

## CHAPTER III

### RESEARCH METHODS

#### 3.1 Research Type

This research type is quantitative. Quantitative research methods are methods in which numbers are used to explain the result (Kowalczyk, 2016). For a quantitative study, the researcher collects primarily quantitative data. The hypotheses (that predict the answer to research questions) necessitate collection of quantitative data –they are expressed in a way that is clear and quantitative analyses provide the best answer (Fahmeena Odetta Moore, 2016).

#### 3.2 Variables and Operational Definition

Variables	Conceptual Definition	Indicators	Operational Definition	Source
Variable X1 Intrinsic Rewards	Intrinsic rewards mean self-generated support that comes from within an individual and influences individual to move in a predetermined direction.	1. Responsibility 2. Learning opportunities	1. The responsibility that is in accordance with the ability of employees to complete their task. 2. With the opportunity to learn, the individual will increase his/her knowledge and skills.	(Edirisooriya Waruni, 2018).

<p>Variable X2 Extrinsic Rewards</p>	<p>Extrinsic reward is the opposite of Intrinsic rewards, and it is compensation given outside of the employee and is usually in the form of financial or tangible rewards.</p>	<ol style="list-style-type: none"> <li>1. Salary</li> <li>2. Bonuses</li> <li>3. Benefits</li> <li>4. Promotion</li> </ol>	<ol style="list-style-type: none"> <li>1. Salary is remuneration in the form of money received by employees as a result of his/her position as an employee who has contributed energy and mind in achieving company goals, or can be defined as a fixed payment someone receives from a company</li> <li>2. Bonuses are additional rewards above or beyond the salary/wages provided by the organization</li> <li>3. Employee benefits, such as pension funds, hospital care, and vacations.</li> <li>4. Managers rewards promotion as an attempt to put the right people in the right jobs. Performance, if measured accurately, often becomes significant consideration in the promotion award allocation.</li> </ol>	<p>(Edirisooriya Waruni, 2018)</p>
<p>Variable X3 Recognition</p>	<p>Recognition is a motivational tool that boosts employee's energies towards the accomplishment of organisational goals and objectives.</p>	<ol style="list-style-type: none"> <li>1. Formal Recognition.</li> <li>2. Informal Recognition</li> </ol>	<ol style="list-style-type: none"> <li>1. Formal Recognition: there is recognition if the employee performs beyond normal work expectations.</li> <li>2. Informal Recognition: there is recognition if the employee achieves the business target (individual or team).</li> </ol>	<p>(Amoatema &amp; Kyeremeh, 2016)</p>

Variable Y Employee Performance	The definition of performance is the result of work in quality and quantity achieved by an employee in carrying out his/her duties in accordance with the responsibilities given to the employee.	1.Quantity 2. Quality 3. Effectiveness, 4. Timeliness 5. Independence, 6. Work	1.Quantity is measured by the amount of work completed. 2. Quality is measured by employees' perceptions of the quality of work produced. 3. Effectiveness is the level of use of organizational resources (energy, money, technology, raw materials), maximized in order to increase the yield of each unit in the use of resources. 4. Timeliness is whether or not the activity is completed on time. 5. Independence is the employee's ability in carrying out his/her work function independently. 6. Work Commitment is the employee's level of commitment to work on the employee's responsibility for the company where he/she works.	(Mangkunegara 2013; Nazwirman 2019).
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**Table 3.1** Operational Definition  
Source: Processed Data, 2019

### 3.3 Data Types, Data Source, and Measurement Scales

#### 3.3.1 Data Types and Source of Data

This research uses primary and secondary data. Primary data is data that is collected by a researcher from first-hand sources, using methods like surveys, interviews, or experiments. It is collected with the research project in mind, directly

from primary sources. The term is used in contrast with the term secondary data. Secondary data is data gathered from studies, surveys, or experiments that were conducted by other people or for other research (Stephanie, 2018).

In this research, the researcher obtained the primary data by handing out the questionnaires to employees of PT Banter Prima Sentosa in Gresik and Surabaya. Primary data was processed with SPSS 22 program, and secondary data was obtained from books, journals and previous research conducted by other researchers.

### 3.3.2 Measurement Scales

The questionnaires were made in the form of Likert Scale. According to Stephanie (2015), a Likert Scale is a type of rating scale used to measure attitudes or opinions. With this scale, respondents are asked to rate items based on their level of agreement. The Likert scale is graded from strongly agree (5), agree (4), neutral (3), disagree (2), or strongly disagree (1).

Respondents have to fill in questionnaires to indicate their level of agreement with a given statement by way of an ordinal scale. By using the Likert Scale, the researcher could determine whether intrinsic rewards, extrinsic rewards, and recognition have significant impact on the respondent's performance.

## 3.4 Research Population and Sampling

### 3.4.1 Research Population

Cooper and Schindler in Daniel Njoya (2017) defined target population as the list of all the elements from which the sample is actually drawn. In this research

study, the targeted population is employees in PT Banter Prima Sentosa located in Gresik and Surabaya, with the total number of population of 40 employees. The characteristics of the targeted population are employees who are actually involved in the company and in the working process. This could be engineering staff, freelance workers, finance staff, administration staff, human capital management staff and others who execute their job based on the job description to achieve the company's target.

