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The Influence of Leadership and Work Environment on Performance of the Production Team of a Timber Processing Company in Bojonegoro

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Abstract

Entering the era of digitalization, companies are required to work efficiently and effectively, including the Wood Processing Company in Bojonegoro, a premium wood flooring export company based in Bojonegoro that was established in 1985. The company focuses on producing high-quality teak and merbau wood flooring to meet the market's need for aesthetic and durable products. However, in recent months, the company has faced a decline in production performance which is mainly influenced by human resource problems. This study aims to analyze the influence of leadership and work environment on the performance of the production team of a Timber Export Company.The research uses a saturated sampling method, where all members of the population are sampled. Thus, the research respondents were the entire production team of 44 people. Data was collected through questionnaires and analyzed using validity, reliability, and data processing tests with SmartPLS. The results of the study show that leadership has a significant positive influence on employee performance. In addition, the work environment has also been proven to have a positive and significant effect on employee performance.

Keywords: **Leadership, Work Environment, Employee Performance, Production, Woodworking Company**

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INTRODUCTION

Entering the era of digitalization in every field, companies are forced to work in an efficient and effective way. Competition between companies that is increasingly fierce creates a tight work environment to maintain the quality of their human resources so that they are able to maintain competitiveness in order to maintain the survival of the company. This company is a premium wood flooring export company based in Bojo Negoro that has been operating since 1985, specializing in the production of high-quality teak and merbau wood flooring in meeting the market needs for aesthetically pleasing and durable exotic wood flooring. However, in its development, the company has experienced a decline in wood production performance in recent months, mainly due to human resource problems.

The performance of the production team tends to be suboptimal due to non-compliance with the rules, slow completion of work, lack of communication, and low understanding and discipline of SOPs, so that monthly targets are not achieved. The 2024 production target data shows that there are several problems related to the performance of the production team, especially in terms of achieving monthly production targets.

There were several problems in achieving production targets during the year. Especially what happened from August to October where the realization of production with the given target was not achieved for 3 consecutive months. Another problem that occurs in companies is regarding defective products, companies have suffered losses due to these defective goods several times. Data from admins shows that companies have to incur additional costs for defective goods.

The production team's performance tends to be suboptimal due to non-compliance with company regulations and slow completion of work, which results in monthly production targets not being achieved. Lack of effective communication between management and production teams leads to confusion regarding duties and responsibilities, while lack of understanding of the importance of standard operating procedures (SOP) contributes to indiscipline.

Leadership problems arise because the foreman's authoritarian and direct communication style is not in accordance with the character of the majority of female employees who are more comfortable with indirect communication. This makes employees feel depressed, unmotivated, and confused because the foreman's instructions are not clear. Research by Said (2017) states that psychologically women tend to use an indirect communication style, where what they want to convey is not directly expressed, while men tend to express their intentions directly.

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There are other problems that indicate problems in the field of leadership. Production employees, who are mostly women aged 30-50, feel uncomfortable with the foreman's way of communicating which is considered authoritarian. Research by Said (2017) states that psychologically women tend to use an indirect communication style, where what they want to convey is not directly expressed, while men tend to express their intentions directly. Seeing the situation that occurred at the Timber Processing Company in Bojonegoro , the foremen, who were men aged 45 and 50 years old, expected immediate changes after giving a reprimand to the workers in the production department, while the workers felt pressured and unmotivated by the way the foremen delivered.

This company was established in 1980 in Jakarta and moved to Bojonegoro in 1985. The company is quite old and the company where the wood floor is produced is also quite old. When the author visited the factory, the author found several things that caused discomfort for the workers, production employees in the company (Firnanda et al ,2021).

The company does not implement special SOP for employees when doing their work. The work environment determines the social, psychological, and physical conditions of the organization. Companies must create a pleasant work environment for their employees, as it has a significant impact on productivity (Firnanda et al, 2021)

The research conducted by the study resulted in the conclusion that the variables of leadership and work environment have a significant influence on employee performance, while the research by stated that the work environment does not have a significant effect on the performance of the store employees. The study also stated that the leadership variable did not have a significant impact on employee performance.

The purpose of this study is to analyze the influence of leadership and work environment on Employee Performance in Wood Processing Companies in Bojonegoro

LITERATURE REVIEW

Leadership

According to quoting the book George R.Terry , (2018) *"Principle of Management",* it is explained that leadership is an activity to influence others to voluntarily try to achieve group goals. In this study, the indicators used are decision-making ability, motivational ability, communication skills, responsibility, subordinate control, and emotional control.

