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## **The Effect of Communication and Physical Work Environment on Employee Performance (Study at a Vehicle and Machinery Industry Company in Bandung)**

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### **ABSTRACT**

*The workplace environment significantly influences employee performance. Employee productivity is directly impacted by the work environment, which enhances performance. As a fundamental human activity, communication plays a crucial part in social relationships; as a result, its impact on the workplace is crucial. Employee performance is more productive when there is more built-in communication between departments.*

*The primary objective of this study is to investigate the impact of communication and the physical work environment on employee performance within car and machinery manufacturing enterprises located in Bandung. The present investigation employed a nonprobability sampling technique. The utilization of sample acquisition methodology becomes crucial when the population size is constrained or when the research objective is to achieve the highest level of generalizability. Censuses are another name for saturated sampling, in which the entire population—61 people in this case—serves as a sample. Descriptive and verifiable research methodology is used. Utilized data collection methods include observation, questionnaire distribution, and interviewing. Multiple linear regression, multiple correlations, F-test, T-test, coefficient of determination, partial determination coefficient, and hypothesis testing are the data analysis techniques used.*

*According to the research findings, a vehicle and machinery sector firm in Bandung can have good communication, a physical work environment, and staff performance. Employee performance is strongly influenced by communication and the physical work environment, with the remaining influences coming from elements that were not studied.*

*Keywords: Communication, Physical Work Environment, Employee Performance*

### **INTRODUCTION**

A company's most important resource is its human capital, which is the impetus for all production-related tasks. Based on their potential, they must consistently receive training and development. With human resources, a business can accomplish its objectives. Quality

human resources must be prioritized while maintaining effective management. (Sidharta & Foster, 2019) To achieve the organization's goals, skilled workers with in-depth knowledge and expertise in their fields are required, and they must aspire to perform at the highest level in all aspects of their work.

Outcomes surpassing the firm's requirements can be used to gauge employee success. Performance is essential for a company to achieve its objectives, and firms must monitor employee performance to assess the organization's vision and mission effectiveness. (Octaviana et al., 2021) Businesses can improve employee performance by maintaining effective communication, supporting employee well-being, and establishing a secure and comfortable work environment. (Caissar et al., 2022; Hadian, 2018)

In general, any organization may experience a drop in staff performance. Work can be slowed down by poor performance; if it goes unchecked, it could get worse and influence others. (Aryani et al., 2022; Prasetyo et al., 2021) Declining performance is not an accident; many variables, including work environment, contentment, compensation, and motivation, can affect performance. As a result, a company's human resource management significantly affects employee performance.

The researcher will look into two components as variables, namely communication and the actual work environment, based on the preliminary survey findings. Whether people realize it or not, communication has become crucial for social animals like humans. Due to communication, all business operation is intertwined. For the recipient to comprehend and accept information or ideas, they must be transferred along with their underlying meanings, according to (Wei et al., 2018).

Whether acknowledged or not, communication has become a crucial aspect of life for social organisms like humans. Communication connects all business operations. According to Kreiss & MCGREGOR, (2018) ,communication is the process of imparting knowledge or concepts and their underlying meanings while ensuring that the recipient understands and accepts them.

Effective communication is essential for a business. "good communication" refers to sending messages that the recipient can comprehend and accept. Employee cooperation results improve with higher communication quality. A conducive and joyful work environment is formed by applying good communication patterns, directly affecting morale in performing job activities. (Kalogiannidis, 2020; Smith et al., 2018)

Employees are assigned different roles within an organization depending on their current roles and areas of competence. The corporate structure might bring on conflicts over communications within the company. Rigidity in the communication process fuels sectional egos in each work unit, hindering efforts to coordinate between units and ultimately impeding achieving the company's goals.

The preliminary survey on the communication variable in a Bandung-based company that manufactures vehicles and machinery needs a forum or chance for staff members to share their opinions, recommendations, and knowledge. (Yue et al., 2019) Additionally, the corporation needs to choose more effective communication channels and provide clear instructions, which leads to employees' lack of understanding and neglect of their responsibilities, which lowers performance.

