THE EFFECT OF WORK ENVIRONMENT AND OCCUPATIONAL HEALTH AND SAFETY ON EMPLOYEE PERFORMANCE BY MEDIATION OF JOB SATISFACTION IN TECHNICAL SERVICE OFFICERS PT PLN (PERSERO) UP3 SAMARINDA

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Abstract

This study aims to examine the influence of the work environment and occupational health and safety (OHS) on employee performance, with job satisfaction acting as a mediating variable among technical service personnel at PT PLN (Persero) UP3 Samarinda. The research background stems from the critical importance of creating a conducive work environment and implementing an optimal OHS system to improve human resource performance in the electricity sector, which is classified as a high-risk industry. A well-structured work environment fosters comfort and motivation among employees, while effective OHS implementation reduces the likelihood of workplace accidents and enhances the sense of security, ultimately driving productivity. The research adopts a quantitative approach with a causal design. Data were collected through a Likert-scale questionnaire administered to 237 respondents and analyzed using the Partial Least Squares Structural Equation Modeling (PLS-SEM) method to examine the relationships between variables comprehensively. The results demonstrate that both the work environment and OHS have a significant and positive effect on job satisfaction. Furthermore, job satisfaction significantly influences employee performance and serves as a mediating factor in the relationship between the work environment, OHS, and performance outcomes. These findings indicate that employees who perceive a safe and supportive work environment tend to show higher satisfaction levels, which translates into better performance. The study concludes that enhancing work environment quality and implementing effective safety programs have both direct and indirect positive impacts on employee performance through job satisfaction. Managerial implications include upgrading workplace facilities and infrastructure, optimizing safety training programs, and strengthening job satisfaction through structured reward systems and clear career development plans. This aligns with modern human resource management practices that emphasize employee well-being as a foundation for sustainable productivity.

Keywords: Work Environment, Occupational Health and Safety, Job Satisfaction, Employee Performance, PLS-SEM

INTRODUCTION

In the current era of globalization and the Fourth Industrial Revolution (Industry 4.0), organizations are required to possess high competitiveness and be able to adapt to the rapidly changing dynamics. In this context, Human Resources (HR) becomes a key element that determines organizational success. Not only in terms of quantity, but also the quality of HR plays a crucial role in driving increased productivity and work effectiveness. Therefore, human resource management that is oriented toward performance improvement has become a strategic necessity in every organization, both in the public and private sectors.

One of the important aspects of human resource management is the creation of a healthy, safe, and comfortable work environment. According to Ridha Arrozak et al. (2021), a positive work environment can foster job satisfaction and improve employee performance. This is further reinforced by a study conducted by Fitri & Azizi (2025).

In addition, Occupational Health and Safety (OHS) or *Keselamatan dan Kesehatan Kerja* (K3) is a crucial component in creating a proper and sustainable work environment. Proper implementation of OHS provides protection for employees from potential hazards and occupational risks, as well as ensuring a sense of security in carrying out their tasks. This practice also reflects the organization's ethical and legal responsibility toward its employees.

The combination of a good work environment and the optimal implementation of OHS systems will result in ideal working conditions. Such conditions can create job satisfaction, which is a positive feeling that individuals have toward their work. According to Sinambela (2016), job satisfaction is influenced by both internal and external factors such as compensation, work relationships, environmental conditions, and organizational policies.

This issue is particularly relevant in high-risk technical service sectors, such as PT PLN (Persero) UP3 Samarinda. As a state-owned enterprise ensuring national electricity supply, PLN plays a strategic role in supporting economic and social activities. Technical service officers act as the frontline, directly handling electrical infrastructure in the field. They face heavy workloads, strict time pressures, and high accident risks, requiring both speed and accuracy while adhering to safety procedures. Therefore, a supportive work environment and effective Occupational Health and Safety (OHS) practices are essential.

Field observations indicate challenges at PLN UP3 Samarinda, including high job stress, physical fatigue, and limited safety equipment. Since these officers are responsible for resolving outages, maintaining networks, and handling emergencies, their performance is crucial to the reliability and quality of electricity services.

Based on performance data from 2020–2024, there has been a decline in the individual performance of technical service officers and an increase in unsafe working conditions, directly affecting organizational performance.

