The effect of work environment and social security on employees' productivity of production department in textile industry

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Abstract: This research was carried out at a textile industry in Krian, Mojokerto and Nganjuk, East Java. Data is taken using questionnaires and interviews with production employees of the company. The number of samples used as respondents was 95 people from the total population of 1750 people. From the results of interviews and data collection via questionnaires and the results of data analysis, it shows that the working environment and social security variables have a significant effect on employees' work productivity in textile industry.

1. Introduction
Human resources have a considerable influence in supporting the success of the company because as is known that humans are the driving forces of existing production factors, starting from material, machinery, methods and capital [1]. Therefore, a company should be aware of the importance of the nature of motivation in the form of a good work environment, so it can lead to encouragement of employees to work and behave optimally in accordance with the company expectation. In order to motivate human resources to work vigorously and have high work productivity, it is necessary to have a comfortable working environment and a decent social security.

The work environment consists of adequate lighting, wall color and completeness of work tools, good working environment conditions can also affect employees both physically and psychologically. Like: vision, hearing, fatigue which can reduce or increase work performance. To improve employee work productivity, a healthy, comfortable environment is needed, and the need for social security that can effectively increase employee motivation to be able to provide the best performance in their work.

Social security is a form of compensation beyond the salary or wages that are expected by employees in supporting their life needs, which can also maintain morale and work productivity.
Because social security can reduce employee burdens and concerns about economic security problems in their households.

2. Literature review and hypotheses

2.1. Work environment

Today many companies are paying less attention to factors that affect work environment like the music in the workspace, which though seem trivial, but the major influence on the effectiveness and efficiency in the execution of tasks. According to Nitisemite in his book "Personnel Management" defines that: the work environment is everything that is around the workers and that affects him in carrying out the tasks that are charged. [2];[3]. In the work environment in a company there is a management that focuses on human resources called human resource management.

2.2. Work Environment Factors

The existence of work environment factors generally has an important role for employees, especially in creating good working conditions. To find out the work environment factors, Nitisemite argued that several work environment factors include; coloring, cleanliness, air exchange, lighting, music, security and noise [2].

2.3. Definition of Social Security

To understand the meaning of social security, the following is quoted from several experts. According to Ranupandojo and Husnan who expressed their opinions regarding social security as follows: "Social security is a form of compensation given to employees to be able to increase enthusiasm and excitement at work " [4]; [5]. Hasibuan in his book "Human Resource Management presents his opinion on social security as follows: "Social security is a recipient of complementary (material and non-material) services provided based on wisdom, with the aim of maintaining and improving the physical and mental conditions of the employee, so that productivity increases" [6].

From the two opinions above it can be concluded that social security or employee welfare programs are a form of motivator given to employees. Usually social security is provided by established companies and the financial level is very supportive.

The types of social security and parameters are exemplified by Malay SP Hasibuan as shown in the following table:

| Types of Social Security | Economical | Amenities | Service        |
|--------------------------|------------|-----------|----------------|
| 1. Pension               | 1. Mosque  | 1. Health center / doctor |
| 2. Down payment          | 2. Cafeteria| 2. Employee pickup |
| 3. Transport money       | 3. Sports  | 3. Babysitting |
| 4. Eid money             | 4. Art     | 4. Legal assistance |
| 5. Bonus / graphics      | 5. Education / seminars| 5. Financial advisor |
| 6. Grief money           | 6. Maternity leave| 6. Insurance / Social Security |
| 7. Official clothing     | 7. Cooperatives and shops| 7. Home loans |
| 8. Treatment money       | 8. Permit  |            |                |

Source: [6]

2.4. Productivity

Productivity is nothing more than talking about human or individual behavior, namely its productivity behavior. More specifically in the field of work or work organization [7];[8]. Productivity in essence includes attitudes that always have the view that today's work methods must be better than yesterday's work method and the results that can be achieved tomorrow must be more or more quality than on the
results achieved today [9], [10], says that productivity is the comparison between the work in the form of goods or services with the source or energy used in a production process. From these definitions shows that work productivity is a mental attitude that always has the view that the quality of life today must be better than yesterday and tomorrow must be better than today.

Work productivity is to do work with enthusiasm and passion, both individuals and groups with the aim of achieving better and optimal work results. In work productivity there are:

1. Cooperation
   to achieve the same goals / certain must have confidence in yourself in order to achieve optimal work goals.

2. Job ability
   work ability is needed and expected in each employee, so that each employee can show his achievement.

2.5. Hypothesis

Based on the theories to be proposed, the hypothesis is: work environment and social security of workers have a significant influence on the work productivity of production employees at textile industry in the regency of Krian, Mojokerto, Nganjuk and Gresik of East Java, Indonesia.