Lack of effective communication leads to discordant relationships between employees, a lack of social contact, and decreased business loyalty. These problems must be handled by a corporation as soon as they appear. Communication is crucial because it enables workers to comprehend their roles and finish assignments on schedule. (Nurismilida et al., 2019)

A business must consider the workplace environment in addition to communication. The physical and non-physical workplace environments can be categorized under this category. The work environment includes facilities, workspaces, cleanliness, lighting, security, noise, air exchange, color, and employee relationships. Employee performance may suffer as a result of issues in the workplace, which can be a concern for the business. (Faih, 2019; Juhana Dudung & Haryati, 2013)

Therefore, it is essential for a business to offer a suitable working atmosphere. The physical environment includes a convenient office design, a tidy workplace, and adequate lighting. The non-physical environment includes a positive work environment, wholesome employee relationships, relationships between employees and leadership, places of worship, and employee welfare. A positive work environment fosters a welcoming and secure atmosphere that enables people to perform at their best. (Machmud & Sidharta, 2021; Sverke et al., 2019)

According to data gathered from the business, the physical office environment facilities are in good shape. However, observation and interviews indicate that the physical work environment in employees' workplaces needs improvement. The author observes the facilities and notes that, for a company with 61 employees, only one prayer room can hold a maximum of five people without any distinction for male and female personnel. The staff work area's lack of dividers between employee desks restricts movement.

Other difficulties with the workplace, aside from the standard amenities, include a disorganized workstation and some outdated equipment. During the day, the air conditioning around the workspace also heats up.

Given the background information provided, it would be interesting for the author to conduct additional research on the elements of communication and the physical workplace that influence employee performance. Therefore, this study aims to ascertain how much communication and the workplace environment affect employee performance at one of the Bandung companies involved in the vehicle and machinery industry.

## METHOD

Methods that are both descriptive and verifiable were used in this investigation. Descriptive approaches focus on the study of numerical data and require processing and interpreting research findings to develop conclusions. Significant correlations between the variables under consideration will be found utilizing this research method, leading to results that make the study's goal more explicit.

This descriptive study aims to systematically, factually, and precisely produce descriptions and illustrations of the facts and connections between the phenomena under investigation. Descriptive methods are employed to test theories or answer research problems. The communication, physical work environment, and employee performance in a vehicle and machinery industry company in Bandung are all investigated in this study using the descriptive analysis approach.

The physical work environment and communication are the independent variables (X) in this study. For the recipient to comprehend and accept information, ideas, and their underlying meanings, communication must occur. Downward, upward, and horizontal/lateral communication are some communication dimensions. The physical aspects of the workplace that may impact workers directly or indirectly are included in the physical work environment. The immediate and intermediary work environments are the components of the physical work environment.

Employee performance is the research's dependent variable (Y). Employee performance refers to the work accomplishments or results that the workforce achieves over time while carrying out their job obligations, both in quality and quantity. Work quantity, work quality, responsibility, cooperation, and initiative are all aspects of professional performance.

Saturated sampling was used to obtain the sample for this study. A sampling method known as saturated sampling involves choosing a sample from the entire population. When less than 30 people make up the population, this is done to generalize the findings with the most minor inaccuracy possible. According to this justification, the sample in this study is the total population that was sampled, which is the workers of one of the enterprises in Bandung's car and machinery industry.