1. Human Resources and Work Environment: Unsafe actions, such as improper use of personal protective equipment (PPE) and non-compliance with SOPs, remain prevalent. At the same time, unsafe conditions, including poor lighting, tilted poles, and exposed cables, have increased significantly, reaching 8,018 cases in 2023 and peaking at 8,163 in 2024. Unsafe actions also reached their highest point in 2023 with 53 cases, indicating low awareness of safety culture among officers.
2. Organizational Performance: Energy Not Served (ENS)—the amount of electricity (kWh) that fails to be delivered to customers—remains high, reflecting technical officers'

inability to maintain supply stability. ENS targets have never been met between 2020–2024; in 2021, only 40% of the target was achieved. This indicates frequent disruptions, financial losses, and reputational decline for PLN as a basic service provider.

In summary, poor adherence to safety culture and suboptimal technical performance have hindered both individual and organizational outcomes at PT PLN (Persero) UP3 Samarinda. The identified factors causing this performance gap are the suboptimal implementation of Occupational Health and Safety (OHS) systems and the lack of a supportive work environment for field technicians. In high-risk, time-sensitive, and accuracy-demanding tasks, effective OHS systems are essential to ensure safety, comfort, and resilience. When OHS is not properly implemented, risks of fatigue, work stress, and accidents increase, ultimately reducing motivation and individual performance.

Previous studies highlight varied findings. Ridha Arrozak et al. (2021) and Fitri & Azizi (2025) found that a supportive work environment positively and significantly affects employee performance, while Rif'an et al. (2024) and Ramadhani et al. (2024) reported negative or insignificant effects. Similarly, studies on OHS show mixed results. Research by Ramadhani et al. (2024) and Wibowo & Widiyanto (2019) revealed a positive impact of OHS on performance through enhanced safety, while Ekowati et al. (2019) found a negative effect. Other studies (Arrozak et al., 2021; Fitri & Azizi, 2025; Rif'an et al., 2024) indicated no significant influence. However, Marpaung et al. (2024) emphasized that a good work environment combined with effective OHS implementation significantly increases job satisfaction, which in turn improves employee performance.

Starting from the phenomenon of the gap and the research gap mentioned, this study becomes important to analyze in detail how the Work Environment and Occupational Health and Safety influence Employee Performance, with Job Satisfaction as a mediating variable, in the Technical Service Officers of PT PLN (Persero) UP3 Samarinda. The results of this study are expected to provide a scientific basis for strategic decision-making in human resource management and in improving the performance of technical service employees, particularly in enhancing working behavior (actions), creating a safe working environment, and ultimately achieving the organization's target of sustainable ENS reduction.

LITERATURE REVIEW

Work Environment

The work environment is a critical factor influencing employee productivity and well-being. Research by Oldham & Rotchford (1983) showed that an ergonomically designed workspace can increase work efficiency by up to 20%. Furthermore, F. I. Herzberg (1966), in the Two-Factor Theory, stated that physical working conditions are considered hygiene factors, which, if not fulfilled, will lead to dissatisfaction.

Occupational Health and Safety

Occupational Health and Safety (OHS) is a fundamental pillar in human resource management, particularly in high-risk industries such as electricity. The Safety Climate Theory (Dov, 2008) emphasizes that employees' perceptions of management's commitment to OHS implementation determine their safe behavior. OHS is an essential aspect of the workplace aimed at protecting workers from risks of accidents, illnesses, and other hazards that may arise from work activities.

Job Satisfaction

Job satisfaction is widely recognized as a multidimensional construct shaped by both intrinsic and extrinsic factors. According to Herzberg's Two-Factor Theory (1968), job satisfaction arises from two distinct sets of elements: motivator factors, which include aspects such as recognition, achievement, and responsibility that enhance motivation and lead to higher satisfaction, and hygiene factors, such as salary, company policies, and working conditions, which do not necessarily increase satisfaction but can prevent dissatisfaction when adequately addressed. Additionally, Adams' Equity Theory (1965) emphasizes the role of perceived fairness in the workplace, suggesting that employees assess their satisfaction based on the balance between their contributions (inputs) and the rewards they receive (outputs), relative to others. Perceptions of equity or inequity in rewards, workload distribution, and recognition significantly influence employees' emotional and behavioral responses.

