

Improving Employee Productivity at CV Putra Lumpur Kabupaten Bogor Regency Though the Physical Work Environment and Motivation

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Keywords: *Physical Work* **Abstract**

Environment; Motivation; Employee Productivity; Human Resource Management.

Employee productivity plays a crucial role in supporting the achievement of corporate goals. Companies require a conducive physical work environment and effective motivation to enable employees to perform at their best. The physical work environment and motivation are factors that influence employee productivity. This study aims to determine the effect of the physical work environment and motivation on employee productivity at CV Putra Lumpur in Bogor Regency, both partially and simultaneously. This study employs a quantitative approach using quantitative descriptive analysis and quantitative associative analysis. The data collection methods used in this study are questionnaires and interviews. The respondents in this study were all employees of CV Putra Lumpur in Bogor Regency, while the assessment of the work productivity variable was conducted by the company's owner. The measurement scale used in this study was the Semantic Differential Scale. Instrument validation involved validity and reliability tests. Furthermore, the data analysis included tests of classical assumptions, multiple linear regression analysis, and the coefficient of determination. The results of the study indicate that the physical work environment has a positive effect on employee work productivity, and that motivation has a positive effect on employee work productivity. In addition, the physical work environment and motivation simultaneously affect employee work productivity. These findings suggest that improving the physical work environment and continuously enhancing motivation can increase employee work productivity, thereby enabling the company to achieve its operational targets more optimally.

INTRODUCTION

Human resources are a vital asset that determines a company's success in achieving its organizational goals. Amid increasingly competitive business environments, companies are required not only to possess adequate capital and technology but also to manage human resources effectively. One indicator of successful human resource management is employee productivity. High productivity helps companies meet operational targets, enhance competitiveness, and ensure business sustainability.

One company that relies heavily on employee productivity is CV Putra Lumpur in Bogor Regency. This company operates in the field of metal waste management, processing metals such as copper, brass, and zinc as raw materials for shipment to other companies. Most of the production process is still carried out manually, so meeting production targets depends heavily on the employees' skills and productivity.

Based on company data, CV Putra Lumpur's production targets for the January–October 2025 period have not been consistently met. In some months, actual production remained below the targets set by the company. This situation indicates that employee productivity still needs to be improved so that the company can optimally achieve its operational targets.

Table 1 **Production Targets and Actuals for CV Putra Lumpur, Bogor Regency, January 2025–October 2025**

Year	Production Target (Tons)	Actual (Tons)	Percentage of Target Achievement
January	53	48	90.6%
February	53	53	100.0%
March	47	47	100.0%
April	55	53	96.4%
May	64	64	100.0%
June	58	58	100.0%
July	48	45	93.8%
August	51	47	92.2%
September	63	61	96.8%
October	63	62	98.4%

Source: **CV Putra Lumpur Archives, Bogor Regency, Re-processed, 2025**

Based on this data, it is evident that actual production has fluctuated and, during certain periods, has failed to meet the company's production targets. This situation indicates that employee productivity is still not optimal. According to Hansfian (2022), labor productivity is the ability of an individual or a group of people to produce goods and services in accordance with predetermined plans. Therefore, improving labor productivity is one aspect that requires the company's attention.

One factor believed to influence employee productivity is the physical work environment. According to Surbakti et al. (2022), the physical work environment encompasses all tangible conditions surrounding the workplace that directly influence employees' activities as they perform their jobs. Based on observations at CV Putra Lumpur in Bogor Regency, the physical work environment does not yet fully support the smooth operation of the production process. The production area is still affected by weather conditions, so work activities are often disrupted when it rains. Additionally, lighting in the storage and production areas at night is considered inadequate. Supporting facilities such as restrooms and break rooms are also not in optimal condition, as evidenced by broken restroom doors and a limited, disorganized employee break room. These conditions have the potential to reduce workplace comfort, which can affect employee effectiveness and productivity. According to Hastuti and Palupi (2022), a poor work environment can lead to decreased productivity as well as increased stress and employee dissatisfaction. The physical work environment encompasses not only the availability of workspace but also various supporting aspects that can foster comfort, safety, and the smooth flow of work processes. Indicators of the physical work environment include lighting, air circulation, temperature, noise levels, humidity, workspace layout, cleanliness, safety, and the availability of work facilities such as desks, chairs, and other supporting equipment. If all these indicators are well-met, employees will feel more comfortable, focused, and motivated in completing their work, thereby increasing productivity. Conversely, a less conducive work environment—such as inadequate lighting, poor air circulation, high noise levels, or insufficient work facilities—has the potential to hinder work activities and reduce employee productivity.