### **Data Testing Methods**

#### **Validity test**

A validity test is conducted to show the extent to which a measuring instrument can measure what it is intended to measure. This validity test is carried out to measure whether the data obtained after the research is valid data or not, using the measuring instrument used

(questionnaire). How to test the validity by calculating the correlation between the scores of each question and the total score using the correlation formula as follows:

$$r_{xy} = \frac{n\sum XY - (\sum X \cdot \sum Y)}{\sqrt{(n\sum x^2 - \sum x^2)(n\sum y^2 - \sum y^2)}}$$

Information:

$r_{xy}$  = Correlation coefficient

$n$  = Number of samples

$\sum XY$  = The number of times the variable  $x$  and  $y$

$\sum X$  = Total value of variable  $x$

$\sum Y$  = Sum of variable  $y$  values

$\sum x^2$  = Sum to the power of the value of the variable  $x$

$\sum y^2$  Sum to the power of the value of the variable  $y$

The Pearson Product Moment correlation coefficient must be greater than the table  $r$ , which is 0.3, for an instrument to be deemed genuine. As a result, it is recommended that you correct any assertion that has a correlation level below the Pearson Product Moment and is more significant than Table  $r$ .

### **Test of Reliability**

Reliability testing aims to determine how consistently a measuring tool captures the notion being measured. In other words, a measurement's dependability provides information on the stability and consistency of how an instrument measures a concept and aids in determining how accurate a measurement is.

Every reliability test has a set of requirements. If an instrument has a positive alpha value larger than 0.6, it is considered to be dependable. The measurement instrument is more reliable, with a higher alpha value. Cronbach's alpha for each item can be calculated to conduct a reliability test.

The following is Cronbach's alpha formula:

$$\alpha = \frac{k}{k-1} \left( 1 - \frac{\sum \sigma_i^2}{\sigma^2} \right)$$

Information:

K = Number of questions or statements

$\sigma_i^2$  = Variance of each statement

$\sigma_x^2$  = Total variance of the test

$\sum \sigma_i^2$  = Sum of all variances for each question or statement

## **Method of Data Analysis**

### **Path Evaluation**

Path analysis was the research methodology used. The author uses route analysis to comprehend causal links and explain any direct or indirect interactions between exogenous and endogenous factors. The author of this study aims to examine and confirm if organizational commitment and work motivation impact work discipline and employee performance.

## **RESULTS AND DISCUSSION**

According to the results of distributing questionnaires to workers at a vehicle and machinery company in Bandung, the respondents had the following characteristics: Based on gender characteristics, it can be seen that there are 56 male respondents (92%) compared to only five female respondents (8%). This result suggests that men make up the majority of the research participants because field labor, by its very nature, demands physical stamina and security measures.

The bulk of respondents, 35 in total, or 57% of the respondents, are between the ages of 19 and 24, according to age characteristics. The lowest percentage (2%), with only one person, is in the over-30 age bracket. This result demonstrates that most workers at a Bandung-based company in the automobile and machinery industry are still youthful and productive. Employees have good abilities and skills and respectable emotional intelligence while making decisions at a young and productive age.

According to their most recent schooling, all 61 respondents, or 100%, have graduated from high school or a vocational program. As a result, most employees have educational backgrounds that complement their job requirements and potential for performance enhancement. Regarding years of service, it is known that 14 respondents, or 23% of the total, have worked for less than two years. However, respondents with a working history of

3 to 5 years comprise 46 respondents or around 75% of the total. The least number of respondents—1 or 2%—have more than five years of experience. This result demonstrates how one of the companies in the Bandung automotive and machinery industry constantly retains its staff to improve performance and benefit the business.

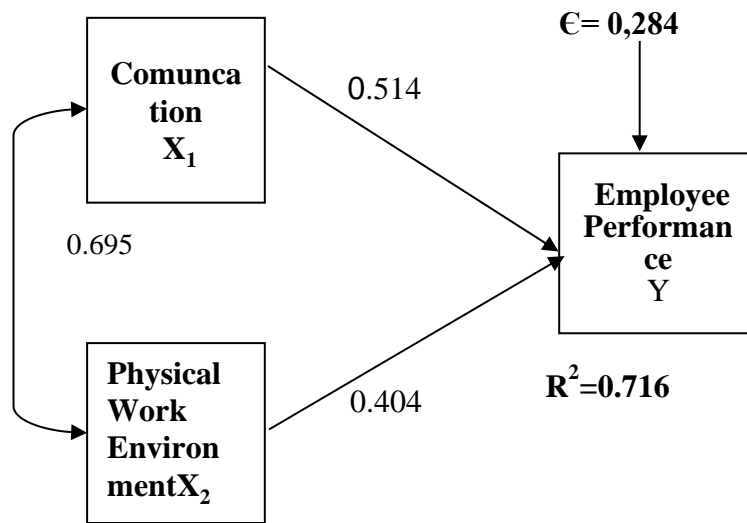
**Table 1. Validity and Reliability Test Results**