Employee Performance

Employee performance emerges from the intricate interplay of individual capabilities, motivation, and organizational support systems. Goal-Setting Theory proposed by Locke and Latham (1990) asserts that the establishment of clear, specific, and challenging objectives significantly enhances performance, with potential improvements of up to 25%. Similarly, the Resource-Based View (RBV) introduced by Barney (1991) highlights that effectively managed human resources represent a critical source of sustainable competitive advantage. In essence, employee performance refers to the measurable outcomes or results delivered by an individual or team in fulfilling assigned tasks and responsibilities to achieve the overarching objectives of the organization.

RESEARCH METHOD

Type of Research

This research adopts a quantitative approach designed to test hypotheses and examine the interrelationships among the variables studied, thereby contributing to the theoretical framework underpinning the investigation. The study employs an explanatory research design with an associative approach, which aims to identify and analyze the correlations between two or more variables (Sugiyono, 2017). The primary focus is to assess the impact of the work environment and occupational health and safety (OHS) on employee performance, with job satisfaction serving as a mediating variable, specifically targeting technical service personnel at PT PLN (Persero) UP3 Samarinda. A well-structured work environment, coupled with effective OHS implementation, is essential for improving both job satisfaction and productivity, particularly for field-based technical staff operating in high-risk conditions. Accordingly, this study seeks to quantitatively evaluate the relationships between the work environment, OHS, job satisfaction, and employee performance within the context of technical personnel at PT PLN (Persero) UP3 Samarinda.

Population

Population refers to a collection of individuals or objects that have certain characteristics which become the focus of the research (Sugiyono, 2017). In quantitative research, the population serves as the source for data collection to obtain conclusions that can be generalized. The population in this study consists of all Technical Service Officers at

PT PLN (Persero) UP3 Samarinda, who work in the field performing maintenance, repair, and handling of electricity network disturbances. According to data from PT PLN (Persero) UP3 Samarinda, the total population in this study is 455 individuals.

Sample

A sample is a portion of the population selected for the study to obtain data that can represent the entire population (Sekaran & Bougie, 2016). Sampling is conducted to make the research more efficient. The sample size in this study is calculated using Slovin's formula as follows:

$$n = \frac{N}{1 + N(e)^2}$$

where :

n = jumlah sampel
N = jumlah populasi
e = margin of error

Based on the population of 455 people, the sample used in this research is:

$$n = \frac{455}{1 + 455(0{,}05)^2}$$
$$n = \frac{455}{2{,}137}$$
$$n = 212{,}91$$
$$n \approx 213$$

Based on the calculation results, the minimum sample size required for this study is 213 respondents (rounded up). The selected participants will receive a questionnaire consisting of items related to the research variables, namely work environment, occupational health and safety (OHS), job satisfaction, and employee performance. The sampling technique applied in this study is purposive sampling, which is a non-probability method where samples are selected based on specific predetermined criteria or considerations relevant to the research objectives (Sugiyono, 2017).

Data Collection Techniques

The data collection process in this study was designed to gather the necessary information for analyzing the relationships among work environment, occupational health and safety (OHS), job satisfaction, and employee performance among technical service personnel at PT PLN (Persero) UP3 Samarinda. Two primary methods were employed: questionnaires, which served as the main instrument for collecting primary data from respondents, and documentation review, which was used to obtain secondary data relevant to the research context.

RESULT AND DISCUSSION

Model Outer Results (Measurement Model)

The evaluation of the measurement model was conducted to assess the extent to which the indicators used were able to represent the latent constructs in the study. This testing includes converging validity tests, discriminant validity tests and reliability tests.

The relationship structure among the latent variables in this research can be seen in the following Figure 1, which is the modeling result using the PLS - SEM algorithm.