3. Methods

3.1. Population and Sample

According to [11] "Population is the whole subject of research". Technique used is total population sampling, using a formula approach by Slovin that is the number of production employees as many as 1750 people and taken 95 people as respondents to be interviewed in order to determine the level of work productivity and social security applied to textile industry in the regency of Krian, Mojokerto, Nganjuk and Gresik of East Java, Indonesia. The people work in the production department to produce spun yarn textile.

3.2. Data Analysis Techniques

Multiple Linear Regression

Aims to find the regression equation is an equation that connects the strength of the dependent variable with the independent variable. With the following formula:

\[ Y = b_0 + b_1 X_1 + b_2 X_2 + e \]

Where:

Y: Dependent variable (work productivity)
Bo: Constant numbers, which indicate the magnitude of the influence of various factors on work productivity
b1 and b2 : Regression coefficient of work environment and social security of labor , which shows the magnitude of influence on work productivity .
X1 : Variable of work environment
X2 : Variable of social security
E: Error or intruder error

4. Result and analysis

4.1. Employee Productivity

Data regarding work productivity of spun yarn products are as in table 2.
Table 2
Number of Employee Productivity Levels Production Department of Textile Industry

| Year | Production result (Kg) | Effective Working Hours | Productivity |
|------|------------------------|-------------------------|--------------|
| 2013 | 1,417,500              | 586,558                 | 2.42         |
| 2014 | 1,508,750              | 586,593                 | 2.57         |
| 2015 | 1,384,625              | 586,327                 | 2.36         |
| 2016 | 1,369,500              | 586,173                 | 2.34         |
| 2017 | 1,327,750              | 586,886                 | 2.26         |

Source: Textile Industry in East Java

Table 3
The Distribution Answer of Work Environment Variable (X₁)

| Indicator                  | Score   |
|---------------------------|---------|
|                           | 1       | 2       | 3       | 4       | 5       |
| Work tools                | 11 (11%)| 54 (54%)| 24 (24%)| 11 (11%)| 0       |
| Workplace lighting        | 15 (15%)| 52 (52%)| 19 (19%)| 14 (14%)| 0       |
| Air circulation           | 20 (20%)| 40 (40%)| 24 (24%)| 16 (16%)| 0       |
| Workroom cleanliness      | 17 (17%)| 50 (50%)| 22 (22%)| 11 (11%)| 0       |
| Security guarantee        | 10 (10%)| 48 (48%)| 29 (29%)| 13 (13%)| 0       |

From the table 3 above, it can be seen that the distribution of respondents' answers varied from good (scale 4) to the answer to a very bad level (scale 1).
The following is the distribution of respondents' answers based on social security variables (X₂), while indicators used in social security variables are health benefits, wage and financial deductions, credit facilities, annual bonuses, salary allowances, work uniform.

Table 4
Answer Frequency Distribution of Social Security Variables (X₂)

| Indicator                  | Score   |
|---------------------------|---------|
|                           | 1       | 2       | 3       | 4       | 5       |
| Health benefits           | 2 (2%)  | 15 (15%)| 59 (59%)| 24 (24%)| 0       |
| Wage deductions and astek | 4 (%    | 18 (18%)| 44 (44%)| 34 (34%)| 0       |
| Credit facility           | 3 (3%)  | 22 (22%)| 52 (52%)| 23 (23%)| 0       |
| Yearly bonus              | 10 (10%)| 20 (20%)| 31 (31%)| 39 (39%)| 0       |
| Salary allowance          | 11 (11%)| 17 (17%)| 36 (36%)| 36 (36%)| 0       |
From table 4 it is known that the majority of employees in the production department at textile industry in east java provide answers about health benefits is a score of 3 (less) as many as 59 people (59%), wage deductions and BPJS is a score of 3 (less) as many as 44 people (44%), credit facilities are a score of 3 as many as 52 people (52%), annual bonus is a score of 4 (good) as many as 39 people (39%), salary allowance is a score of 3 (less) as a score of 4 (good) as many as 36 people (36 %), so the response of production employees at textile industry in Krian, Mojokerto, Nganjuk and Gresik of East Java regarding social security as a whole is not good.

4.2. Work Productivity

The following is the distribution of respondents' answers based on the variable work productivity (Y), whatever indicators used in the variable work productivity are excitement in work, results achieved, discipline towards working hours, cooperation with superiors and cooperation with co-workers.

| Indicator                  | Score | 1  | 2  | 3  | 4  | 5  |
|----------------------------|-------|----|----|----|----|----|
| Work uniform               |       | 10 | 24 | 36 | 30 | 0  |
|                            |       | (10%) | (24%) | (36%) | (30%) | (0%) |

From table 5 it is known that the majority of employees in the production section at textile industry in Krian, Mojokerto, Nanjuk and Gresik provide the answer about the excitement in work is a score of 3 (not good) as many as 59 people (59%), the results achieved are a score of 3 (not good) as many as 54 people (54%), discipline against working hours is a score of 3 (not good) as many as 50 people (50%), cooperation with superiors was a score of 3 (not good) as many as 38 people (38%) and cooperation with co-workers was a score of 3 (not good) as many as 41 people (41%). So the response of production employees at textile industry in Krian, Mojokerto, Nganjuk and Gresik of East Java regarding their overall work productivity is not good.

