



The Influence of Work Environment on Employees' Work Productivity with Motivation as an Intervening Variable at PT. Tirta Sari Surya Indragiri Hulu District

Yenny Iskandar^{1*}, Said Afriaris², Astarman³

Management, Indragiri Institute of Technology and Business

Corresponding Author: Yenny Iskandar yennyiskandar44@gmail.com

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ABSTRACT

The reduced growth in employee productivity levels can cause various problems such as low levels of profits for the company. Therefore, productivity is very important to pay attention to. Apart from that, the importance of this is also because a high level of productivity will be able to strengthen the country's economy which will then have an impact on increasing the standard of living, improving the quality of life in other words. Productivity can be said to be a measure that shows the consideration between input and output issued by the Company and the role of labor per unit of time, or in other words, measuring efficiency requires identifying performance results.

INTRODUCTION

Making a profit and being the best at satisfying customer needs are just two of the company's many objectives. Companies must continue to be productive in creating goods of the highest and most durable quality based on these two factors. since of this, employee work productivity is crucial since it allows the business to meet customer needs with sustainable products, which will enable it to meet its profit target. Many factors can influence the level of employee work productivity, including an employee's work discipline, work motivation or encouragement, as well as support from the work environment where work activities take place every day. Employees who have a supportive work environment, are motivated and have good discipline, the company's productivity targets will be achieved.

Productivity at work is the capacity to generate optimal or even maximal output while maximizing the use of resources and infrastructure that are available. Productivity is defined as the ratio of input (labor, capital, raw materials, or raw materials and equipment) to output (goods or services). In the process of increasing productivity, managers, technicians and employees must all produce more output (rupiah value, production units and service units) from each unit of input. They must produce more output for every hour of labor used, for every dollar of capital investment, for every unit of energy consumed in production. Thus, the relationship between a manufacturing system's input and output can be understood as productivity.

PT. Tirta Sari Surya is a company founded in Rengat District, Indragiri Hulu Regency. This company is a company that operates in the industrial sector, especially the production of crumb rubber. Work productivity figures at PT. Tirta Sari Surya is not optimal, meaning the results realized are not in accordance with the targets that have been set. For more details, see the following table:

Table 1 Productivity Results at PT. Tirta Sari Surya Indragiri Hulu Regency 2018-2022

Year	Amount Employees (People)	Production Target (Tons)	Realization production(Tons)	Productivity
2018	376	53,469	50,467	134.22
2019	381	52,658	47,625	125.00
2020	373	50,467	47,643	127.73
2021	373	43,060	41,473	111.19
2022	373	46,926	42,084	112.83

Source: PT. Tirta Sari Surya, Indragiri Hulu Regency

The problem you want to investigate

The extent to which the workplace influences staff productivity with motivation as an intervening variable.

Research problem formulation

1.How does the work environment influence employee work motivation at PT. Tirta Sari Surya, Indragiri Hulu Regency?

2. How does the work environment influence employee productivity at PT. Tirta Sari Surya, Indragiri Hulu Regency?
3. How does the work environment influence employee productivity through employee work motivation at PT. Tirta Sari Surya, Indragiri Hulu Regency?

Research purposes

1. To analyze whether the work environment influences employee work motivation at PT. Tirta Sari Surya, Indragiri Hulu Regency.
2. To analyze whether the work environment influences employee productivity at PT. Tirta Sari Surya Regency. Indragiri Hulu?
3. To analyze whether the work environment influences employee productivity through employee motivation at PT. Tirta Sari Surya, Indragiri Hulu Regency?

LITERATURE REVIEW

Employee Productivity

Productivity comes from the word production, the word production is often used in the sense of making something. Production is the conversion of materials from sources into desired results for consumers. These results can be in the form of goods or services. The term production is often associated with the term productivity, even though production facilities are active.

