

CHAPTER III

RESEARCH METHODS AND DATA ANALYSIS TECHNIQUES

A. Research Method

1. Type of Research

The research methodology is essentially a scientific means to gather data with a defined goal and usage. An acceptable approach must be used to accomplish the desired aims in order to meet the necessary objectives.

Sugiyono (2017) asserts that the idea of research methods is a scientific approach to obtaining data with specific purposes and goals. Quantitative research techniques are used in this study by the author. Sugiyono (2017) claims that quantitative research methods can be understood as positivist-based research procedures used to analyze certain populations or samples. Sampling strategies are often random, data collecting involves research instruments, and data analysis is quantitative/statistical with the objective of testing the predefined hypothesis.

2. Time and Location of The Research

The time of the research is November 2022. This research conducted at South Tangerang Area.

3. Research Objects

The object of this research is the influence of Emotional Intelligence, Intrinsic Motivation, and Job Satisfaction on Employee Performance.

4. Research Subject

The subjects of this research are Employees who work in Serpong District South Tangerang area.

5. Population and Sample

a. Population

Sugiyono (2017) claims that the population is a generalization area made up of things and persons that fit certain criteria that researchers have established in order to conduct research on them and derive findings.

The population in this study are Indonesian citizens who are employees in the South Tangerang area.

b. Sample

The population-representative items, persons, or events make up the sample (Yusuf, 2014). Sugiyono (2014) claims that the sample is representative of the population's size and makeup. The Slovin formula was used to calculate the sample size in this investigation, which is described below.

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

$$n = \frac{24,825}{24,825 (0,1)^2 + 1}$$

$$n = \frac{24,825}{248.25 + 1}$$

$$n = \frac{24,825}{249.25}$$

$$n = 99.59 \text{ rounded up to } 100 \text{ employees}$$

Explanation:

n = number of samples sought

N = population

d = precision value (determined $\alpha = 0,1$)

Based on the results of the calculation, 99.5987, the sample utilized in this study consists of 100 employees of SME in South Tangerang, Serpong sub-district.

In sampling, the sampling technique used in this research is non-probability sampling. Non-probability sampling is a sampling strategy that does not provide each component or member of the population an equal chance to be chosen as a sample (Sugiyono, 2016). Non-probability sampling is divided into four categories, namely convenience sampling, purposive sampling, judgement sampling and quota sampling (Sekaran, 2006).

The non-probability sampling technique used in this study used a purposive sampling technique. Purposive sampling is a sampling technique with specific considerations that aims to make the data obtained later can be more representative (Sugiyono, 2016). Purposive sampling is sampling limited to a specific target group. Sampling, in this case, is limited to certain people who can provide the information desired and determined by the researcher (Sekaran, 2006). According to Sugiyono (2006), this purposive sampling technique is suitable for use in quantitative research or research that does not use generalizations.

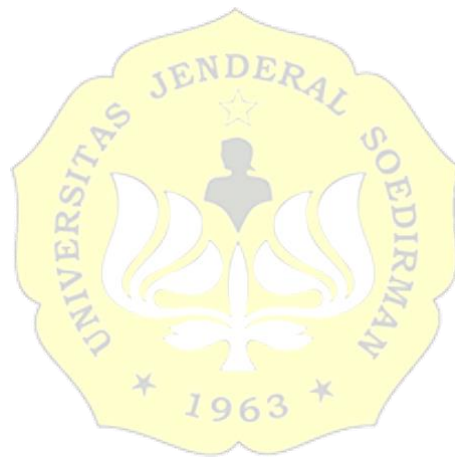
6. Conceptual and Operational Definiton of Variables

Figure 3. 1 Conceptual and Operational Definition of Variables

Variable	Conceptual Definitional	Operational Definition	Indicator
Emotional Intelligence	Emotional intelligence can be defined as the capacity to understand one's own emotions as well as those of others, the capacity to inspire oneself, and the capacity to effectively regulate one's own emotions both on an individual level and in	Individuals with emotional intelligence will enable us to recognize and overcome difficult situations before they become more difficult.	Goleman, 1995; 1. Self-Awareness 2. Managing Emotions 3. Motivation Oneself 4. Recognizing Emotions in Others 5. Handling Relationship