In addition to the work environment itself, motivation is another factor that influences employee productivity. According to Suwanto and Priansa (2013:176), efforts to mobilize and encourage individuals to work effectively toward achieving organizational goals require motivation. Based on interviews with several production department employees, motivation at CV Putra Lumpur in Bogor Regency is still not being implemented optimally. Employees have not been involved in decision-making processes related to their work, so opportunities to share ideas or suggestions remain limited. Additionally, the company has not implemented a consistent reward system—whether in the form of bonuses, praise, or other forms of recognition for employee

performance. These conditions result in low work motivation and have the potential to negatively impact employees' morale and productivity. To boost employees' work morale, enthusiasm, and performance levels, it is crucial for them to receive motivation from the organization. Principles such as mutual attention, delegation of responsibility, open dialogue, and public recognition serve as powerful motivators. Proper implementation of these indicators can foster a sense of value, enhance accountability, deepen engagement, and improve work outcomes. Conversely, poor motivation can lead to low morale and engagement, which ultimately reduces productivity.

The correlation between motivation and work performance has been demonstrated in a number of studies. According to studies conducted by Purwanto (2022), Laksmiari (2025), Romi and La'bang (2022), and Bassang and Sappan (2023), motivation has an impact on employee productivity. Employees who receive praise, attention, and clear guidance from management tend to be more willing to go the extra mile to achieve their goals. Salim et al. (2025) found that consistent motivation can boost employee morale, discipline, and accountability, which in turn drives increased production output. The findings of Sari and Kasmiruddin (2025) also support this, showing that employee motivation has a positive and substantial impact on production. According to Prabowo and Yessilestari (2023), high work motivation leads to high enthusiasm in carrying out one's duties and responsibilities. Therefore, to encourage employees to work effectively and achieve higher levels of productivity, companies need to implement motivational methods that encompass various motivational indicators. Employees tend to be more successful in completing their tasks when they are in a pleasant, safe work environment with adequate facilities, and when they are effectively motivated to do so. A physically supportive work environment better equips employees to complete their work, which ultimately makes it easier for the company to achieve its goals. At the same time, the right motivation can have a tremendous impact on work morale, instill a sense of responsibility, and inspire employees to give their best performance to complete their work successfully. The combination of a positive work environment and a personal desire for success will result in increased productivity when both elements are applied simultaneously.

This relationship is supported by research conducted by Setiawati et al. (2022), Hansfian et al. (2022), Rampisela and Lumintang (2023), and Wibowo and Prasetyo (2022). These studies show that both the physical work environment and the provision of motivation significantly influence employee productivity. Based on these results, employees become more productive when their physical workspace is of very high quality and the organization provides adequate incentives.

- Hypothesis 1: The physical work environment has a positive effect on the work productivity of employees at CV Putra Lumpur in Bogor Regency.
- Hypothesis 2: Motivational support has a positive effect on the work productivity of employees at CV Putra Lumpur in Bogor Regency.
- Hypothesis 3: The physical work environment and the provision of motivation have an effect on the work productivity of employees at CV Putra Lumpur in Bogor Regency.

This study aims to examine the partial and simultaneous effects of the physical work environment and motivation on the work productivity of all employees at CV Putra Lumpur, Bogor Regency.