### 3.4.2 Research Sampling

Kindy, et al (2016) defined sampling as the process of selecting individuals to participate in research. According to Kothari in Daniel Njoya (2017), sample size is defined as the number of items to be selected from the universe to constitute a sample. Sampling techniques are categorized into two major types, which are probability sampling methods and non-probability sampling methods (Alvi, 2016). The techniques used are probability sampling and simple random sampling. According to Cooper and Schindler (2014) in simple random sampling, each item or person in the population has the same chance of being selected. The number of samples was determined by using Slovin technique with a 5% error margin, which resulted in 37 samples, with the following calculation (Padua & Santos, 1998:35):

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

Where N= population size and e= error tolerance.

$$n = \frac{40}{1 + 39(0.05)^2}$$

$$n = \frac{40}{1.0975} = 36,44 \text{ (rounded to 37)}$$

### **3.5 Data Collection Procedures**

The researcher distributed questionnaires to 37 employees in PT Banter Prima Sentosa in Gresik and Surabaya to collect the data. Questionnaire is essentially a structured technique to collect primary data. The aim of the questionnaire is to capture the data and information required to establish the parameters of the model, the relationship between the independent and dependent variables, and to evaluate the final model and hypotheses (Edirisooriya Waruni, 2018). The questionnaire is translated into Bahasa to minimize the risk of misunderstanding.

### **3.6 Analysis Method and Hypotheses Testing**

#### **3.6.1 Validity**

The validity of an assessment or tool indicates the extent to which it is an adequate measure of the curriculum and objectives it represents. According to Taherdoost (2016), the definition of validity is the degree to which a test measures what it is supposed to measure. Researchers use Pearson Correlation analysis to analyze the validity of the strength of relationship between two variables. In other words, it's a measurement of how dependent two variables are on one another by correlating the score of each indicator with the total of indicators. The indicators on the questionnaires are valid if the sig. value of the Pearson Correlation is  $< 0.05$  (Taherdoost, 2016).

### 3.6.2 Reliability

In quantitative research, reliability refers to the consistency, stability, and repeatability of results, that is, the result of a research is considered reliable if consistent results were obtained in identical situations but different circumstances (Taber, 2017). The researcher used Cronbach Alpha as the method to analyze the reliability of this research. The values for the reliability coefficients range from 0 to 1. Cronbach's Alpha coefficient below 0 indicates no reliability, 0 to <0.2 indicates slight reliability, 0.2 - <0.4 indicates fair reliability, 0.4 - <0.6 indicates moderate, 0.6 - <0.8 indicates substantial, and 0.8 - 1.0 indicates almost perfect reliability (Taber, 2017).

### 3.6.3 Multiple Regression Analysis

Multiple regression analysis is a statistical tool used to understand the relationship between or among two or more variables (Lind, 2017). Multiple regression involves the dependent variable and additional explanatory variables that are thought to produce or be associated with changes in the dependent variable (Lind, 2017). According to Lind (2017), the equation for multiple linear regression is as follows:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Information:

Y : Employee performance of PT Banter Prima Sentosa

a : Constant

$\beta_1, \beta_2, \beta_3$  : Regression coefficient

X<sub>1</sub> : Intrinsic Rewards

X<sub>2</sub> : Extrinsic Rewards

X<sub>3</sub> : Recognition

e : Error

### 3.6.4 Research Tests

#### 3.6.4.1 Simultant Significance Test (*F Statistics test*)

According to Cooper & Schindler (2014) the Simultant Significance Test is used to determine whether the independent variables simultaneously have significant effect towards the dependent variable. The independent variables simultaneously have significant effect towards the dependent variable when the F value is  $\leq 0.05$ .

#### 3.6.4.2 Partial Significance Test (*t Statistics test*)

According to Cooper & Schindler (2014), the Partial Significance test or t Statistic Test is used to determine whether the independent variable partially affects the dependent variable. The independent variable partially affects the dependent variable significantly if the t value is  $\leq 0.05$ .

#### 3.6.4.3 Coefficient of Correlation (*R*) and Coefficient of Determination (*R<sup>2</sup>*)

According to Eliti Kasuya (2018), the coefficient of correlation, usually denoted by the symbol R, is a measure of the linear relationship between two variables, such as x and y. The coefficient of correlation (R) can have the value from -1 to 1. The value of  $\pm 1$  represents a perfect linear relationship between the variables

According to Eliti Kasuya (2018), the coefficient of determination, which is usually denoted by  $R^2$ , is the proportion of variation of one variable (objective or response variable) explained by other variables (explanatory variables) in regression. This coefficient has a value between 0 and 1.



In the linear regression with only one explanatory variable (x), R is equal to the absolute value of the correlation coefficient R between x and the objective variable (y).

#### 3.6.4.4 Classical Assumption Test

##### a. Multicollinearity test

Multicollinearity test explains the correlation between the independent variables in the regression model. If the value of VIF  $<10$ , it implies that there is no multicollinearity (Ainiyah, 2016).

##### b. Normality test

According to Ainiyah (2016), normality test is used to examine whether the residual value from regression is distributed normally or not. The normality test can be conducted using Kolmogorov-Smirnov. The data has a normal distribution if the sig value is  $\geq 0.05$ .

##### c. Heteroscedasticity test

Heteroscedasticity is a systematic change in the spread of the residuals over the range of measured values. The heteroscedasticity test can be conducted using Glejser test. When the sig value  $>0.05$ , it implies that the residual variance has no heteroscedasticity (Ainiyah,2016).

##### d. Linearity test (optional)

Linearity test explains whether two variables has a linear relationship or not. Two variable has a linear relationship if the significance value is less than 0.05 (Ainiyah,2016).

