

The Effect of Occupational Health, Security and Safety Implementation on Employee Productivity at PT. Sermani Steel Makassar

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Article Info	Abstract
Keywords: occupational health, work security, work safety, employee productivity	<i>This research uses quantitative research. The population in this study were all employees at PT. Sermani Steel Makassar. The sampling technique used a census formula (saturated) where the entire population was sampled as many as 63 people. The data collection technique uses a questionnaire that has been tested for validity and rehabilitation and uses multiple linear regression analysis techniques. The results of this study indicate that: (1) there is a significant positive effect between occupational health on employee productivity from the test results $t \text{ count } 3.675 > t \text{ table } 1.99834$ (2) there is a significant positive effect between job security on employee productivity from the test results $t \text{ count } 6.579 > t \text{ table } 1.99834$ (3) there is a significant positive effect between work safety on employee productivity from the test results $t \text{ count } 3.208 > t \text{ table } 1.99834$.</i>

1. INTRODUCTION

Competition between companies in the era of globalization is getting sharper, so that human resources (HR) are required to continuously be able to develop themselves proactively. Human resources must be human learners, namely individuals who want to learn and work hard with enthusiasm. Therefore, Human Resources is the only resource that has feelings, desires, skills, knowledge, encouragement, power, and work (ratio, taste and intention). All of these potential human resources influence the organization's efforts to achieve its goals. No matter how advanced the technology, the development of information, the availability of capital and materials, if without human resources it is difficult for the organization to achieve its goals. (Eddy, 2017)

Werther et al (in Edy, 2017) stated that human resources are "employees who are ready, capable, and alert in achieving organizational goals". As stated that the main dimension of the resource side is the contribution to the organization, while the main human dimension is the treatment of contribution to it which in turn will determine the quality of life.

High-quality human resources according

to Ndraha (in Edy, 2017) are human resources capable of creating not only comparative value but also competitive, generative, innovative value by using the highest energy such as: intelligence, creativity and imagination, no longer solely using raw energy, such as raw materials, land, water, muscle power, and so on.

Human resources are good if they are able to make good decisions according to the situation and conditions that existed at that time all depend on the intellectual and analytical abilities of their human resources. So we can say that without these human resources the organization will not mean anything. Therefore, human resources in the company need to be managed professionally in order to create a balance between the needs of employees with the demands and organizational capabilities of the company. This balance is the main key for the company to develop in a productive and reasonable manner. (Sukmawati, 2015)

Human resources with maximum productivity levels are needed to achieve company goals and productivity is one of the main highlights when a company experiences setbacks. Productivity is the main indicator for the progress of a company, so increasing

productivity in all parts of the system is a way to increase the rate of economic growth of the company. (Ronaldo, 2018)

Companies that realize the importance of employee productivity will always pay attention to factors that can affect the level of employee productivity, one of which is health, safety and work safety. Occupational health, security and safety is an effort to protect workers so that they are always healthy and safe while working in the workplace. (Shafi'i, MF 2008)

Occupational health is an effort aimed at protecting everyone in the workplace so that they live a healthy life and are free from health problems and bad influences resulting from work.

Occupational security can be interpreted as a condition that protects company facilities and equipment as well as to protect employees while working or carrying out work assignments. Occupational accidents not only cause fatalities but also material losses for workers and employers, but can disrupt the entire production process.

Occupational safety is a condition that is safe and conducive in the work environment, work safety includes protection against the risk of suffering, damage, and loss at work. Occupational safety can be realized by working and using work tools according to applicable standards, so as to keep the workplace so that it has minimal potential hazards.

Overall health, security and safety aims to guarantee the perfection or physical and spiritual health of the workforce as well as the work and culture. This application has several objectives in its implementation based on Law no. 1 of 1970 concerning work safety with 3 main objectives, namely: (Yuliani, 2014)

1. Protect and guarantee the safety of every worker and other people in the workplace.
2. Guarantee every source of production can be used safely and efficiently.
3. Improving national welfare and productivity.

Companies need to carry out work health, security and safety programs which are expected to reduce the rate of work accidents

and result in material losses and loss of life. (Irzal, 2016)

PT. Sermani Steel Makassar is a company engaged in the manufacture (production) of zinc coated steel. The company is located approximately seven kilometers from downtown Makassar, South Sulawesi. This company was founded with the aim of meeting the need for zinc sheet steel, supporting the economy in South Sulawesi in particular and Indonesia in general. (Anonymous, n.d.)

The production process at PT. Sermani Steel begins with a shearing line process where the steel coils are flattened and cut to size, after that the galvanizing line process is carried out which is a process of rinsing the steel sheets using a mixture of cleaning water and hot water with a temperature of $\pm 80^{\circ}$ apart from that the galvanizing line is carried out the process of forming waves on the zinc surface through a cooling conveyor, at the end of the corrugation line, zinc-coated steel sheets with small waves and big waves. (Anonymous, n.d.)