METHOD

This study uses a quantitative approach with quantitative descriptive and quantitative associative analysis methods. The indicators for each research variable are as follows:

Table 2 **Details of Research Variables**

Physical Work Environment	
Variable (X1): Subvariables	Indicator
Lighting at the workplace	- Lighting conditions in the production area - Lighting conditions in the material storage area
Air comfort in the workplace	- Air comfort in the production area - Air comfort in the material storage area
Noise in the workplace	- Noise levels in the workplace - Noise levels that interfere with comfort and concentration at work
Odors in the workplace	- Unpleasant odors in production areas - Unpleasant odors in the material storage area
Music in the workplace	- Music volume comfort - Comfort regarding the type of music in the workplace
Workplace safety	- Safety conditions in the production area - Safety conditions in the material storage area
Cleanliness in the workplace	- Cleanliness of work areas within the company - Cleanliness of work facilities and employee common areas
Motivation Variables (X2): Sub-Variables	Indicator
Principle of Inclusion	- Opportunities for employees to participate by sharing ideas or opinions in meetings - Opportunities for employees to participate in work related decision-making processes
Principles of communication	- Clarity of information provided to employees regarding their work - Clarity of work guidance and instructions provided by supervisors to employees
Principle of recognition	- The company's recognition of ideas presented by employees - The company's recognition of employees' work results or achievements
The principle of delegated authority	- Opportunities for employees to make decisions regarding work-related issues - Opportunities for employees to complete their work in accordance with the responsibilities assigned to them
The principle of mutual consideration	- The company's level of concern for employee well being - The extent to which employees' needs are met to support their work
Work Productivity Variable (Y): Sub-Variables	Indicator
Ability	- Employees' ability to master the tools available at

	the company
	- Employees' ability to act professionally at work
Improved work performance	- Employees' ability to deliver work results in accordance with company standards
	- Employees' ability to meet company-set targets
Work ethic	- Employees' work ethic
	- The level of consistency in employees' work performance over time
Personal development	- Employees' ability to adapt to changes in their work
	- Employees' ability to improve their competencies and work skills to support task completion
Work quality	- Employees' ability to improve work quality
	- Employees' ability to improve quality

Data collection for this study was conducted through interviews and the distribution of questionnaires to respondents. The study population consisted of all 37 employees of CV Putra Lumpur in Bogor Regency. Research variables were measured using a semantic differential scale. The quality of the research instruments was tested through validity and reliability tests. The instrument was deemed valid if the r value was greater than the table r value ($r\text{-value} > r\text{-table}$). Meanwhile, the instrument was deemed reliable if the Cronbach's Alpha value exceeded 0.70 ($\alpha > 0.70$).

Descriptive analysis was used to provide a clear, systematic, and comprehensive overview of the conditions of each variable and the relationships among the variables under study. The criteria used in conducting the descriptive analysis are as follows:

Table 3 Criteria for Assessing Respondents Attitudes Toward the Variables of Physical Work Environment, Motivation, and Work Productivity

Interval	Physical Work Environment	Motivation	Work Productivity
1,00 – 1,80	Very Poor	Very Low	Very Low
1,81 – 2,60	Poor	Low	Low
2,61 – 3,40	Fair	Moderate	Moderate
3,41 – 4,20	Good	High	High
4,21 – 5,00	Very Good	Very High	Very High

Next, the data analysis utilized classical assumption tests, including a normality test (Kolmogorov-Smirnov), a multicollinearity test ($VIF < 10$ and $\text{tolerance} > 0.100$), and a heteroscedasticity test (Glejser test). Furthermore, the partial effects of the physical work environment and motivation on employee productivity were measured using the regression coefficients b_1 and b_2 , while the combined effect of both variables was analyzed using the coefficient of determination (R^2) to determine the extent of productivity variation explained by the research model. Guidelines for interpreting the coefficient of determination are presented as follows:

Table 4 Guidelines for Interpreting the Coefficient of Determination

COEFFICIENT OF DETERMINATION INTERVALS	DESCRIPTION
$\leq 4,99\%$	Very Le Effect
5% - 16,99%	Low but Definite Effect
17% - 49,99%	Quite Significat Impact
50% - 80,99%	High/Strong Impact
$\geq 81\%$	Extremely High Impact

Source: Fitrianingsih & Budiansyah (2018)

RESEARCH RESULTS AND DISCUSSION

A. Validity Test

Table 5 Validity Test Results

Questionnaire No.	X1 - r	X2 - r	Y - r	r Table
Questionnaire 1	0,727	0,704	0,701	0,329
Questionnaire 2	0,654	0,563	0,460	
Questionnaire 3	0,489	0,357	0,464	
Questionnaire 4	0,348	0,554	0,560	
Questionnaire 5	0,539	0,493	0,622	
Questionnaire 6	0,631	0,628	0,584	
Questionnaire 7	0,369	0,414	0,462	
Questionnaire 8	0,525	0,677	0,631	
Questionnaire 9	0,633	0,534	0,629	
Questionnaire 10	0,580	0,541	0,391	
Questionnaire 11	0,352	-	-	
Questionnaire 12	0,552	-	-	
Questionnaire 13	0,618	-	-	
Questionnaire 14	0,500	-	-	
Conclusion:	Valid	Valid	Valid	

Source: SPSS Version 26 output.