	interpersonal relationships, Goleman (1999).		
Job Satisfaction	Locke (1976) defined job satisfaction as a joyful or positive emotional state that results from an assessment of one's job or work experience.	Individuals who are satisfied with what the company provides will increase employee productivity, increase attendance, and reduce work stress and employee turnover.	Spector, 1997; <ol style="list-style-type: none"> 1. Salary 2. Promotion 3. Supervision 4. Benefit 5. Contingent Reward 6. Operating Producer 7. Co-workers 8. Company Condition 9. Communication
Intrinsic Motivation	Herzberg's (1959) two-factor theory of motivation refers to motivation that comes from within the individual himself. This factor arises from within the individual who wants to do something and then intends to continue the treatment so that it is successful.	Intrinsically motivated people are those that have a passion or motivation that originates from within. will typically lead to producing high-quality work, finishing assignments on time, and overcoming obstacles.	Herzberg, 2011; <ol style="list-style-type: none"> 1. Achievement 2. Recognition 3. Work it self 4. Responsibility 5. Advancement
Employee Performance	Performance is the history of results generated by a given job	Employee performance is the outcome attained by the	Bernardin & Russell, 2011; <ol style="list-style-type: none"> 1. Quantity of

function or activity over a given time frame (Bernaddin and Russel, 2006).	employee in his or her work in accordance with specified criteria that are applicable to a particular job.	work 2. Quality of work 3. Timeliness 4. Need of supervision
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B. Data Analysis Techniques

1. Measurement of Research Variables

- a. Basic data collection is obtained by giving questionnaires to the respondents
- b. The measurement of the variables in the analysis model of this study comes from the answers to the questions included in the questionnaire. To determine the value for each answer, a Likert scale is used. Likert scale is used to measure a person to social objects (Suliyanto, 2011), with a numerical score for each question as follows:

Table 3.2 Likert Scale Table

Alternative Answers	Score
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

2. Validity and Reliability Testing

a. Validity Test

According Suliyanto (2011), the validity test is used to calculate how accurate the question items are in performing their measuring function and providing information so that they present the research variables. The validity test is done by looking at the correlation score between each item in the questionnaire with the total score (Suliyanto, 2011), to test the validity the product moment correlation formula is used as follows:

$$r_{xy} = \frac{n \sum xy - (\sum x)(\sum y)}{\sqrt{(n \sum x^2 - (\sum x)^2)(n \sum y^2 - (\sum y)^2)}}$$

Explanation:

- r_{xy} : Correlation coefficient
- n : Number of respondents
- x : Score of each item (score of questions per number)
- y : Total score of all item (fixed score)

The significance test is done by comparing the calculated r value with the r table. If $r\text{-count} > r\text{-table}$ (at level $\alpha=5\%$), then the statement is valid, to the contrary, if the $r\text{-count} < r\text{-table}$ (at level $\alpha=5\%$), then the statement is invalid.

b. Reliability Test

The reliability test is used to find out how reliable the measurement result is, if the results of repeated measurements produce relatively the same results, then the measurement is considered to have a good level of reliability (Suliyanto, 2018). In other words, a good instrument will not be tendentious in directing respondents to choose particular answers. In calculating the reliability of the instrument, the Cronbach's Alpha method is used with the formula below:

$$\alpha = \left(\frac{k}{k-1}\right) \left(1 - \frac{\sum \sigma_b^2}{\sigma_t^2}\right)$$

Explanation:

α : Cronbach's Alpha coefficient (instrument reliability)

k : Number of questions

$\sum \sigma_b^2$: Item variance

\sum_t^2 : Total variance score

The instrument is reliable if Cronbach's alpha $> 0,60$. If the correlation coefficient is greater than the critical reliable and the instrument is unreliable, if it is less than 0.60 (Suliyanto, Metode Penelitian Bisnis, 2018)

3. Classical Assumption Tests

a. Normal Assumption

According to Ghozali (2018), the purpose of the normality test is to determine whether or not the independent and dependent variables in a regression model have a regularly distributed distribution. The Kolmogorov-Smirnov test with a probability level (sig) of 0.05 is used in the SPSS application program to test the normality of the data. A probability value (sig) > 0.05 indicates that the data is regularly distributed, while a probability value (sig) < 0.05 indicates that the data is not normally distributed.

b. Multicollinearity Test

This multicollinearity test is designed to determine whether or not the independent variables in the regression model have a high or perfect correlation. There are numerous approaches to identify large correlations between unrelated variables, one of which is by utilizing the Tolerance and Variance Inflation Factor (VIF). Tolerance is defined as the variability of the chosen independent variables that cannot be explained by other independent variables, according to Ghozali (2017). A low tolerance hence results in a high VIF value. The following can be said of the Tolerance and Variance Inflation Factor (VIF) assumptions:

- 1) If the tolerance value is < 0.10 or $VIF > 10$, then there is a symptom of multicollinearity.
- 2) If the tolerance value is > 0.10 or $VIF < 10$, then there is no symptom of multicollinearity.

c. Heteroscedasticity Test

According to Ghozali (2018), the Heteroscedasticity Test is intended to determine whether there is an inequality in variance between the residuals of one observation and another in the regression model. One need for regression is that there be no discernible pattern in the variance of the residuals from one observation to the next. Different values between

one variance of the residuals signify different patterns. The symptoms of heteroscedasticity are those of unequal variance.