Productivity is a measure of efficiency in carrying out a task or activity to achieve the desired results. In general, productivity refers to the extent to which the resources used (such as time, labor, and equipment) can produce the desired output or results. Productivity is often measured by comparing the amount of output produced with the amount of resources used. (Swastha, 2017:281)

Several factors that can influence productivity include work process efficiency, time management, innovation in technology or work methods, workforce motivation, and management effectiveness. Productivity is not just about doing more work, but also about doing work in a smarter and more efficient way (Sutrisno, 2017: 102).

Key aspects of productivity involve the comparison between input and output. Input involves resources such as time, labor, money, and raw materials, while output is the final result or product of the activity. Increasing productivity is often considered a positive goal because it can lead to economic growth, better efficiency, and increased welfare.

In general, work productivity is defined as the relationship between real and physical results (goods or services) and actual intentions. Productivity is also defined as the level of efficiency in producing goods and services, productivity reveals how to utilize resources well in producing goods. Keep in mind that productivity is not just about the amount of work done, but also about how that work is done better and more efficiently. By increasing

productivity, organizations and individuals can achieve more using existing resources]

Work Environment

The work environment is a group of physical, social, and psychological factors that shape the context in which a person works. This includes everything from the physical office space and equipment used to the dynamics of employee relationships and company culture. The work environment can have a significant impact on worker well-being, productivity and satisfaction.

A good work environment can improve employees' psychological and physical well-being, as well as increase productivity and workforce retention. On the other hand, an unsupportive work environment can cause stress, dissatisfaction, and even decreased performance. (Afandi, 2018:65)

Company management often strives to create a work environment that is inclusive, collaborative, and supports employee personal development. This can include initiatives such as training, wellbeing programs and flexible working policies. By creating a positive environment, companies can increase employee happiness and productivity, which in turn can contribute to the company's long-term success. (Danang, 2012:71)

The work environment is the totality of tools and materials encountered, the surrounding environment where a person works, the way they work, and the work arrangements both individually and in groups. (Sedarmayanti, 2011:2)

So it can be concluded that the work environment is the conditions around the worker when the worker carries out his duties, where these conditions have an influence on the worker when carrying out his work. If the work environment is conducive, employees will work optimally. On the other hand, an inadequate work environment can reduce employee work productivity.

Motivation

Motivation plays an important role in understanding how a person behaves at work. With motivation, it is hoped that an employee will have high work enthusiasm. Employees who have a strong drive to work harder than before. Motivation that comes from within a person varies depending on the strength of the drive from within the person himself, this is often called internal factors. Motivation can also be obtained from outside a person, giving rise to feelings of wanting to be better in the future, this is often called external factors. According to Armstrong (Torang, 2013:57), motivation comes from 2 (two) dimensions. Apart from that, Usman (Torang, 2013: 58) explains that motivation is a psychological process that encourages someone to do something.

According to Suyanto (Ratnaningsih, 2012:23) Work motivation refers to the strength or drive that encourages a person to do work or achieve certain goals in the context of the work environment. Motivation is an internal or external factor that motivates individuals to act, work hard, and achieve achievements. Having strong motivation can increase productivity, performance and job satisfaction. Motivation is an internal or external factor that motivates individuals to act, work hard, and achieve achievements. Having

strong motivation can increase productivity, performance and job satisfaction.(Iskandar, 2019)

RESEARCH METHODS

Research Site

To complete this proposal, the author took the research location at PT. Tirta Sari Surya, Indragiri Hulu Regency.

Population and Sample

In this study, researchers took a sample of 373 employees. The procedure used to determine the research sample is and the Slovin formula above, so the sample from this study is as follows:

$$n = \frac{N}{1+N e^2} \quad n = \frac{373}{1+373(10\%)^2} \quad n = \frac{373}{1+373(0,01)}$$

$$n = \frac{373}{1+3,73} \quad n = \frac{373}{4,73} \quad n = 78.85 \text{ (rounded to 79)}$$

So the sample that the author took in this research was 79 employees of PT. Tirta Sari Surya Indragiri Hulu Regency in 2023 (Sugiyono 2018 : 118)

Variables and Data

a. Variable

The variables in this research are compensation and work discipline on the performance of village officials.

b. Data

The data in this research is in the form of questionnaire data filled in directly by village officials.