Based on the validity test results, all statements in the questionnaire are valid because each calculated r-value is greater than the table r-value (0.329). This means that the measurement instrument used to collect data in this study is capable of measuring the variables it is intended to measure.

B. Reliability Test

Table 6 Reliability Test Results

Variabel	Cronbach's Alpha	Criterion	Description
Physical Work Environment (X1)	0,803	0,60	Reliabel
Motivation (X2)	0,737		
Work Produktivity (Y)	0,746		

Source: SPSS Version 26 output

Based on table 6, the reliability test results show that all variables have a Cronbach's Alpha value greater than 0.60, so all research instruments are deemed reliable. Thus, the instruments used in data collection have a good level of consistency and are reliable.

C. Quantitative Descriptive Analysis of Respondents' Responses to the Physical Work Environment, Motivation, and Work Productivity

Table 7 Summary of Respondents Average Ratings for the Variables Physical Work Environment

Sub Variabel	Total Average	Criteria
Lighting	2,82	Sufficient
Air Comfort	2,57	Uncomfortable
Noise	2,49	Noisy
Odors	2,67	Fair
Music	2,64	Fair
Security	2,71	Fair
Cleanliness	2,67	Fair
Final Score and Physical Work Environment Criteria	$(2,82+2,57+2,49+2,67+2,64+2,71+2,67) / 7 = 2,65$	Fair

Source: Questionnaire, Reprocessed, 2026

Based on the results of the quantitative descriptive analysis of each sub-variable of the physical work environment at CV Putra Lumpur in Bogor Regency, an overall average score of 2.65 was obtained, which falls within the “adequate” category and has not yet reached the “very good” criterion expected by the company. This is indicated by the sub-variables of workplace lighting, odors, music, safety, and cleanliness, which fall within the “adequate” category, while the sub-variable of air comfort falls within the “uncomfortable” category and the sub-variable of noise falls within the “noisy” category. These conditions indicate that the physical work environment at the company is not yet fully optimal, particularly regarding air comfort and noise levels; therefore, improvement efforts are still needed to create a more comfortable, safe, and conducive work environment to support employee productivity.

Table 8 Summary of Respondents Average Ratings for the Variables Motivation

Sub Variabel	Total Average	Criteria
Principle of Inclusion	2,79	Sufficient Opportunity
Principle of Communication	2,67	Fairly Clear
Principle of Recognition	2,72	Fairly Recognized
Principle of Delegated Authority	2,68	Sufficient Opportunity
Principle of Reciprocity	2,79	Moderate
Final Score and Criteria for the Motivation	$(2,79+2,67+2,72+2,68+2,79) / 5 = 2,73$	Moderate

Source: Questionnaire, Reprocessed, 2026

After calculating the total average for each sub-variable of motivation at CV Putra Lumpur in Bogor Regency, an overall average score of 2.73 was obtained, which falls within the moderate category and has not yet reached the maximum criterion expected by the company, namely very high. This is indicated by the sub-variable's principle of inclusion and principle of mutual consideration, which fall into the highest category, while the principle of communication sub-variable received the lowest average score. Additionally, the principle of recognition and principle of delegated authority sub-variables also fall into the adequate category. These results reflect that employee motivation efforts have been fairly effective, particularly in providing employees with opportunities to participate and build positive reciprocal relationships. Thus, the company still needs to improve the effectiveness of communication, recognition of work performance, and the delegation of authority so that employee motivation can increase optimally.

