

OCCUPATIONAL HEALTH SAFETY AND PHYSICAL WORK ENVIRONMENT CONDITIONS ON EMPLOYEE PERFORMANCE

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Abstract: This study aims to determine the effect of occupational health safety programs and physical work conditions on the performance of production department employees at PT Bahagia Jaya Sejahtera. The population and sample amounted to 36 employees in the production section at PT Bahagia Jaya Sejahtera. Data collection through questionnaires and interviews. Instrument testing is done with validity and reliability. Analysis of research data includes multiple regression analysis, correlation and simultaneous and partial significance tests. Based on the results of multiple regression analysis the occupational health safety program and physical work environment conditions have a positive and significant effect on performance and the F test results state that simultaneous occupational health safety programs and physical work environment conditions affect employee performance. While the results of the test state that workload and work environment partially affect employee performance Increased workload within the limits of the ability of employees can improve employee performance.

Keywords: *occupational health safety program; physical work environment; employee performance.*

1. INTRODUCTION

Performance is the achievement of work results both in terms of quantity and quality of employees in carrying out tasks according to their responsibilities, (Mangkunegara, 2006: 67). While the meaning of performance according to Sedarmayanti (2011: 59) that performance is the result of the work of employees, as a whole management process, which has concrete evidence and can be measured by established standards.

Performance is influenced by ability and expertise, knowledge, work design, personality, work motivation, leadership, leadership style, organizational culture, job satisfaction, work environment, totality, commitment, work discipline (Kasmir, 2016: 189). Meanwhile according to Mahmudi (2005: 158), performance is influenced by factors of work systems, work facilities, security, occupational health safety, organizing processes, and organizational work culture.

Many aspects are related in the process of forming and maintaining good quality human resources in a company, one of which is the occupational safety and health program (K3), Kasmir (2016: 263). Employees are not free from problems related to occupational safety and health while working. If work safety and health are guaranteed, this can foster better performance for employees. So companies must strive to improve the performance of all employees, by producing goods and services efficiently, the company gains a competitive advantage.

The company's objectives are achieved if the company can implement the K3 program well, so as to improve employee performance. This means that good work management supported by adequate work equipment, has an impact on work safety and comfort (Kasmir 2016). Besides the K3 program, in the process of creating good employee performance, companies also need to pay attention to the conditions of the work environment. This will affect the quality of the work of employees, (Rivai & Sagala, 2013). The condition of the work environment can be said to be good

if the work environment is healthy, comfortable, safe and pleasant for employees in completing their work (Sedarmayanti 2011).

PT Bahagia Jaya Sejahtera is a company that operates in the field of industrial machinery manufacturing. The company strives to meet the target goods orders requested by consumers and collaborating partners. The thing that is emphasized by the company is that the goods produced have quality and quantity according to the order. In an effort to produce quality output, expertise and accuracy are needed in the production process. This is because in carrying out work, employees are faced with a variety of work risks both physically and non-physically when the production process makes the machine in progress. In practice, the results of employee performance at PT Bahagia Jaya Sejahtera in the production department for the past three years based on the delay in machine manufacturing are as follows.

Table 1 Delay Machine PT Bahagia Jaya Sejahtera

Month	Day Delay (cases)		
	Year 2015	Year 2016	Year 2017
January	3	-	-
February	-	-	2
March	2	4	-
April	-	5	- in
May	-	-	-
June	-	4	-
4th July	July	3	3rd
August	2	-	3
September	-	1	5
October	5	3	-
November	-	-	4
December	-	-	5
Remarks	5 cases	6 cases	6 cases

Source: PT Bahagia Jaya Sejahtera 2018

Based on Table 1.1, it can be observed that the delay in the completion of machine manufacturing in the last 3 years data has increased. In 2015 there were 5 cases of delays, in 2016 there were 6 cases of delays, in 2017 there were 6 cases of delays. If the sum of the average delays in completion of work for the last 3 years is 3 days late, it shows that the performance of employees is not optimal. The cause of the delay based on observations on the company is that the equipment is often not in optimal condition, so it has limitations in performance, the number of machines that must be produced very often often causes employees to increase working hours, employees have different levels of expertise in completing work. Based on these problems, it can be said that the order completion time is not in accordance with the specified target. Therefore, there is a need for an evaluation of performance standards that are expected to correct deficiencies that occur in the performance of employees in the production department.

Occupational Health Safety Program (K3)

Occupational health safety program is an important part in the process of maintaining the quality of human resources in the company, according to Kasmir (2016), an occupational safety program is an activity aimed at protecting workers with work arrangements that are designed thoroughly for all workers. K3 aims to protect and prevent workers from accidents that commonly occur.