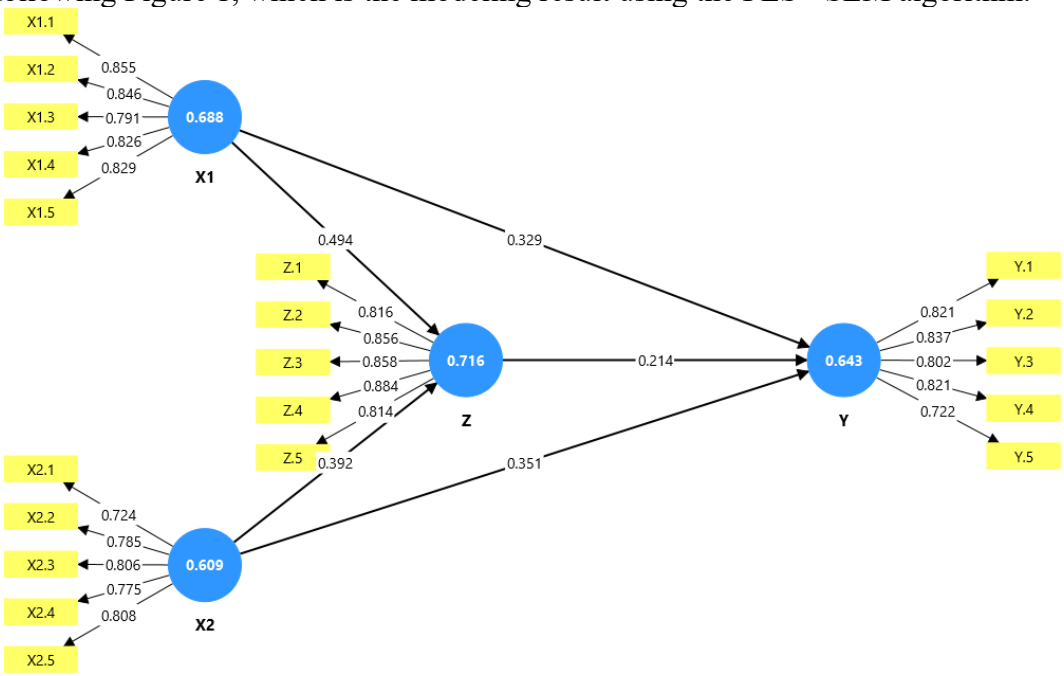

Figure 1.
PLS SEM Algorithm

Convergent Validity Test

The convergent validity test is conducted to confirm that the indicators within a construct accurately and consistently represent the underlying concept. This assessment was performed using two key measures: outer loading and Average Variance Extracted (AVE). An indicator is considered valid if it exhibits an outer loading value of ≥ 0.70, while an AVE value exceeding 0.50 indicates that the construct explains more than half of the variance of its indicators.

The results of the convergent validity analysis, based on outer loading values, are summarized in Table 1 below:

Table 1.
Outer Loading

	X1	X2	Y	Z
X1.1	0,855			
X1.2	0,846			
X1.3	0,791			
X1.4	0,826			
X1.5	0,829			
X2.1		0,724		
X2.2		0,785		
X2.3		0,806		
X2.4		0,775		
X2.5		0,808		

	X1	X2	Y	Z
Y.1			0,821	
Y.2			0,837	
Y.3			0,802	
Y.4			0,821	
Y.5			0,722	
Z.1				0,816
Z.2				0,856
Z.3				0,858
Z.4				0,884
Z.5				0,814

Source: Processed primary data, 2025

Based on Table 1, all indicators of Work Environment (X1), Occupational Health and Safety (X2), Employee Performance (Y), and Job Satisfaction (Z) have outer loading values above 0.70, indicating that each indicator meets the convergent validity criteria. The highest outer loading is found in Z.4 ("I feel safe and stable in my current job") at 0.884, while the lowest is Y.5 ("I can work well with the team in handling technical tasks") at 0.722. All values are within the acceptable threshold, demonstrating that all questionnaire items are valid, consistently represent the measured latent constructs, and are suitable for the next stage of analysis.

The Average Variance Extracted (AVE) values for each construct in this study are presented in Table 2 as follows:

Table 2.
Average Variance Extracted (AVE) Values

	Average variance extracted **(AVE)**
Work Environment (X1)	0,688
Occupational Health and Safety (X2)	0,609
Employee Performance (Y)	0,643
Job Satisfaction (Z)	0,716

Source: Processed primer data, 2025

Based on the results presented in Table 2, all constructs in this study namely Work Environment (X1), Occupational Health and Safety (X2), Employee Performance (Y), and Job Satisfaction (Z) exhibit Average Variance Extracted (AVE) values greater than the threshold of 0.50, indicating that each construct demonstrates adequate convergent validity. The highest AVE value is observed in the Job Satisfaction construct at 0.716, while the lowest AVE value is recorded for the Occupational Health and Safety construct at 0.609. These findings confirm that all constructs are capable of explaining more than 50% of the variance of their respective indicators, meeting the minimum validity requirements. All of these values indicate that each construct is able to explain more than 50% of the variance of the indicators it measures. Thus, these results confirm that all constructs in the model have met the convergent validity criteria and are suitable for use in the next stage of structural analysis.