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Work Environment

(Darmadi, 2020) Explain that the work environment includes everything that is around employees that can affect their performance, such as comfortable room temperature, adequate lighting, and other supporting facilities. In this study, the indicators used to measure the work environment are relationships with colleagues, the availability of employee facilities, and air temperature.

Performance

Performance is the result of work that has been achieved by an employee against the work that has been given to him In this study, the indicators used to measure employee performance are quality, quantity, punctuality, effectiveness, independence, and work commitment. (Ginting) Et Al. , 2019).

RESEARCH METHODS

Research Location

The location of this research focuses on Wood Processing Companies in Bojonegoro.

Population and Sample

In the context of this research, the population that will be used as a focus is the Production Team in a Wood Processing Company which totals 44 people. In this study, saturated sampling method was used. The saturated sampling technique means that all members of the population are used as research samples, which means that the sample of this study is the entire production team in the Wood Processing Company which is 44 people.

Data and data sources

The data used are primary and secondary data types. Primary data was obtained directly from field research through questionnaires distributed to respondents, based on the indicators of the variables studied. Secondary data was collected through literature studies that supported the research, as well as other supporting data such as recapitulation of production employee attendance and reports on operational activities at Timber Processing Companies in Bojonegoro. This data is used to complete the analysis and provide a more comprehensive picture of the research variables.

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Data Analysis

The data analysis in this study was carried out using the Validity Test and Reliability Test methods using *smart pls.* The measurement models of this study include:

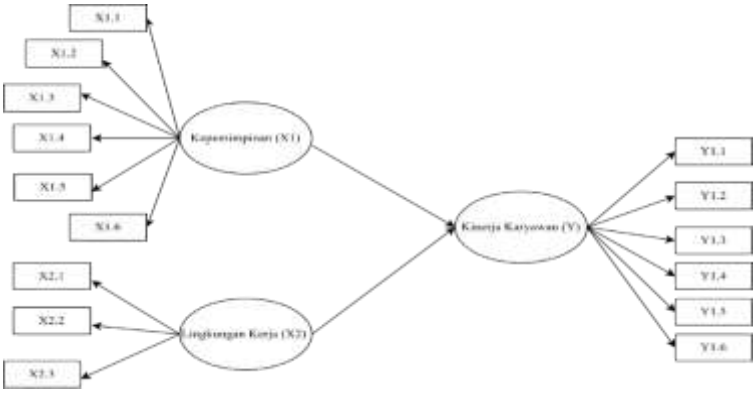


Figure 1 Path Diagram Model

RESULTS

Outer Loading

In this case, what is considered is the magnitude of the Factor Loading value. Since all indicators in this modeling are reflective, the following Outer Loadings table is used as a reference:

Table 2 *Loading Factor*

	Kepemimpinan	Lingkungan Kerja	Kinerja
X1.1	0.980		
X1.2	0.984		
X1.3	0.986		
X1.4	0.984		
X1.5	0.982		
X1.6	0.983		
X2.1		0.986	
X2.2		0.976	
X2.3		0.983	
Y1.1			0.981
Y1.2			0.976
Y1.3			0.980
Y1.4			0.976
Y1.5			0.974
Y1.6			0.978

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Based on the outer loadings table, all indicators in the Leadership, Work Environment, and Performance variables have a loading factor value above 0.5 so that they meet the convergence validity criteria.

Cross Loading

Cross Loading is used to evaluate discriminant validity. According to the condition, discriminant validity is fulfilled if each item or indicator has a higher correlation to the construct it is measuring compared to other constructs. With Ghozali (2018)

Table 3 *Cross Loading*

	Kepemimpinan	Lingkungan Kerja	Kinerja
X1.1	0.980	-0.118	0.861
X1.2	0.984	-0.082	0.873
X1.3	0.986	-0.119	0.865
X1.4	0.984	-0.090	0.864
X1.5	0.982	-0.121	0.873
X1.6	0.983	-0.074	0.877
X2.1	-0.086	0.986	0.262
X2.2	-0.131	0.976	0.195
X2.3	-0.091	0.983	0.237
Y1.1	0.864	0.236	0.981
Y1.2	0.874	0.228	0.976
Y1.3	0.859	0.238	0.980
Y1.4	0.863	0.239	0.976
Y1.5	0.857	0.250	0.974
Y1.6	0.868	0.210	0.978

The results of cross loading showed that each indicator had the highest correlation in its original construct compared to other constructs, so that discriminant validity was met.