Work

Environment The work environment is an important part of the company. A good work environment has an impact on increasing employee motivation or morale at work. The work environment is all matters relating to space and objects that can affect employee work outcomes, such as cleanliness, light and lighting at work, (Sunyoto, 2012).

Performance

Kasmir(2016), defines performance as a person's behavior in a period to obtain the work, carry out, and complete the tasks and responsibilities given by the company. That is, in performance contains elements of achievement standards must be met, so for those who reach the standards set by the company means working well or vice versa that is not categorized as working less or not good.

Hypothesis Development

Process and good management will result in good organizational performance. Many aspects affect the quality of employee and organizational performance, including OHS factors and the application of a conducive work environment, (Kasmir, 2016). Simanjuntak (2016), said that K3 significantly influences employee performance. This opinion is reinforced by Mamarimbing research (2014), that safety has a effect significant on employee motivation and performance, and Arta and Sari's research (2015), that the work environment and motivation simultaneously have positive and significant effects on employee performance. K3 will ultimately affect performance, because healthy employees are able to do a good job, (Kasmir, 2016).

In addition to K3, a comfortable and safe work environment will create a conducive working atmosphere, so that it can improve one's work performance for the better, because it works without interruption (Kasmir, 2016). This theory is supported by research Moulana (2017), work environment has a positive and significant effect on employee performance.

Based on some of the results of the study, the following hypotheses were prepared:

- 1) Occupational health and safety (K3), and physical environment simultaneously had positive and significant effects on employee performance.
- 2) The K3 program has a positive and significant effect on employee performance.
- 3) The physical environment has a positive and significant effect on employee performance.

2. METHODS

The object in this study is located on Jalan Raya Mayjen HE Sukma Number 58 Ciawi, Bogor Regency, West Java. This research was conducted focusing on the employees of the production department at PT Bahagia Jaya Sejahtera who was in charge of the machinery manufacturing section. This type of research is quantitative research with descriptive verification research methods. The determination of the sample in this study uses a technique *saturated sampling* or *census* that is adjusted to the total population, where the population is relatively small. *Saturated sampling* is a technique *sampling* using all populations as research objects, (Sugiyono, 2012). The sample of this study was 36 production department employees at PT. Bahagia Jaya Sejahtera Year 2018.

In order to further clarify the variables, indicators and measurements of the research variables, the operational definition of the variables will be explained as follows:

Table 2 Operational Variables

No	Variable	Concept Variable	Indicator Indicator	Measuring Scale	Item Statement Item
1	Program K3 (X ₁)	Occupational safety and health (K3) program is an activity that aims to protect workers from work accidents, with arrangements that are designed thoroughly for all	1. Work protective equipment 2. Use of work equipment	Ordinal	1,2 3,4,5 6,7 , 8 9,10,11

		workers. Source: Kasmir, (2016)	3. Placement of objects or goods 4. Provision of OSH socialization programs Source: Sama'mur, (2005) and Shaleh, (2009)		
2	Physical Work Environment (X ₂)	Physical work environment is anything that exists around the workers that can influence themselves in carrying out the tasks that are charged. Source: Nitisemito (2004)	1. Light 2. Air circulation 3. Noise 4. Odor odor 5.safety Workplace 6. Layout / Decoration Source: Sedarmayanti, (2011) and Mangkunegara, (2006).	Ordinal	12,13 14,15 16,17 18,19 20,21,22 23,24
3	Employee Performance (Y)	Performance is the result of work and work behavior of a person in a period, completing the tasks and responsibilities given according to the standard . Source: Kasmir, (2016)	1. Quality 2. Quantity 3. Time 4. Presence Source: Cashmir, (2016) and Mathis, (2006)	Ordinal	25.26.27 28.29 30.31 32.33

Test validity, reliability, and classic assumptions made to the instrument before conducting research. Data were analyzed by using multiple regression coefficient, correlation coefficient, determination coefficient, and hypothesis testing (F-test and t-test).

3. RESULTS AND DISCUSSION

Characteristics of Employees

The majority of employees in this study were male, 33 people (91.7%), aged 20-24 years, 12 people (33.3%), high school education level, 24 people (66 , 6%), and married status, 18 people (50%).