Research Instrument

The instrument used in this research was a questionnaire prepared using a Likert scale with several options, namely: Strongly Agree (SS), Agree (S), Somewhat Agree (CS), Disagree (TS), and Strongly Disagree (STS).

In this research, the author carried out frequency distribution analysis and mean (average value) to provide an overview of respondents' tendencies in conducting research. response. In carrying out this analysis, the author formulated a reference interval on which to draw conclusions.

Data Analysis Technique

a. Validity Test

Validity tests are carried out to see to what extent the instrument used can actually measure what it wants to measure. Validity testing aims to evaluate the extent to which a measurement instrument (such as a test, questionnaire, or evaluation tool) actually measures what is intended or measured by the instrument. In other words, validity measures whether an instrument provides accurate and relevant

results to the concept or characteristic to be measured. This calculation will be carried out with the help of the IBM SPSS Statistics 21 computer program.

b. Trust Test

An index called reliability indicates how much a measurement device may be depended upon or trusted. When measuring the same symptom twice or more using the same measuring tool, reliability is the degree to which the results stay constant. Reliability measurements in this study used the Cronbach's Alpha method. An instrument is said to be reliable if Cronbach's alpha is more than 0.60. This calculation will be carried out with the help of the IBM SPSS Statistics 21 computer program. If a measuring device produces consistent results when used repeatedly at various periods, it is considered trustworthy.

Before analyzing data using multiple linear regression, the analysis requirements are first tested, namely:

1. Normality Test

To check whether the data coming from the population is normally distributed or not. The normality test is guided by the Kolmogorov Smirnov test, namely:

- a. If the significance value is < 0.05 (95% confidence level) then the distribution is not normal.
- b. If significance value > 0.05 (95% confidence level) is normally distributed.

2. Linearity Test

This test is used to see whether the model specifications used are correct or not. Should the functions used in Empirical Studies be linear, quadratic, or public? With the linearity test, information will be obtained whether the empirical model should be quadratic linear or general. To determine whether or not there is a linear relationship between the predictor variable and the dependent variable, it can be seen by comparing the significant value of Deviation from Linearity with the significance used, where if the significant value is greater than significant then there is a linear relationship between the independent variable and the dependent variable.

3. Model Feasibility Test (F Test)

The F test is often called the goodness of fit test. According to Ghozali (2016), the model feasibility test is to test whether there is a significant influence on the overall regression model. Decision making in the model feasibility test (goodness of fit) is as follows:

- a. If the statistical value of goodness of fit > 0.05 , then H_0 is rejected, which means there is a significant difference between the model and the observed values so that the research model is not appropriate.

- b. If the goodness of fit statistical value is <0.05 then H_0 is accepted, which means the model is able to predict the observation value so that the research model is correct.

Path Analysis

A statistical analysis technique called path analysis enables the provision of a quantitative interpretation or interpretation of the correlation among several variables in the model. In addition to testing the size of the contribution shown by the route coefficient on each path diagram of the causal relationship between variables, path analysis is used to ascertain the direct and indirect influence between a number of factors.

The following is the structural equation of path analysis:

Structural equation:

$$Y_1 = PY_1X_1X_1 + PY_2X_2X_2 + \epsilon_1$$

Multiple Correlation Coefficient (R)

Objective this method is an analysis used to discuss the strength of the relationship between the variables studied. This figure shows the relationship between variables which are given the notation "R".

