Jurnal Mantik, 6 (3) (2022), ISSN 2685-4236 (Online)

Published by:Institute of Computer Science (IOCS)

Jurnal Mantik

Journal homepage: www.iocscience.org/ejournal/index.php/mantik

Effect of occupational safety and health on employee work productivity at pt. kelompok empat puluh

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A R T I C L E I N F O

Article history:

Received Aug 29, 2022
Revised Sep 05, 2022
Accepted Sep 27, 2022

Keywords:

Occupational Health
Occupational Safety
Work Productivy

ABSTRACT

Occupational health and safety are elements that can affect work productivity. This study aims to determine and analyze the effect of occupational safety and health on the work productivity of PT. Kelompok Empat Puluh. This type of research is explanatory research. Researchers took the population in this study as many as 40 people who work at the company. The sampling technique that will be used is to use a saturated sample where the entire population will be used as a research sample so that as many as 40 research samples are obtained. In this research, the distribution of questionnaires will be measured using a Likert scale. Data analysis used multiple linear regression analysis and coefficient of determination as well as simultaneous test and partial test. The results showed that either partially or simultaneously, occupational health and safety had a positive and significant effect on the sales of PT. Kelompok Empat Puluh. Based on the results of this study, the implications for management are to improve health and safety at work.

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1. INTRODUCTION

Occupational safety and health are important factors that must be the main concern of all parties. This time, they will raise a K3 problem at PT. The Kelompok Empat Puluh is generally identified with an accident. If the workplace is safe and healthy then everyone can continue their work effectively and efficiently. On the other hand, if the workplace is not organized and there are many hazards, damage and sick absences inevitably result in loss of income for workers and productivity due to reduced quality for the company.

PT. Kelompok Empat Puluh is a company in the F&B field, there is often a decrease in employee productivity where employees often complain about the lack of awareness from the company if there are employees who have minor accidents, they are often ignored because accidents that occur make employees no longer able to continue the work that should be done at that time. . Human Resources (HR) for companies is needed to carry out

organizational activities. Occupational Safety and Health (K3) is indeed one of the requirements to increase employee productivity which is closely related to production results. Basically K3 is an effort to prevent, avoid, reduce accidents in order to achieve work targets at PT. Kelompok Empat Puluh.

PT. Kelompok Empat Puluh requires all employees to follow standard operating procedures (SOP). Productivity is one of the biggest contributing factors to the growth of a company. Accidents that occur cause huge losses for the company because in the production process, productivity is supported by three main pillars of quantity (quantity), quality (quality), and safety (Ramli, 2010:15).

Occupational safety and health is the company's responsibility to protect its employees. Occupational safety and health is a problem that deserves the company's attention where without a sense of safety and health at work it will affect the level of employee work productivity because if the company does not pay attention to safety and health properly, then employees who experience unwanted things will be slow in resolving their jobs and even some employees can no longer continue their work. The phenomenon of problems that often occur in companies is where employees often experience work accidents such as employees whose feet are hit by large and heavy items that make it difficult for employees to walk and have to be rested at home. In addition, some employees also often experience injuries to their hands during the production process, which is because the company does not provide adequate protection or equipment for employees to work. For health problems, it is also considered lacking because employees are often sick and also cleanliness in the company is not maintained, such as lack of air ventilation, hot air temperatures, causing employees to often overheat accompanied by infrequent cleaning of equipment or work equipment during the covid pandemic. In addition, the company has never provided masks or hand sanitizer for employees, causing employees to have to buy their own to maintain their health.

Based on the above background, it can be seen the importance of safety and health due to the negligence of the employees themselves at work which can be in the form of being injured by sharp objects, falling from a height and breathing problems caused by air pollution. Occupational Health and Safety on Employee Work Productivity at PT. Kelompok Empat Puluh".

2. METHOD

2.1 Location and Time

This research will be conducted on Jl. Captain Patimura No. 421, Darat, Kec. Medan Baru, Medan City, North Sumatra 20153, Tel (Fax). (061) 4531881 Research time in September 2021.

2.2 Population and Sample

Researchers took the population in this study as many as 40 people who work at the company. The sampling technique that will be used is to use a saturated sample where the entire population will be used as a research sample so that as many as 40 research samples are obtained.

2.3 Data Collection Method

Collecting data through a questionnaire is done by asking questions to parties related to the problem. To assess respondents' responses, the author uses the Likert scale which uses several question items to measure individual behavior by responding to 5 choice points on each question item.

2.4 Validity and Reliability Test

The data obtained needs to be tested for its accuracy and reliability so that the results of data processing can be more precise and accurate. Therefore, it is necessary to know how high the validity and reliability of the measuring instrument (instrument) used.

Based on the research, each variable of the questionnaire item that was tested for validity, all the questionnaires had met the valid criteria and were eligible to be used as a questionnaire in further research. While in reliability test, all variable questionnaire item is reliable and can be used as instrument.