Test Validity and Reliability of Research Instruments

Validity test was conducted on 30 respondents with the following results:

Table 3 Test Results Validity

Variable	Item Statement	r count	r table	Information
Work Health Safety(X ₁)	X _{1.1}	.410	0.3	Valid
	X _{1.2}	.480	0.3	Valid
	X _{1.3}	.549	0.3	Valid
	X _{1.4}	.394	0.3	Valid
	X _{1.5}	.556	0.3	Valid
	X _{1.6}	.673	0.3	Valid
	X _{1.7}	.674	0.3	Valid
	X _{1.8}	.745	0.3	Valid
	X _{1.9}	.751	0.3	Valid
	X _{1.10}	.556	0.3	Valid
	X _{1.11}	.546	0.3	Valid
Physical working environment (X ₂)	X _{2.1}	.608	0.3	Valid
	X _{2.2}	.429	0.3	Valid
	X _{2.3}	.648	0.3	Valid
	X _{2.4}	.712	0.3	Valid
	X _{2.5}	.569	0.3	Valid
	X _{2.6}	.492	0.3	Valid
	X _{2.7}	.662	0.3	Valid
	X _{2.8}	.692	0.3	Valid
	X _{2.9}	.770	0.3	Valid
	X _{2.10}	.508	0.3	Valid
	X _{2.11}	.465	0.3	Valid
	X _{2.12}	.591	0.3	Valid
	X _{2.13}	.630	0.3	Valid
employee performance (Y)	Y ₁	.610	0.3	Valid
	Y ₂	.354	0.3	Valid
	Y ₃	.734	0.3	Invalid
	Y ₄	.752	0.3	Valid
	Y ₅	.493	0.3	Valid
	Y ₆	.615	0.3	Invalid
	Y ₇	.748	0.3	Valid
	Y ₈	.786	0.3	Valid
	Y ₉	.614	0.3	Invalid

Table results if the statistical data by using *the Statistical Program for Social Science* (SPSS) version 21 showed that all of the variables statement item K3 (X₁), the physical work environment (X₂) and employee performance (Y) is declared valid. While the reliability test results are as follows:

Table 4 Results of Test Reliability

Variables	Cronbach's Alpha	Assessment(α)	Description
occupational health safety (X ₁)	0,836	0.6	Reliable
physical work environment (X ₂)	0,849	0.6	Reliable
Business Success (Y)	0,813	0.6	Reliable

All of the variables used in this study had a value *Cronbach's Alpha* is greater than the value of the minimum provision is 0.6. This shows that all indicators in each of these variables are

declared reliable.

Classical Assumptions Test The

test results are a) Test for normality that the data are declared normally distributed; b) Multicollinearity test is not multi-colony between independent variables; c) The heteroscedasticity test is not heteroscedasticity of all regression models so that all regression models can proceed to the multiple linear regression test.

Summary of Questionnaire Results

Summary of the data collecting through questionnaire to all employees (36 people) PT Bahagia Jaya Sejahtera, are as follows:

Table 5 Summary of Questionnaire Results

Variable	Rate	Criteria	Interpretation of
average assessment of employees against occupational health safety program (X1)	4.14	Good	Based on the average employee assessment of the occupational health safety program variable with a value of 4.14, it can be said to have gone well.
average employee assessment of physical work environment conditions (X2)	3.60	Good	Based on the average employee assessment obtained a value of 3.60. Can be interpreted as the condition of the physical work environment in the company is running well.
The average rating of respondents on employee performance (Y)	3.83	Good	Based on the average assessment of the employee's supervisor of production on employee performance is good. It can be said that employee performance has been implemented well.

Results of Multiple Linear Regression Analysis

Based on the calculation of multiple linear regression analysis using SPSS tools, the regression equation is known as follows:

$$Y = 8,144 + 0.420 X_1 + 0.335 X_2 + e$$

The magnitude of the effect of each of these variables can be explained as follows:

1. Occupational Safety and Health Program (K3) has a positive effect on employee performance meaning that if the K3 program increases, it will be followed by an improved employee performance where the variable physical work environment remains.
2. The physical work environment has a positive effect on employee performance meaning that if the physical work environment improves it will be followed by high employee performance where the K3 variable remains.

Analysis Correlation Coefficient and Coefficient of Determination

Table 6. Analysis Correlation Coefficient and Coefficient of Determination Model Summary

Model	R	R Square	Adjusted R Square	Std. Error Of The Estimate
1	.758 ^a	.575	549	2,979

Based on the results of these calculations also, it can be seen the value *R Square* of 0.575 or 57.5%. This shows that the percentage contribution of the influence of occupational health

safety program variable (X_1) and physical working conditions (X_2) on employee performance (Y) amounted to 57.5%, while the remaining 42.5% is influenced by other variables which were not included in the research, as explained by Kasmir (2016), namely: ability, expertise, knowledge, work design, personality, work motivation, leadership and organizational culture.