Guilford Category Standard Table

Correlation/Path Coefficient	Category
0 - 0.20	Proximity very low relationship or very weak influence
0.20 - 0.40	Low relationship closeness or weak influence
0.40 - 0.60	Medium closeness or moderate influence
0.60 - 0.80	High relationship closeness or high influence
0.80 - 1	Very high relationship closeness or very high influence

Coefficient of Determination (R²)

The purpose of this method is the analysis used to discuss the percentage influence of the variables studied

Hypothesis Test (t test)

The t test (t-test) is used to prove whether or not the influence of each independent variable is significant on the dependent variable partially. For this reason, the decision criteria quoted from Ghozali (2011:85) are used, namely:

- When $t_{count} > Q_{table}$ then H_1 is accepted, meaning there is a significant influence from this variable independent of the dependent variable.
- When $t_{count} < T_{table}$ then H_0 is rejected, meaning there is no significant influence independent variable to the dependent variable.

RESEARCH RESULTS

Analysis of the Influence of the Work Environment on Employee Productivity

Instrument Test

1. Validity Test

To determine whether an instrument is valid or not, it must meet the following requirements:

1. If r is calculated $> r$ table with a significance level of 0.05 then the instrument is said to be valid.
2. If r is calculated $< r$ table with a significance level of 0.05 then the instrument is said to be invalid

The validity test of variables X1 (work environment), and Y (work productivity) as well as mediation Z (work motivation) can be seen in the following table:

Validity Test Table (X1) Work Environment

<i>Goods</i>	<i>Corrected Item Total Correlation</i>	<i>table</i>	<i>Valid/Invalid</i>
D1	0.777	0.312	Legitimate
D2	0.833	0.312	Legitimate
D3	0.826	0.312	Legitimate
D4	0.862	0.312	Legitimate
D5	0.796	0.312	Legitimate
D6	0.726	0.312	Legitimate

Source: SPSS Version 24 Processed Data

Validity Test Table (Y) Work Productivity

<i>Goods</i>	<i>Corrected Item Total Correlation</i>	<i>table</i>	<i>Valid/Invalid</i>
D1	0.470	0.312	Legitimate
D2	0.847	0.312	Legitimate
D3	0.809	0.312	Legitimate
D4	0.900	0.312	Legitimate
D5	0.779	0.312	Legitimate

Source: SPSS Version 24 Processed Data

2. Trust Test

The results of calculating the reliability of variable X and variable Y are as follows:

Reliability Test Table (X) performance

Reliability Statistics

<i>Cronbach's Alpha</i>	<i>N Items</i>
,890	6

Source: SPSS Version 24 Processing Data

By using the Cronbach's Alpha formula, good work environment reliability (X) calculation results were obtained, namely 0.890, greater than 0.312, so it can be concluded that the work environment (X) measurement tool in this research is reliable.

Reliability Test Table (Y) Work Productivity

Mod	R	R square	Adjusted R Square	Std. Estimation Error	Durbin-Watson
1	.551a	.304	.296	1,187	.298

A. Predictor: (Constant), Village Apparatus Performance

B. Dependent Variable: Service Quality

Reliability Statistics

Cronbach's Alpha	N Items
.857	5

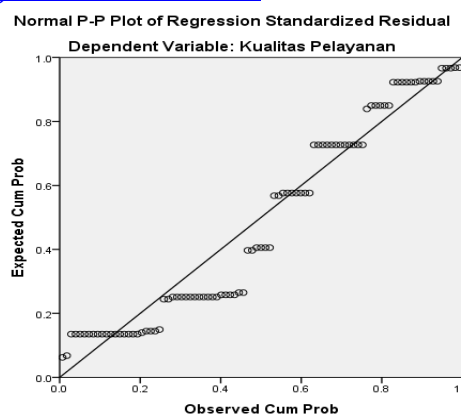
Source: SPSS Version 24 Processing Data

By using the Cronbach's Alpha formula, reliability calculation results were obtained work productivity (Y) at a good level of confidence, namely 0.857 is greater than 0.312 so it can be concluded that the measuring instrument for work productivity (Y) in this study is reliable.