3. RESULT AND DISCUSSION

3.1 Normality Test

The residual normality test is used to test whether the residual value resulting from the regression is normally distributed or not. A good regression model is to have residuals that are normally distributed. There is some method to do the normality test such as histogram graphic, normal probability plot of regression graphic and one sample Kolmogorov Smirnov statistic.

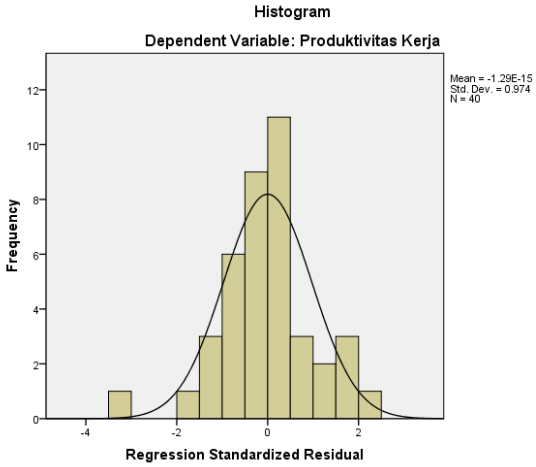

Figure 1. Histogram Graphic

Based on the picture above, it can be seen that the line forming a bell, not going left or right. This shows that the data is normally distributed and meets the assumptions of normality.

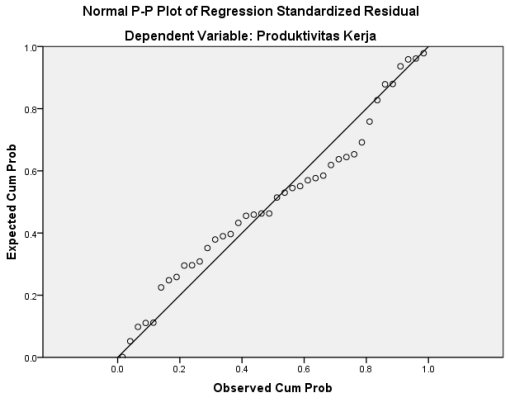

Figure 2.Normal Probability Plot Of Regression Graphic

Based on the picture above, it shows that the data (dots) spreads around the diagonal line and follows the diagonal line. So from this figure it is concluded that the regression model residuals are normally distributed.

Table 1. One-Sample Kolmogorov Smirnov Test

		Unstandardized Residual
N		40
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	2.69488779
Most Extreme Differences	Absolute	.118
	Positive	.118
	Negative	-.094
Kolmogorov-Smirnov Z		.744
Asymp. Sig. (2-tailed)		.636

a. Test distribution is Normal.

b. Calculated from data.

Source: Research Result, 2022

Based on the table above, the results of the Kolmogorov-Smirnov normality test prove that the significant value is greater than 0.05, namely 0.636, it can be concluded that the data is classified as normally distributed.

3.2 Multicollinearity Test

Multicollinearity is a condition in the regression model where there is a perfect or near perfect correlation between independent variables where a good regression model should not have a perfect or nearly perfect correlation between the independent variables.

The commonly used test method is to look at the Tolerance and Variance Inflation Factor (VIF) values in the regression model where the VIF value is less than 10 and has a Tolerance value of more than 0.1.

Table 2. Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Occupational Health	.788	1.269
	Occupational Safety	.788	1.269

a. Dependent Variable: Work Productivity

Source: Research Result, 2022

Based on the table above show that all the variables have a tolerance value more than 0.1 and VIF value less than 10 which can be concluded that there is no problem found in multicollinearity test.

3.3 Heteroscedasticity Test

Heteroscedasticity is a condition where in the regression model there is an inequality of variants from the residuals from one observation to another where a good regression model does not occur heteroscedasticity.

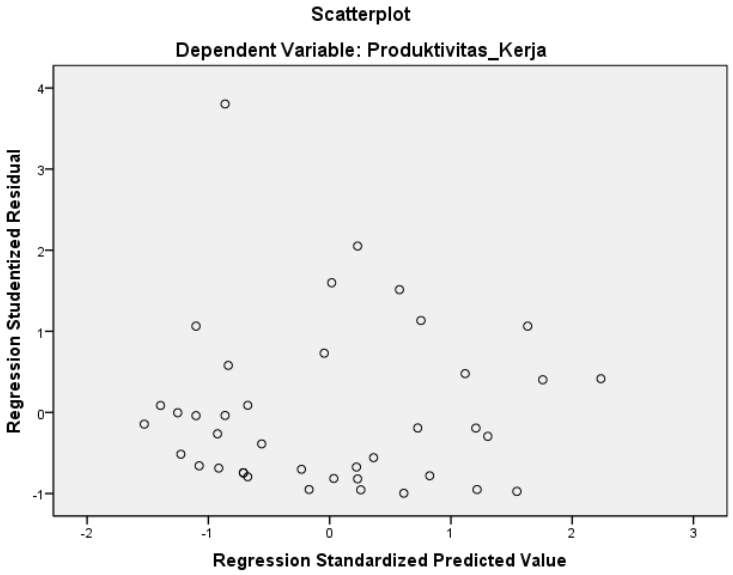

Figure 3. Scatterplot Graphic

Based on the scatterplot graph presented, it can be seen that the dots spread randomly and do not form a clear pattern and are spread either above or below zero on the Y axis. This means that there is no heteroscedasticity in the regression model, so the regression model can be used to predict achievement based on the input of the independent variable.