The Spearman test, which determines the Spearman rank correlation between the independent variables and the absolute variable, is the one that is employed. The values of each Spearman rank are then compared to the designated significance values. If the Spearman rank value between the absolute regression residual variables and the independent variables is greater than the significance value (α), the heteroscedasticity problem does not exist.

d. Linearity Test

According to Sugiyono and Susanto (2015), a linearity test can be used to assess whether or not there is a linear relationship between the dependent variable and the independent variable. A test for linearity can be used to determine linearity. The relevant condition is that a linear relationship between the independent and dependent variables can be inferred if the significance value of linearity is 0.05.

4. Multiple Regression Test

Regression analysis is a statistical tool for investigating and simulating relationships between variables. Regression analysis problems involving the association between two or more independent variables are frequently solved using multiple regression. the following multiple linear regression equation models, (Sugiyono, 2016):

$$Y = a + b_1X_1 + b_2X_2 + \dots + b_nX_n$$

Explanation:

Y = Predicted influence value

a = Constant or Price Number X = 0

b = Regression Coefficient

X = Dependent Variable Value

The independent variable in this study is Emotional Intelligence and Intrinsic Motivation, while the dependent variable is Job Satisfaction. This analysis method uses the SPSS (Statistical Product and Service Solution) program. The form of the equation is:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

Explanation:

Y = Employee Performance

a = Constanta (Grade Y if $X_1, X_2, \dots, X_n = 0$)

b_1 = Emotional Intelligence regression coefficient

b_2 = Intrinsic Motivation regression coefficient

b_3 = Job Satisfaction regression coefficient

X_1 = Variable Emotional Intelligence

X_2 = Variable Intrinsic Motivation

X_3 = Variable Job Satisfaction

e = Standard Error

To assess the accuracy of the sample regression function in estimating the actual value, it can be measured from the T statistic, the F statistical value, and the coefficient value is terminated, (Sujarweni, 2015).

5. Hypothesis Testing

a. Coefficient Determination Test

The coefficient of determination, according to Ghozali (2018), is a technique to assess how well a model can explain for variability in the dependent variable. The coefficient of determination has a value between 0 and 1. The coefficient of determination (R^2 test) seeks to quantify the extent to which the dependent variable's variance can be explained by the

model. R^2 spans a range from 0 to 1 ($0 \leq R^2 \leq 1$). Greater R^2 (closer to 1) indicates that practically all the information required to predict the variation of the dependent variable is provided by the independent variables. The independent variable cannot, however, fully explain the dependent variable if it approaches zero.

b. F test

The calculated F value is used to test the accuracy of the model (goodness of fit) also often called the simultaneous test to test whether the independent variables used in the model are able to explain changes in the value of the dependent variable or not. If the calculated F value is greater than the F table value, then the alternative hypothesis states that all independent variables is in the fit category, we must compare the calculated F value with table F value with degrees of freedom $df:(a/2; n-k-1)$. To calculate the magnitude of the calculated F value, the following formula is used (Suliyanto, 2011)

$$F = \frac{R^2 / (k - 1)}{1 - R^2 / (n - k)}$$

Explanation:

F: F count

R^2 : Coefficient of determination

K: number of variables

N: number of observations

The equation of the regression model is declared fit criteria if the calculated F value $>$ F table value

c. Partial Test (T Test)

The t statistical test basically shows how far the influence of one independent individual variable individually in explaining the dependent variable (Ghozali, 2009). The t test is used to determine whether the influence of the independent variables partially affects the dependent variable is decisive (significant) or not (Santoso, 2007).

There are two references in making decisions regarding the significance of the t test. The first is by looking at the significance value (sig), the second by comparing the calculated t value with the t table. Based on the significance value (sig), the reference is:

- 1) If the probability is < 0.05 or $t\text{-count} > t\text{-table}$, it can be said that there is an influence between the independent variables on the dependent variable partially.

If probability > 0.05 or $t\text{-count} < t\text{-table}$, it can be said that there is no influence between the independent variables on the dependent variable partially.