Test the Classical Assumptions

1. Normality test

From the data above, it can be seen that the PP Plot in the output shows the points scattered around the diagonal line, so it was decided that the regression model had a normal distribution. To estimate normality it can be determined using [Kolmogorov-Smirnov test](#)



2. Autocorrelation Test Model Summary b

From the Durbin Watson table, look at column k (the number of independent variables) and row n so that it becomes 2 and 91. The dU value of the table is 1.6000 so the limit is between dU and 4-dU (1.6000 and 2.259). Looking at the output in the Model Summary box, it can be seen that the

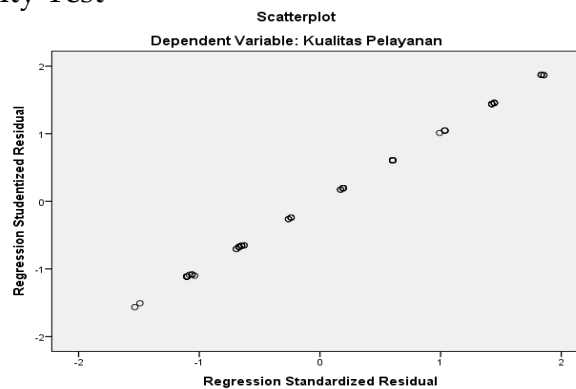
calculated Durbin-Watson value is 2.298 so it is decided that there is no autocorrelation in the regression model.

3. Multicollinearity Test

Model	Unstandardized Coefficients		Standardized Coefficient	Q	signature.	Collinearity Statistics			
	B	Std. Error	Beta			Part	Part	Tolerance	VIF
1 (Constant)	6,954	2,188		3,178	,002				
Work environment	,513	,082	,551	6,233	,000	,551	,551	1,000	1,000
Work motivation	,164	,058	,196	2,828	,000	,551	,551	1,000	1,000

The regression model is free from multicollinearity problems if the Tolerance value is more than 0.10 and the VIF value is less than 10, which means there is no correlation between independent variable. Look at the output in the Coefficient box. All Tolerance values are above 0.10 and VIF values are less than 10, so it is concluded that the regression model is free from multicollinearity.

4. Heteroscedasticity Test



Looking at the scatterplot in the output, you can see that the points are spread between -2 and 1 and do not form a particular pattern, so it can be concluded that the regeneration model is heteroscedastic or not.

5. Regression Analysis (Descriptive Statistics)

		Unstandardized Coefficients		Standardized Coefficient	Q	signature.
		B	Std. Error	Beta		
1	(Constant)	6,954	2,188		3,178	,002
	Work environment	,513	,082	,551	6,233	,000
	Work motivation	,164	,058	,196	2,828	,006

Dependent Variable: Work Productivity

Based on SPSS version 24 data, it is known that the constant (α) of 6.954 and the coefficient X (β) of 0.513 with the path analysis equation $Y = 0.551$

(α) = The constant is 6.954 and if the independent variable is considered zero (0), it means work productivity is 6.954 if X (work environment) is equal to 0 (zero).

β 1 = the work environment regression coefficient is 0.513. Figure 3 shows that for every one unit increase in the work environment, there will be an increase in work productivity of 0.513.

B2 = The work motivation regression coefficient of 0.164 indicates that for every one unit improvement in the work environment, there will be an increase in work productivity of 0.164.

6. Multiple Correlation Analysis (R) and Determination Efficiency (R²)

Summer model^B

Model	R	R square	Adjusted R Square	Std. Estimation Error	Durbin-Watson
1	.551a	.304	,296	1,187	,298

a. Predictors: (Constant), work environment, motivation

b. Dependent variable: work productivity

In the table above it is known that (X) work environment and work motivation have a relationship with (Y) work productivity. This can be seen from the multiple correlation coefficient R value of 0.551, meaning it has a moderate relationship. then tested with a coefficient of multiple determination (R²) of 0.304. This shows that (X) work environment and motivation can contribute to the variable (Y) productivity of 30.4%. And the remaining 69.6% is influenced by other variables not examined in this research.