Discriminant Validity Test

The discriminant validity test is conducted to ensure that each construct in the model is distinct from the others. The method uses the Fornell - Larcker metode, namely by comparing the square root of the AVE value of each construct with its correlation with other constructs. Discriminant validity is declared fulfilled if the square root value of AVE is higher than the correlation value between constructs. The results of this test are presented in Table 3 as follows:

Table 3.
Fornell - Larcker

	X1	X2	Y	Z
X1	0,829			
X2	0,674	0,780		
Y	0,728	0,728	0,802	
Z	0,758	0,725	0,718	0,846

Source: Processed primer data, 2025

Based on Table 3, the model meets the criteria for discriminant validity as assessed using the Fornell-Larcker criterion. This requirement is satisfied when the square root of the Average Variance Extracted (AVE) for each construct (represented by the diagonal values) is greater than its correlations with other constructs (off-diagonal values). For example, the Work Environment construct (X1) has a square root AVE value of 0.829, which is higher than its correlations with Occupational Health and Safety (X2) at 0.674, Job Satisfaction (Z) at 0.750, and Employee Performance (Y) at 0.728. A similar pattern is observed in other constructs, such as Occupational Health and Safety (X2), which has an AVE square root value of 0.780, exceeding its correlations with all other constructs.

Therefore, it can be concluded that each construct in the model is distinct from the others, confirming that discriminant validity has been achieved, and the measurement model is appropriate for further analysis.

Reliability Test

The reliability test was carried out to evaluate the internal consistency of indicators within each construct. Two key measures were applied in this assessment: Cronbach's Alpha and Composite Reliability (CR). A construct is considered reliable if both Cronbach's Alpha and CR values exceed the threshold of 0.70, indicating satisfactory internal consistency. The results of the reliability analysis for each construct are summarized in Table 4.

Table 4.
Cronbach's Alpha and Composite Reliability

	Cronbach's alpha	Composite Reliability (rho_c)
Work Environment (X1)	0,886	0,917
Occupational Health and Safety (X2)	0,839	0,886
Employee Performance (Y)	0,860	0,900
Job Satisfaction (Z)	0,901	0,926

Source: Processed primary data, 2025

Based on Table 4, all constructs have Cronbach's Alpha and Composite Reliability values above 0.70. This indicates that all indicators in each construct are consistent and reliable. Thus, all constructs in the model have met the reliability criteria and are suitable for further analysis.

Inner Model Results

Inner model evaluation was conducted to test the relationships between latent constructs in the structural model. The test was carried out using a bootstrapping method using the one-tail approach because the hypotheses in this research are in the same direction. The results of the relationship structure and significance values between variables are presented in Figure 2.