Table 9 Summary of Direct Supervisors Average Ratings for Variables Related to

Employee Work Productivity		
Sub Variabel	Total Average	Criteria
Ability	2,82	Fair
Improvement in Work Performance	2,71	Fair
Work Ethic	2,74	Moderate
Personal Development	2,64	Fair
Work Quality	2,79	Fair
Final Score and Work Productivity Criteria	$(2,82+2,71+2,74+2,64+2,79) / 5 = 2,74$	Moderate

Source: Questionnaire, Reprocessed, 2026

Furthermore, after calculating the overall average for each sub-variable of employee work productivity at CV Putra Lumpur in Bogor Regency, an overall average score of 2.74 was obtained, which falls within the “moderate” category; thus, it remains below the ideal condition expected by the company, namely “very high” work productivity. This is reflected in the sub variables of competence, improvement in work output, work enthusiasm, self-development, and work quality. Among all these sub-variables, “competence” achieved the highest average score of 2.82, while “self-development” had the lowest average score of 2.64. These results indicate that employee work productivity is at a fairly good level, primarily driven by employees’ ability to perform their duties in accordance with their assigned tasks and responsibilities. Thus, the aspect of self-development still needs to be improved through training, competency development, and the provision of learning opportunities so that employee work productivity can increase sustainably.

The Influence of the Physical Work Environment and Motivation on Work Productivity

Based on the normality test using the Kolmogorov-Smirnov test, the significance value was $0.089 > 0.05$; therefore, it can be concluded that the data in this study are normally distributed. The results of the multicollinearity test showed a Tolerance value of $0.236 > 0.10$ and a Variance Inflation Factor (VIF) value of $4.238 < 10.00$ for each independent variable. These results indicate that the regression model does not exhibit multicollinearity, meaning there is no high correlation among the independent variables. Furthermore, the results of the heteroscedasticity test show significance values of 0.739 for the physical work environment variable and 0.887 for the motivation provision variable, both of which are greater than 0.05. Thus, it can be concluded that the regression model does not exhibit heteroscedasticity, meaning there is no unequal variance in the residuals from one observation to another. Based on these test results, all classical assumptions have been met, so the regression model is deemed suitable for further analysis.

The Partial Effects of the Physical Work Environment and Motivation on Work Productivity

To determine the magnitude of the partial effects of the physical work environment and motivation on work productivity, a multiple linear regression analysis was conducted. The results

of the partial tests are presented in the following table:

Table 11 Multiple Linear Regression Test Results

Variables	Unstandardized Coefficients
	B
(Constant)	0.024
Physical Work Environment	0.220
Motivation	0.780
Dependen Variabel: Work Productivity	

Sumber: Output SPSS Versi 26

Based on the regression equation, the following conclusions can be drawn:

1. The regression coefficient for the physical work environment variable is 0.220. This indicates that the physical work environment has a positive effect on employee work productivity. In other words, if the physical work environment is good, work productivity will increase.
2. The regression coefficient for the motivation variable is 0.780. This indicates that motivation has a positive effect on employee work productivity. This means that if motivation is high, work productivity will increase..

Table 12 Partial Test Results (t-Test)

Variable	t-value	t-table	Sig.
Physical Work Environment	3,317	2,032	0,002
Motivation	10,490	2,032	0,000

Source: SPSS Version 26 output.

Based on the above calculations, it can be seen that:

1. The physical work environment has a positive and significant effect on work productivity because (t-value) $3.317 > 2.032$ (table t-value) and the significance level is $0.002 < 0.05$
2. Motivation has a positive and significant effect on work productivity because (t-value) $10.490 > 2.032$ (t-table) and the significance value is $0.000 < 0.05$

The Simultaneous Effects of the Physical Work Environment and Motivation on Employee Work Productivity

This study also conducted tests to determine the extent to which the model can explain the variation in the dependent variable. The results of the data analysis can be seen in the following table:

Table 12 Results of the Coefficient of Determination (R²) and Simultaneous Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.979 ^a	0.959	0.956	0.07796
		F-value	F-table	Sig.
Physical Work Environment and Motivation on Employee Productivity		385.428	3.285	0.000

Source: SPSS Version 26 output.

Based on Table 12, the R-squared value is 0.959. This indicates that the physical work

environment and motivation simultaneously account for 95.9% of the variation in employee productivity, which falls into the category of very high influence. Meanwhile, 4.1% is influenced by other factors not examined in this study.