7. Hypothesis Analysis

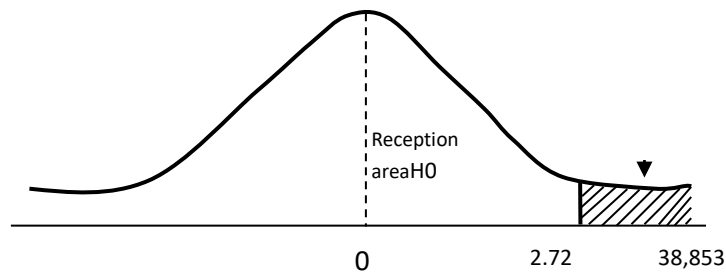
Simultaneous Hypothesis Testing (Hypothesis Testing with "F" Test)
ANOVAa

Model		Sum of Squares	df	Means Square	F	signatu re.
1	Regression	54,786	2	54,786	38,853	,000b
	Residual	125,499	76	1,410		
	Total	180,286	78			

A. Dependent Variable: Service Quality

B. Predictor: (Constant), Village Apparatus Performance

From the table above, it can be seen that the calculated F is 38.853, while the F table can be obtained by using the F table with the residual degrees of freedom (df) which is 79 as the df denominator and Regression (treatment) df which is 2 as the df numerator with a significance level of 0.05 so that the F table of 3.25. because F count (38,853) > F table (2.72), then Ho is rejected and Ha is accepted. Workplace and motivation variables have a importance influence on employee work productivity at PT. Tirta Sari, Indragiri Hulu Regency.



Source: Processed Data

DISCUSSION

The Impact of the Work Environment on Work Productivity

Research and Discussion according to PT. Tirta Sari Surya Indragiri Hulu Regency, This refers to the conditions and elements around the workplace, including physical, social and psychological aspects that influence employee experience and productivity. The work environment has a significant role in shaping people's lives and experiences and plays a key role in environmental science and related fields. This implies that employee job satisfaction will rise in direct proportion to the quality of the work environment. On the other hand, employee job satisfaction will decline in an unfavorable work environment. Therefore, special attention is needed to ensure that the employee's workplace is well maintained.

The Impact of the Work Environment on Motivation

The workplace has an important role in increasing motivation. A favorable environment can increase well-being and motivation, while an unsupportive environment can result in stress and decreased productivity. Every company will definitely provide facilities that make its employees comfortable at work so they can improve performance and achieve company goals. The importance of a supportive work environment is not only for employee well-being but also for the overall success of the organization. Organizations that pay attention to these factors tend to have more satisfied, engaged, and productive employees. The work environment has something to do with motivation. Research conducted by PT. Tirta Sari Surya, Indragiri Hulu Regency stated that the work environment has a positive and significant effect on motivation, meaning that every time the work environment improves, motivation will increase.

The influence of the work environment on employee work productivity through motivation

The workplace is a very important factor in increasing employee work productivity. Companies certainly have their own standards that must be met to ensure employee comfort at work. An inadequate work environment will have a negative impact on employee work productivity, so that employees will feel uncomfortable at work and ultimately will not feel satisfied at work. This dissatisfaction will cause a lack of work enthusiasm so that employee work productivity will be disrupted in completing their work. If reduced worker productivity is not addressed right away, it will affect the company's ability to meet its objectives. Employee job satisfaction can be well attained and performance will improve if the organization creates a very comfortable work environment for its employees.

CONCLUSION**A. Conclusion**

1. Work environment at PT. Tirta Sari is classified as good and this is proven by the work environment having a positive effect on employee work productivity.
2. There is a positive influence between the work environment on motivation.
3. There is a positive influence between the work environment on productivity through work motivation.

B. Suggestion

1. To further increase work productivity, it is hoped that the work environment is adequate for use by employees.
2. Leaders are expected to be able to motivate their employees more

at work so that employees feel more enthusiastic when working, for example by providing rewards when employees achieve a work goal.

3. The lowest indicator in the employee work productivity variable is self-development. To further increase employee work productivity, companies can provide access to all employees to develop themselves so that all employees have a contribution to activities in the company.

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