Communication		Physical Work Environment		Employee Performance	
Item	Correlation	Item	Correlation	Item	Correlation
1	0,411	1	0,340	1	0,548
2	0,332	2	0,350	2	0,462
3	0,378	3	0,446	3	0,324
4	0,390	4	0,453	4	0,321
5	0,445	5	0,573	5	0,467
6	0,650	6	0,342	6	0,416
7	0,438	7	0,371	7	0,451
8	0,425	8	0,357	8	0,374
9	0,490	9	0,441	9	0,584
10	0,550	10	0,354	10	0,351
11	0,544	11	0,360	11	0,391
12	0,305	12	0,346	12	0,376
13	0,387	13	0,487	13	0,318
14	0,302	14	0,453	14	0,393
15	0,325	15	0,403	15	0,300
Cronbach Alpha					
Communication	0,747				
Physical Work Environment	0,738				
Employee Performance	0,720				

The validity test results reveal that every statement item for every variable meets the criterion for validity, with an r-count value more than the r-table, more precisely greater than 0.3. This result shows that each claim about the performance variable is accurate and appropriate for use in research.

Additionally, the reliability test reveals that the performance variable has a Cronbach's alpha value of 0.720, the physical work environment has a value of 0.738, and communication has a value of 0.747. Given that the statements on the questionnaire have a Cronbach's alpha value greater than 0.70, they are reliable.

This suggests that each statement item will produce consistent data. In other words, if the statement is again made, it will elicit a response essentially the same as the first time.



**Figure 1. Path Analysis**

Based on the preceding, the independent variables of communication (X<sub>1</sub>) and physical work environment (X<sub>2</sub>) have a relatively strong association, with a value of 0.695. The communication variable (X<sub>1</sub>) has a 0.514 effect on performance (Y), whereas the physical work environment variable (X<sub>2</sub>) has a 0.404 impact on performance (Y).

According to the research and data analysis, the communication variable has a direct influence of 26.4% and an indirect influence of 14.4% due to its link with the actual working environment. The overall influence is thus 40.9%. This result is consistent with Robbins' (2013) thesis that communication helps employees become motivated by outlining what they must accomplish, how well they are doing, and what can be done to enhance performance.

This study supports research by Octaviana et al., (2021) , which found a weak positive relationship between the communication variable and worker performance.

Employees can become active listeners through communication, responding to their bosses' words, and offering feedback on business policy.

According to the research findings and data processing, the physical work environment variable has a direct influence of 16.3% and an indirect influence of 14.4% through its link with communication. The overall influence is thus 30.8%.

According to Nardo et al., (2019), the physical work environment is where people can perform their tasks effectively to produce the best results, backed by appropriate environmental conditions. The actual workplace, where people do their duties, has the potential to affect their spirits and emotions.

According to these calculations and statements made by experts, businesses must focus on communication and the physical work environment to provide the best results possible for the organization.



## CONCLUSION

Companies should focus more on communication targeted to its shortcomings in light of the research findings that show how much communication affects employee performance. These can include situations in which employees need to disclose problems to supervisors immediately, communicate poorly with one another during difficulties, and when managers infrequently update staff members on their performance status. These changes are intended to prevent communication barriers and to impact the improvement of employee performance positively.

The study's findings show that communication has a more significant influence than the working environment. Companies should attempt to improve the physical working environment even more by making sure it is tidy and welcoming. This physical upgrade to the workplace is anticipated to help employees function at their best.

Given that both communication and the physical work environment impact employee performance, it is intended that additional variables not included in this study will be included in or expanded upon in subsequent research.

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