Based on the production process at PT. Sermani Steel allows various work accidents to occur, such as workers not wearing heat-resistant gloves on the shearing line, where workers burn tin to coat zinc in order to reduce corrosion/damage caused by chemical reactions. This can cause work accidents in workers, namely hands injured or blisters due to exposure to heat.

Some employees said that the incidents of work accidents that occurred to employees had types of accidents in the form of zinc scratches on the arms, use of incomplete personal protective equipment, fatigue at work and experienced symptoms that many complained of in the form of back pain.

Every company provides various kinds of employee work equipment that can support safety at work, but what I see is that most employees ignore every rule set by the company itself. So that it can lead to a high risk of work accidents. In order to avoid work accidents, it is necessary to be aware of every employee to always comply with regulations in

order to avoid work accidents themselves so that work productivity increases.

With the background above, it becomes the basis for the author's consideration to examine issues related to human resources (HR) in a title "The Influence of Occupational Health, Security and Safety Implementation on Employee Productivity at PT. Sermani Steel Makassar.

2. RESEARCH METHODS

2.1 Research Instrument Test

a. Validity test

Validity is a measure that shows the levels of validity or expertise of an instrument. A valid or valid instrument has high validity. Conversely, an instrument that is less valid means it has low validity (Arikunto, 2010). Validity testing with the help of the SPSS program. With the following criteria:

- If $r \text{ count} > r \text{ table}$, then the statement is declared valid.
- If $r \text{ count} < r \text{ table}$, then the statement is declared invalid.

b. Reliability Test

Reliability refers to the notion that an instrument can be trusted enough to be used as a data collection tool because the instrument is good enough (Arikunto, 2010). An instrument is said to be reliable if a person's answer to a question is consistent or stable over time and a variable is said to be reliable if the Cronbach Alpha member is > 0.05 (Ghozali, 2011)

2.2 Classic assumption test

a. Multicollinearity Test

The multicollinearity test is used to determine whether there is perfect or definite linearity between several or several variables that explain the regression model. The condition for the validity of the multiple regression model is that the independent variables do not have a perfect relationship or contain multicollinearity.

Multicollinearity is detected by looking at the Variance Inflation Factor (VIF) and Tolerance through SPSS and the correlation

coefficient between independent variables. If $VIF < 5$ and tolerance above 0.1 then multicollinearity does not occur in this model. (Ghozali 2005).

b. Normality test

The normality test aims to test whether in the regression model, the confounding or residual variables have a normal distribution, as it is known that the t-test residual values follow a normal distribution. If this assumption is violated, the statistical test becomes invalid for a small sample size. (Fuadiyah, 2019).

The normality test uses the One Kolmogorov Smirnov Test with the help of the SPSS computer program. Among them is that the sample to be used for analysis must come from a normally distributed population with a significance level of $\alpha = 5\%$ (0.05). The criteria for testing the normality test are as follows:

- If the Sig value (significant) > 0.05 indicates normal data distribution
- If the Sig (significant) value < 0.05 indicates the data distribution is not normal

2.3 Hypothesis testing

a. Multiple Linear Regression Analysis

Multiple linear regression analysis is used by researchers to prove how much influence health, safety and work safety have on employee productivity. In addition, multiple regression analysis is used to predict how the condition (rise and fall) of the dependent variable, if two or more independent variables are the predictor factors. Sugiyono 2009 (in Abdul, 2017).

The formula of this research is:

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

Where:

Y = Employee Productivity

a = Constant

X1 = Occupational Health

X2 = Job Security

X3 = Work Safety

$\beta_1 - \beta_3$ = Parameters measured (regression coefficient)

e = Error (Residual)

b. T test

The t test is also known as an individual significant test, which shows how far the independent variable influences the dependent variable partially. The hypothesis proposed is as follows: (Sugiyono, 2014)

1) Occupational Health Variable (X1)

- $H_0 : \beta = 0$, meaning that occupational health has no effect on employee productivity.
- $H_a : \beta \neq 0$, meaning that occupational health affects employee productivity.

2) Job Security Variable (X2)

- $H_0 : \beta = 0$, meaning that job security does not affect employee productivity.
- $H_a : \beta \neq 0$, meaning that job security affects employee productivity.

3) Work Safety Variables (X3)

- $H_0 : \beta = 0$, meaning that job security does not affect employee productivity.
- $H_a : \beta \neq 0$, meaning that job security affects employee productivity.

The formula used according to Sugiyono (2014: 184) in testing the hypothesis (t test) of this study is:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

c. F test

The F test is used to see whether the independent variables jointly (simultaneously) have an influence on the dependent variable. The hypothesis proposed is as follows:

- $H_0 : \beta_1, \beta_2, \beta_3 = 0$, meaning that there is no effect of health, safety and occupational safety on employee productivity.
- $H_a : \beta_1, \beta_2, \beta_3 \neq 0$, meaning that there is an influence of health, safety and work safety on employee productivity.