5. Discussion

5.1. Results of Multiple Linear Regression Analysis

The results of multiple linear regression calculations are as table 6.
Table 6
Multiple Regression Calculation Results

| Model            | Coefficient | t    |
|------------------|-------------|------|
|                  | B           | Std. Error |  |
| Constant         | 2.700       | 0.943 | 2.863 |
| Work environment | 0.290       | 0.071 | 4.066 |
| Social Security  | 0.452       | 0.058 | 7.764 |

The regression equation: \( Y = 2.7 + 0.29X_1 + 0.452X_2 \)

Based on the multiple linear regression equation, it can be explained as follows:

\( b_0 = 2.7 \)

Means that the variable value of work productivity will be 2.7 if the independent variable (work environment and social security) is considered zero.

\( b_1 = 0.29 \)

Means that the influence of the work environment on work productivity is equal to 0.29 units. So if there is an increase in the work environment by 1 unit, then work productivity will increase by 0.29 units assuming that the other variables are considered constant.

\( b_2 = 0.452 \)

Means that the influence of social security on work productivity is 0.452 units. so if there is an increase in collateral social workforce is 1 unit, then work productivity will increase by 0.452 units assuming that the variables are considered constant.

5.2. Simultaneous Hypothesis Test

To find out or examine the effect of independent variables simultaneously / simultaneously (simultaneously) on the dependent variable, the F test is used.

Based on the results of the F test in accordance with the results of SPSS calculations can be seen in the following table:

Table 7
Calculation Result of F Test, Free Variable to Bonded Variables Simultaneously

| Model          | Number of squares | df | Middle Squares | F Calculate | F table |
|----------------|-------------------|----|----------------|-------------|---------|
| Regression     | 571.119           | 2  | 285.560        | 77.615      | 3.09    |
| Residual       | 356.881           | 97 | 3.679          |             |         |
| Total          | 928.000           | 99 |                |             |         |

5.3. Partial Test

To find out or test the effect of independent variables (partial) on the dependent variable, the t test is used. Based on the results of the t test in accordance with the results of SPSS calculations can be seen in the following table:

Table 8
Results of Estimating Multiple Linear Regression Parameters

| Free variable       | Regression coefficient | Standard deviation | t count | t table | partial r² |
|---------------------|------------------------|--------------------|---------|---------|------------|
| Work environment \( (X_1) \) | 0.290                  | 0.071              | 4.066   | 1.985   | 14.59      |
| Social security \( (X_2) \) | 0.452                  | 0.058              | 7.764   | 1.985   | 38.31      |
| Dependent variable  | Work productivity \( (Y) \) |                    |         |         |            |
| Constants           | : 2.7                  |                    |         |         |            |
Based on the results of the analysis above, it is evident that simultaneously the work environment and social security variables have a significant effect on the employee work productivity variables at textile industry in the regency of Krian, Mojokerto, Nganjuk, and Gresik of East Java.

6. Conclusion
From the results of the research and discussion carried out, it can be taken several conclusions based on testing the hypothesis that has been done as follows:

1. The multiple regression equation is \( Y = 2.7 + 0.29X_1 + 0.452X_2 \)

Based on the multiple regression equation, it can be seen that the value of \( b_0 = 2.7 \); means that the variable value of work productivity will be 2.7 if the independent variable (social security of labor and work environment) is considered zero. The value of \( b_1 = 0.29 \); means that the influence of the work environment on work productivity is 0.29 units. So if there is an increase in the work environment by 1 unit, then work productivity will increase by 0.29 units. Value of \( b_2 = 0.452 \); means that the effect of labor social security on work productivity is 0.452; so if there is an increase in labor social security of 1 unit, then productivity will increase by 0.452 units.

2. The results of the analysis with F test or simultaneously, it is known that:

   The working environment and workers' social security simultaneously significantly affect labor productivity, it can be seen from the \( F_{\text{count}} = 77.615 \) greater than \( F_{\text{table}} = 3.09 \) at the level of \( \alpha = 5\% \), then \( H_0 \) is rejected and \( H_1 \) (alternative hypothesis) is accepted. Much influence the working environment and workers' social security jointly / simultaneously on labor productivity is 61.5\%, while the remaining 38.5\% is influenced by other factors.

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