Regression Coefficient Testing Results

F Test

The following to prove the statistical hypothesis F test calculation results obtained through the Variance Analysis table (Anova) are as follows:

Table 7. Simultaneous Regression Testing Results Anova

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	396,023	2	198,011	22,305	.000 ^b
	Residual	292,950	33	8,877		
	Total	688,972	35			

Based on the F value in the table, the F_{count} is 22,305 and the $F_{value_{table}}$ for $\alpha = 0.05$ with degrees of freedom $V_1 = 3 - 1 = 2$ and $V_2 = 36 - 2 - 1 = 33$ is equal to 3.28 which shows that the F_{count} is greater than the F_{table} ($22,305 > 3.28$). Thus, it was concluded that H_0 is rejected and H_a accepted, meaning the 95% confidence level independent variables, the safety program of occupational health (X_1) and the conditions of physical work environment (X_2) positive and significant effect together (simultaneously) on employee performance (Y). Busyairi, et al., (2014) stated that the occupational health safety program simultaneously affected the productivity of employee performance; Budianto & Katini (2015) that work environment influences employee performance; and Juhana & Haryati (2013), stated that motivation, discipline and work environment simultaneously influence employee performance.

T test

Influence Program Occupational Health Safety (X_1) on Employee Performance (Y)

Safety program of occupational health (X_1) with a t_{count} value of 2.717 is greater than t_{table} ($2.717 > 2.034$) and a significance value of 0,010 is smaller than 0.05 ($0.010 < 0.05$). Thus H_a is accepted and H_0 is rejected, meaning that the occupational health safety program positively and significantly affects employee performance. These results are in accordance with the findings of Gayatri (2014), stating there is a significant relationship between occupational safety and health (K3) with employee performance.

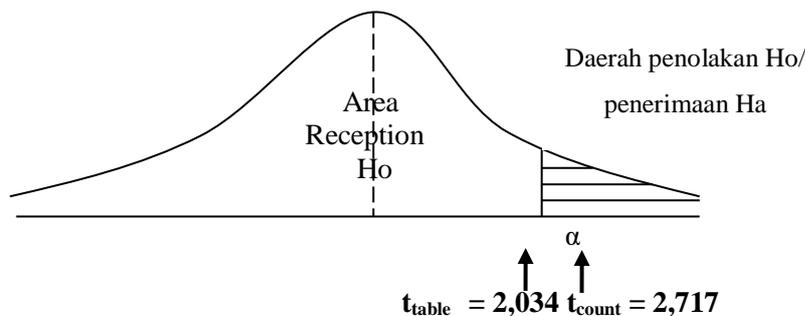


Figure 2. T Test Results Variable Regression Coefficient of Occupational Health Safety Program

Effect of Physical Work Environment Conditions (X_2) on Employee Performance (Y)

Physical working environment conditions (X_2) with t_{count} amounted to 2.702 greater than the value of t_{table} ($2.702 > 2.034$) and a significance value of 0.011 less than 0.05 ($0.011 < 0.05$). Thus H_a is

accepted and H_0 is rejected, meaning that partially the physical working environment conditions positively and significantly influence employee performance. These results are consistent with research by Rosa (2015), Kartikasari & Harini (2015), and Nurcahyati & Rooswidjajani (2016), stating that the work environment has a positive and partially significant effect on employee performance.

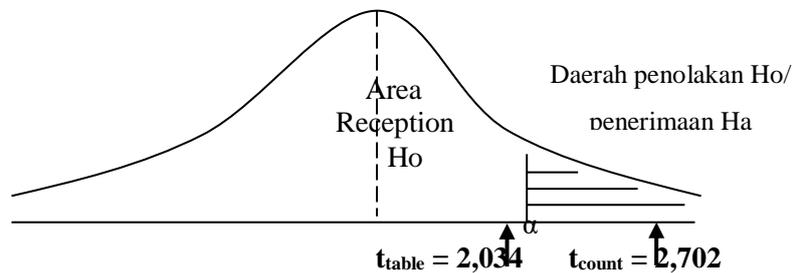


Figure 3. Test Results t Regression Coefficient Variable Physical Working Environment Conditions

4. CONCLUSION

Based on the results of the study it can be concluded, that:

- The occupational health safety program implemented at PT. Bahagia Jaya Sejahtera is good, the physical working environment at PT. Bahagia Jaya Sejahtera is good, employee performance at PT. Bahagia Jaya Sejahtera is good.
- Simultaneous test results of occupational health safety programs and physical working environment conditions have a positive and significant effect on employee performance at PT. Bahagia Jaya Sejahtera.
- The results of partial testing of occupational health safety programs have a positive and significant effect on employee performance.
- The test results partially positive and significant physical work environment conditions affect employee performance.

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