The following is a glejser test which can be seen in the table below:

Table 3. Glejser Test

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.754	2.528		1.881	.068
	Occupational Health	-.037	.095	-.071	-.395	.695
	Occupational Safety	-.064	.062	-.184	-1.022	.314

a. Dependent Variable: Work Productivity

Based on the table above, it can be seen that the significance value of the two variables is greater than 0.05 so that it can be stated that there is no problem with heteroscedasticity testing.

3.4 Multiple Linear Regression Analysis

Multiple regression analysis is an analysis to determine whether there is a significant influence between two or more independent variables on one independent variable.

Table 4. Multiple Linear Regression Analysis Test

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	.483	3.749	
	Occupational Health	.665	.141	.571
	Occupational Safety	.231	.092	.301

a. Dependent Variable: Work Productivity
Source: Research Result, 2022

$$Work\ Productivity = 0.483 + 0.665\ Occupational\ Safety + 0.231\ Occupational\ Health \quad (1)$$

Based on the above equation, then:
1. Constant (a) = 0.483. This means that if the independent variables are Occupational Safety (X1), and Occupational Health (X2) are 0 then Work Productivity (Y) is 0.483.
2. If there is an increase in Work Safety, there will be an increase in Work Productivity of 66.5%.
3. If there is an increase in Occupational Health then Work Productivity will increase by 23.1%.

3.5 Coefficient Determination

Analysis of determination or also called R Square symbolized by R^2 is used to determine the magnitude of the influence of the independent variable (X) together on the dependent variable (Y) where the smaller the coefficient of determination, this means the effect of the independent variable (X) on the dependent variable (Y) is getting weaker. Conversely, if the coefficient of determination is closer to number 1, then the effect of the independent variable on the dependent variable is getting stronger. Thus, if coefficient determination is 0, this indicates that there is no percentage contribution of influence given by the independent variable to the dependent variable. However, if the coefficient of determination is 1, then there is a contribution that the independent variable gives to the dependent variable is perfect.

Table 5. Coefficient Determination Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.759[a]	.575	.552	2.767

a. Predictors: (Constant), Occupational Safety, Occupational Health
b. Dependent Variable: Work Productivity

Source: Research Result, 2022

Based on the table above, the Adjusted R Square coefficient of determination is 0.552. This shows that the ability of the Occupational Safety (X1) and Occupational Health (X2) variables to explain their effect on Work Productivity (Y) is 55.2%. While the remaining 44.8% is the influence of other independent variables not examined in this study such as work conflict, work spirit and other factors.

3.6 Simultaneous Hypothesis Test (F Test)

F test or regression coefficient test is used to determine whether simultaneously the independent variable has a significant effect on the dependent variable. In this case, to find out whether simultaneously the independent variable has a significant effect on the dependent variable or not. The test uses a significance level of 5%. The criteria for evaluating the hypothesis in this F test are:

H_0 Accepted if: $F_{count} < F_{table,}$
H_a Accepted if: $F_{count} > F_{table}$

Table 6. Anova Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	383.866	2	191.933	25.073	.000[a]
	Residual	283.234	37	7.655		
	Total	667.100	39			

a. Predictors: (Constant), Work Stress, Occupational Safety, Occupational Health

b. Dependent Variable: Work Productivity

Source: Research Result, 2022

Based on the table above, it is found that Ftable value (3.10) and significant = 5% (0.05) namely Fcount (25.073) and sig.a (0.000a). This indicates that the results of the study accept H1 and reject H0. The comparison between Fcount and Ftable can prove that simultaneously Occupational Safety and Health have a positive and significant effect on Work Productivity.

3.7 Partially Hypothesis Test (t Test)

The t test or partial regression coefficient test is used to determine whether partially the independent variable has a significant effect on the dependent variable or not. In this case, to find out whether partially the independent variable has a significant effect on the dependent variable or not. The test uses a significance level of 0.05 and a two-sided test. The criteria for evaluating the hypothesis in this t test are:

H_0 Accepted if: $t_{count} < t_{table}$
H_a Accepted if: $t_{count} > t_{table}$

Table 7. Coefficient Test

Model		t	Sig.
1	(Constant)	.129	.898
	Occupational Health	4.734	.000
	Occupational Safety	2.494	.017

a. Dependent Variable: Work Productivity

Source: Research Result, 2022

Based on the table above, it can be concluded that Occupational Health and discipline partially have a positive and significant effect on Work Productivity which can be seen at the t_{count} is greater than t_{table} (1,997) and the significant is less than 0,05.

4. CONCLUSION

The conclusions that researchers can draw from the results of this study are as follows: There is a partially significant positive effect between work safety on work productivity. There is a partially significant positive effect between occupational health and work productivity. Simultaneously Occupational Safety and Health have a positive and significant effect on Work Productivity.

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