The F-value is greater than the critical F-value (F_{table}) ($385.428 > 3.28$), with a significance level of 0.000, which is less than 0.05 ($0.000 < 0.05$). These results indicate that H_0 is rejected and H_a is accepted; therefore, it can be concluded that the physical work environment and the provision of motivation simultaneously have a significant effect on the work productivity of employees at CV Putra Lumpur in Bogor Regency.

DISCUSSION

The Effect of the Physical Work Environment on Work Productivity

The results of this study indicate that the physical work environment has a positive and significant effect on employee work productivity. This finding is consistent with research conducted by Hansfian et al. (2022), Hafizh (2025), and Fitrih and Akbar (2023), which states that the physical work environment has a positive and significant effect on employee work productivity.

In the study by Hansfian et al. (2022), it is explained that a physical work environment that is comfortable, safe, and supported by adequate lighting, controlled noise levels, cleanliness, and good safety will help employees perform their jobs optimally. These conditions encourage employees to work more effectively, thereby increasing work productivity.

The Effect of Motivation on Work Productivity

The results of this study indicate that motivation has a positive and significant effect on employee productivity. These findings align with research conducted by Sari and Kasmiruddin (2025), Salim et al. (2025), and Bassang and Sappan (2023), which state that motivation has a positive and significant effect on employee productivity.

In the study by Sari and Kasmiruddin (2025), it is explained that motivation plays a crucial role in enhancing employee productivity. Employees who receive motivation through effective communication, recognition for their work, attention from supervisors, and opportunities for growth will exhibit higher work enthusiasm and a stronger sense of responsibility. These conditions encourage employees to work more effectively, thereby increasing the company's productivity. The Influence of the Physical Work Environment and Motivation on Work Productivity The results of this study indicate that the physical work environment and motivation simultaneously have a positive and significant effect on employee productivity. These findings align with research conducted by Setiawati et al. (2022) and Hansfian et al. (2022), which stated that the physical work environment and motivation simultaneously have a positive and significant effect on employee productivity. The study by Setiawati et al. (2022) explains that a comfortable and safe physical work environment, combined with high levels of motivation, encourages employees to work more effectively. These conditions enable employees to complete their work more efficiently, boost their work morale, and achieve company targets. Therefore, the better the physical work environment and the higher the level of motivation provided to employees, the greater the increase in employee work productivity.

CONCLUSION

Based on the research findings and discussion conducted to determine the impact of the physical work environment and motivation on employee productivity at CV Putra Lumpur in Bogor Regency, the following conclusions can be drawn:

1. Respondent' responses regarding the physical work environment at CV Putra Lumpur in Bogor Regency fall within the adequate category. Therefore, the company needs to improve the quality of the physical work environment—particularly regarding noise levels and air quality—by controlling noise levels, improving air circulation, maintaining cleanliness, enhancing safety, and providing adequate work facilities so that employees can work more comfortably and productively.
2. Respondents' responses regarding motivation at CV Putra Lumpur in Bogor Regency fall within the “moderate” category. Therefore, the company is advised to optimize motivation by improving communication between supervisors and employees, providing recognition for performance, delegating authority in line with responsibilities, and paying greater attention to employees' needs and well-being so that work motivation can continue to increase.
3. Employee productivity at CV Putra Lumpur in Bogor Regency falls within the moderate range. Therefore, the company needs to improve productivity through continuous training and competency development, periodic performance evaluations, and the provision of constructive feedback so that employees' capabilities and work outcomes become increasingly optimal.
4. The effects of the physical work environment and motivation on employee productivity at CV Putra Lumpur in Bogor Regency, both partially and simultaneously, indicate that:

The physical work environment has a partial positive effect on employee productivity at CV Putra Lumpur in Bogor Regency, with an effect size of 0.220, which falls within the moderately significant category. This means that a good physical work environment will increase employee productivity. Motivation has a partial positive effect on employee productivity at CV Putra Lumpur in Bogor Regency, with a regression coefficient of 0.780, which falls within the “high” criteria. This means that effective motivation will increase employee productivity. The physical work environment and motivation simultaneously influence employee productivity at CV Putra Lumpur in Bogor Regency, accounting for 95.9% of the variance, which falls within the “very high” category. Therefore, the company needs to prioritize improving the quality of the physical work environment and providing motivation as key strategies for boosting employee productivity.

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