Against the formulation of the hypothesis, then testing the hypothesis. Hypothesis testing is shown to test whether there is an influence of the independent variables as a whole on the dependent. Hypothesis testing using the F test or what is commonly called the Analysis of variance

(ANOVA).

Hypothesis testing according to Sugiono (2014: 192) can use the double correlation significant formula as follows:

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

Testing by comparing F_{count} with F_{table} with the following conditions:

- If $F_{\text{count}} > F_{\text{table}}$ at $\alpha = 5\%$ then H_0 is rejected and H_a is accepted (effect)
- If $F_{\text{count}} < F_{\text{table}}$ at $\alpha = 5\%$ then H_0 is rejected and H_a is accepted (no effect)

d. Determination Test R^2

The coefficient of determination (R^2) measures how far the model's ability to explain variations in the dependent variable (dependent variable). The value of the coefficient of determination (R^2) ranges from 0-1. The small value of the coefficient of determination (R^2) indicates that the ability of the independent (independent variable) to explain the dependent variable (dependent variable) is very limited. Conversely, the value of the coefficient of determination (R^2) which is large and close to 1 indicates that the independent variable (independent variable) provides almost all the information needed to predict the variation of the dependent variable (dependent variable).

3. RESULTS AND DISCUSSION

In this study there were 63 respondents while the data processing instrument on variable X1 contained 7 items, X2 contained 6 items, X3 contained 6 items and Y contained 7 items, as described in chapter 1 this study aims to test health, safety and occupational safety on employee productivity. Is there a significant positive effect between the dependent and independent variables.

After going through several stages of testing in this study, one of them is the t test results which can be seen as follows:

3.1 The influence of the implementation of occupational health on employee productivity

Based on the results of the t test, it can be seen that the independent variable of occupational health (X1) has an influence on the dependent variable and can be seen through $t_{count} > t_{table}$ ($3.675 > 1.99834$). Thus it is proven that there is a positive influence from the implementation of occupational health on employee productivity at PT. Sermani Steel Makassar. This is because occupational health is one of the efforts to prevent occupational diseases in order to live healthy and free from health problems and bad influences resulting from work.

The results of this study are in line with Renaldo Andreyanto (2018) entitled Effects of the K3 (occupational health and safety) program on employee work productivity (a case study of PT. Telkom Kandatel Bantul. The results of this study indicate that occupational health has a positive and significant effect on employee productivity.

3.2 Effect of the implementation of job security on employee productivity

Work safety is an effort to protect and protect workers, as for supporting elements that support the creation of a safe working atmosphere, such as when working employees use personal protective equipment such as clothes, helmets, goggles and gloves. Based on the results of the t test, it can be seen that the independent variable job security (X2) has an influence on the dependent variable and can be seen through $t_{count} > t_{table}$ ($6.579 > 1.99834$). Thus it is proven that there is a positive influence from the implementation of job security on employee productivity at PT. Sermani Steel Makassar.

The results of this study are in line with research conducted by Andi Adam Saputra (2017) entitled Health, Security and Occupational Safety on Employee Work Productivity at PT.PLN (Persero) Pinrang Branch. The results showed that job security has a significant effect on employee productivity.

3.3 The influence of the implementation of work safety on employee productivity

Based on the results of the t test, it can be seen that the independent variable work safety (X3) has an influence on the dependent variable and can be seen through $t_{count} > t_{table}$ ($3.208 > 1.99834$). Thus it is proven that there is a positive influence from the implementation of occupational health on employee productivity at PT. Sermani Steel Makassar.

The results of this study are in line with Aji Pangestu (2016) entitled Effects of Programs and Occupational Safety and Health (K3) and employee work discipline on the work productivity of employees of PT. Wika Realty development projects. The results showed that work safety has a significant effect on employee productivity. This is because work safety is a state of being safe and safe from suffering and damage and loss in the workplace, both when using tools, materials, machines in the management process as well as maintaining and securing the workplace and work environment.

4. CLOSING

4.1 Coinclusion

Based on the results of research conducted by the author regarding "The effect of implementing health, safety and work safety on employee productivity at PT. Sermani Steel Makassar" which has been described previously, it can be concluded as follows:

1. The variable of implementing occupational health (X1) has a positive and real effect on employee productivity (Y) at PT. Sermani Steel Makassar
2. The implementation of job security variable (X2) has a positive and significant effect on employee productivity (Y) at PT. Sermani Steel Makassar
3. Work safety implementation variable (X3) has a positive and real effect on employee productivity (Y) at PT. Sermani Steel Makassar

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