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Discriminant Validity

Table 4 *Discriminant Validity*

	Kepemimpinan	Lingkungan Kerja	Kinerja
X1.	0.983		
X2	-0.102	0.982	
Y1	0.884	0.239	0.978

Based on the table above, it can be seen that each variable in this study has met these criteria. For example, the Leadership variable (X1) has a root value of AVE of 0.983, which is greater than its correlation with Work Environment (X2) of –0.102 and with Performance (Y1) of 0.884. Furthermore, the Work Environment variable (X2) has an AVE root of 0.982, higher than its correlation with Leadership (–0.102) and Performance (0.239). Finally, the Performance variable (Y1) has an AVE root of 0.978, which is larger than its correlation with Leadership (0.884) and Work Environment (0.239). Thus, all variables in this research model can be declared to have met the discriminant validity, because the root value of AVE in each variable is higher than the correlation between other constructs.

Composite Realibility

Composite Reliability is an index that shows whether a measuring tool is trustworthy and reliable.

Table 5 *Composite Reality*

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Kepemimpinan	0.993	0.993	0.994	0.967
Lingkungan Kerja	0.982	1.001	0.988	0.964
Kinerja	0.991	0.991	0.992	0.956

Based on the test results, the Composite Reliability (rho_c) value for all constructs in this study was above the minimum threshold of 0.7, namely: Leadership of 0.994, Work Environment of 0.988, and Performance of 0.992. These results show that all indicators

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used have excellent internal consistency in measuring the constructs of their respective variables.

Meanwhile, the Average Variance Extracted (AVE) value indicates the magnitude of the variance of the indicator that is successfully explained by a latent construct or variable. The requirement for a good AVE value is greater than 0.5 in order to demonstrate adequate convergent validity. The test results showed that the AVE value for the Leadership construct was 0.967, the Work Environment was 0.964, and the Performance was 0.956, all of which exceeded the specified threshold. Thus, it can be concluded that the measurement model in this study has met the criteria of construct reliability and convergent validity very well.

Latent Variable Correlation

In the Partial Least Squares (PLS) model, the relationship between constructs can be correlated, both between exogenous and endogenous constructs, as well as between exogenous constructs

Table 8 *Latent Variable Correlation*

	X1.	X2	Y1
X1.	1.000	-0.102	0.884
X2	-0.102	1.000	0.239
Y1	0.884	0.239	1.000

Based on the table, the relationship between the constructs of Leadership (X1), Work Environment (X2), and Performance (Y1) shows a relatively weak to moderate correlation. The highest correlation value was seen between Leadership (X1) and Performance (Y1) of 0.884, indicating a strong positive relationship between the two constructs. Meanwhile, the relationship between Work Environment (X2) and Performance (Y1) was only 0.239, which falls into the category of weak correlation. The correlation between Leadership (X1) and Work Environment (X2) was actually negative at -0.102, which indicates a very weak relationship and the opposite direction.

Thus, it can be concluded that in this model there is no overall very strong correlation between constructs, except between Leadership and Performance which is quite high. The correlation between the other variables is weak, and this provides a preliminary idea of the relationships between constructs before further structural testing is carried out in the Partial Least Squares (PLS) model.

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R-square

Table 7 R-square

	R-square
Y1.	0.890

The R-Square value (R^2) for the Employee Performance variable (Y1) of 0.890 indicates that the constructed model is able to explain the influence of exogenous variables on Employee Performance by 89.0%. In other words, 89% of the variation in Employee Performance can be explained by the independent variables used in this model, namely Leadership (X1) and Work Environment (X2). The remaining 11% is explained by factors other than the model and possible measurement error (error term), which were not included in the construct of this study.

Relationships between variables

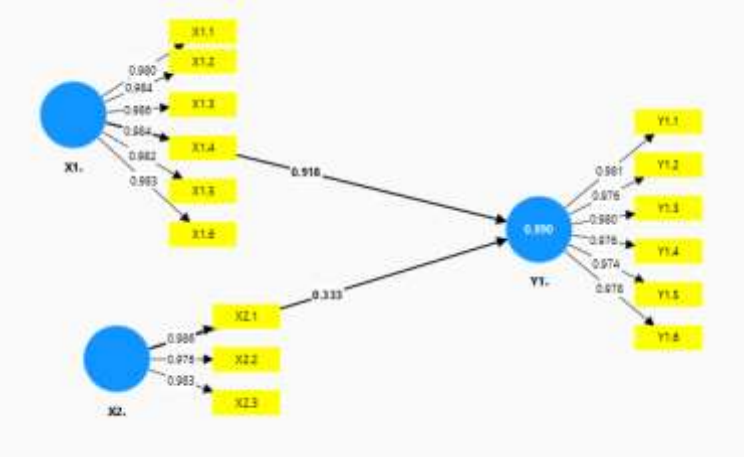


Figure 2 Relationships between Variables

The results of the outer model analysis showed that all indicators had a loading factor value of >0.5 so they were valid. The indicator with the highest load in the Leadership variable was Communication Ability (0.986), in the Work Environment variable

