for this test are listed below: 1. If the DW value < dL or DW value > (4-dL), the data is containing autocorrelation 2. If the DW value is in between dU and (4-dL) then the data is not containing autocorrelation 3. If the DW value is in between dL and dU or dW value is on between (4-dU) and (4-dL) then the data is inconclusive

3.7.2.4 Heteroscedasticity Test

The last from the classic assumption test is heteroscedasticity test. The purpose of conducting this part is to test whether any residual variance difference from one observation to another in a regression model. The data with no heteroscedasticity (homoscedasticity) can be concluded as good data.

3.7.3   Multiple Regression Test

After the data passed all the test from the classic assumption, analyzing the data by using multiple regression analysis will be the next step. This technique is used in order to analyze one dependent variable that has been affected by two independent variables. The researcher will use the SPSS program to process the data. The independent variables in this research are Investment Tutor Class (X1) and campaign program (X2), while the dependent variable is Students Investment Interest (Y).

3.7.3.1 Regression Equation

The common regression which is used for testing hypotheses are as follow:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2$$

Y	= Students' investment interest
α	= Constant
$\beta_1 - \beta_2$	= Coefficient of Regression
X_1	= Investment Tutor Class
X_1	= Campaign Program

3.8 The Design of Hypothesis Testing

3.8.1 Statistical Hypothesis

The hypothesis that needs to be tested in this research is related to the relationship between independent variable and dependent variable along with the extent of their relationship. There are two hypotheses which are the null hypothesis (Ho) and the alternative hypothesis (Ha). Null hypothesis (Ho) stated that there is no relationship between the independent variable and dependent variable. Alternative hypothesis (Ha) stated that there is a relationship between the independent and dependent variable. The test will be initially employed to the null hypothesis (Ho). If the null hypothesis (Ho) is rejected, the alternative hypothesis (Ha) is accepted. The test is conducted partially among each variable and entirely on multiple linear regression.

Hypothesis 1:

Ho1: $\beta = 0$; Investment tutor class does not affect students' investment interest.

Ha1: $\beta > 0$; Investment tutor class positively affect students' investment interest.

Hypothesis 2:

Ho2: $\beta = 0$; Campaign program does not affect students' investment interest.

Ha2: $\beta > 0$; Campaign program positively affect students' investment interest.

Hypothesis 3:

Ho3: $\beta = 0$; Investment tutor class and campaign program does not affect students' investment interest.

Ha3: $\beta > 0$; Investment tutor class and campaign program positively affect students' investment interest.

3.7.2   Statistical Hypothesis Testing

3.8.2.1 F Test

The F-Test will be used to determine the significance of all independent variables that affected the dependent variables. The simultaneous significance of the independent variables could be identified by looking at the Sig. a value which can be found in the ANOVA table. To have all independent variables which contribute simultaneously significant to the dependent variable, the Sig. a value should be <0.05.

3.8.2.2 T-Test

The T-Test is used to test the relationship of independent variables to dependent variable partially. This research used 0.05 to know whether the hypotheses are accepted or rejected. If the p-value < 0.05, then the hypothesis will be rejected.

3.8.2.3 Independent Samples T-Test

This test compares the means of two independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different. This t test is to find out the difference in the average of two independent samples t-Test. Through this test, it can be seen the significance of the difference in the average of two groups of samples that are not interconnected.

In calculating the Independent Sample t-Test analysis is not done manually, but will be assisted with the help of the IBM SPSS version 19 program package for the calculation process.

3.8.3 Drawing Conclusion and Recommendation

The conclusion will be extracted based on an analysis of data processing and hypotheses testing. The analysis will discuss regarding the relationship of independent variables toward the dependent variable. Hypothesis rejection or acceptance are accounted for determining the relationship. Then, a conclusion will be drawn based on those results along with recommendations for next researches.