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was Relationship with colleagues (0.986), and in the Performance variable was Quality (0.981). Furthermore, testing the relationship between variables in the inner model is carried out through bootstrapping by looking at the path coefficient and T-statistic values to assess the significance and test the research hypothesis

Hypothesis testing

Table 9 Hypothesis Test Results

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
X1. -> Y1	0.918	0.917	0.034	26.780	0.000
X2 -> Y1	0.333	0.334	0.048	6.966	0.000

The results of the structural model test showed that Leadership (X1) had a positive and very strong effect on Employee Performance (Y1) with a path coefficient of 0.918 and an R^2 contribution of 0.890. Meanwhile, the Work Environment (X2) also had a positive effect on Employee Performance (Y1) with a path coefficient of 0.333, although the influence was weaker than Leadership.

DISCUSSION

The Influence of Leadership on Employee Performance

Based on the results of the analysis, the Leadership variable (X1) showed a positive and significant influence on Employee Performance (Y1), with a coefficient value of -0.377 and a T-statistic of 3.567. This T-statistical value exceeds the significance threshold ($\alpha = 0.05$), so the relationship can be statistically significant. These findings confirm that the leadership style applied in the context of the research does not have a positive impact on improving employee performance. Loading Value The highest factor of the leadership variable comes from the 3rd indicator, namely "Communication Ability", which gets the highest *Loading Factor* value which means that a leader's communication ability is very influential in relation to employee performance.

The results of the study show that the foreman's leadership style has a negative impact on the performance of the production team. This is influenced by the characteristics of the majority of respondents who are female (61.36%) and over 50 years old (72.73%), who need a more communicative and supportive approach. This condition is not in line with the foreman's leadership practices which tend to be authoritarian, give direct reprimands, and deliver directions in an angry tone. This imbalance between

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leadership style and labor characteristics is what causes psychological distress and decreased performance, in line with the findings that women view power as more from interpersonal abilities than formal positions. Sepang (2024)

These results are in accordance with the research conducted Rivai (2020) by and the research conducted by where both studies produced the same conclusion where the results were that leadership has a positive effect on employee performance. (Marfiani Et Al. , 2023)

The Influence of Work Environment on Employee Performance

The results of data processing using SmartPLS show that the Work Environment variable (X2) has a significant influence on Employee Performance (Y1). This is indicated by the path coefficient value of 0.333, with a T-statistic of 6.966 and a p-value of 0.000. Based on the significance criteria (p-value < 0.05 and T-statistic > 1.96), the second hypothesis (H2) is accepted. The highest indicator comes from the first indicator, namely the indicator "Relationship with colleagues" which gets a *Factor Loading value* of 0.986, it can be concluded that this indicator is the most representative of the Work Environment variable.

Although theoretically the work environment has the potential to affect performance, in this study the influence is proven to be significant. This is in line with research by and research by Manchah (2024) which produced the same results where the environment has a significant effect on employee performance. (Rivai, 2020)

CONCLUSION

Leadership affects employee performance. The results show that the better the leadership (in terms of decision-making, motivation, communication, responsibility, subordinate control, and emotional control), the higher the production team's performance. Meanwhile, the work environment affects the performance of the production team. This shows that paying attention to the work environment (relationships between colleagues, work facilities, and comfortable air temperatures) will improve employee performance

SUGGESTION

Based on the results of the study, companies are advised to improve foreman leadership competencies through communication training, motivation, decision-making, and emotional control, so that the leadership style is in harmony with employee

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characteristics. Companies also need to create a conducive work environment through improving relationships between employees, for example with outings or joint recreation activities, as well as maintaining intensive communication through regular briefings. In addition, management should implement a continuous performance monitoring and evaluation system with a participatory approach to increase employee belonging, responsibility, and commitment. For further research, it is recommended to add variables of work motivation, workload, and job satisfaction to make the analysis more comprehensive.

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