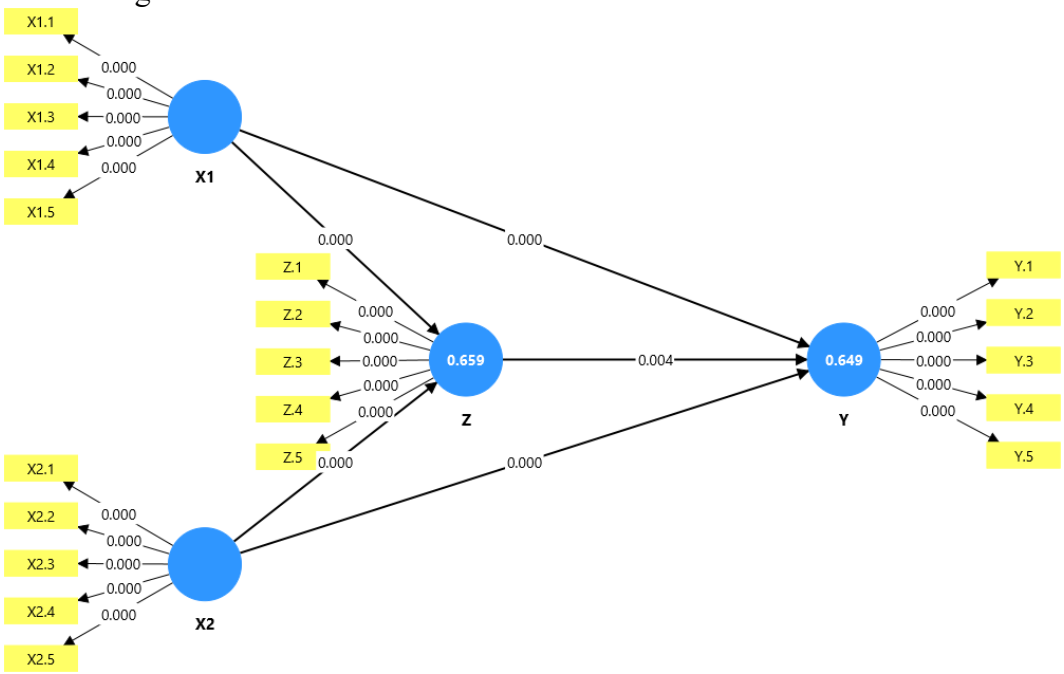

Figure 2.
Bootstrapping Model

Figure 2 presents the results of the bootstrapping analysis, which visually depicts the direction and strength of the relationships among the latent constructs in the model. To further interpret the magnitude of these effects and determine the statistical significance of each hypothesized relationship, the corresponding path coefficient values are provided in Table 5.

Table 5.
Path Coefficient

	Original Sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P value	Information
Work Environment → Employee Performance	0,329	0,334	0,068	4,837	0,000	Significant Positive

	Original Sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P value	Information
Work Environment → Job Satisfaction	0,494	0,491	0,059	8,442	0,000	Significant Positive
Occupational Health and Safety → Employee Performance	0,351	0,346	0,079	4,474	0,000	Significant Positive
Occupational Health and Safety → Job Satisfaction	0,392	0,394	0,065	6,073	0,000	Significant Positive
Job Satisfaction → Employee Performance	0,214	0,208	0,075	2,853	0,004	Significant Positive

Source: Processed primer data, 2025

Based on Table 5, all hypothesized relationships in the structural model are positive and statistically significant. The Work Environment (X1) demonstrates a significant influence on both Employee Performance (Y) ($\beta = 0.329$, $t = 4.837$, $p < 0.05$) and Job Satisfaction (Z) ($\beta = 0.494$, $t = 8.442$, $p < 0.05$), indicating that an improved work environment enhances employees' satisfaction and overall performance. Similarly, Occupational Health and Safety (X2) exhibits a strong and significant effect on Employee Performance ($\beta = 0.351$, $t = 4.474$) as well as on Job Satisfaction ($\beta = 0.392$, $t = 6.073$), suggesting that effective OHS practices contribute to higher satisfaction and performance outcomes. Furthermore, Job Satisfaction (Z) positively affects Employee Performance (Y) ($\beta = 0.214$, $t = 2.853$), confirming its mediating role in the model. Overall, these findings provide empirical support for all proposed hypotheses at the 95% confidence level, reinforcing the theoretical premise that both a supportive work environment and comprehensive safety practices drive job satisfaction, which in turn leads to improved employee performance.

Hypothesis Testing

Direct Effect Hypothesis Test (Path Coefficient)

H1: Work Environment has a positive effect on Job Satisfaction

The test results show that Work Environment has a positive and significant effect on Job Satisfaction, with a t-statistic of 8.442 and a p-value of 0.000. This indicates that a supportive work environment, both in terms of physical and social aspects, can increase employee job satisfaction. A comfortable environment, harmonious work relationships, and adequate work facilities make employees feel appreciated and more motivated in carrying out their duties.

H2: Occupational Health and Safety has a positive effect on Job Satisfaction

The results indicate that Occupational Health and Safety (OHS) exerts a positive and statistically significant influence on Job Satisfaction, as evidenced by a t-statistic of 6.073 and a p-value of 0.000, which is well below the 0.05 significance threshold. The implementation of good health and health systems gives employees a sense of safety, both

physically and psychologically, which ultimately has an impact on increasing job satisfaction. When employees feel protected and appreciated, their perception of their work tends to become more positive.

H3: Work Environment has a positive effect on Employee Performance

The findings reveal that the Work Environment has a positive and statistically significant effect on Employee Performance, as indicated by a t-statistic of 4.837 and a p-value of 0.000, which is below the 0.05 significance level. This result confirms that a supportive and well-structured work environment significantly contributes to improving employees' performance in executing technical tasks. Good working conditions encourage high levels of effectiveness, discipline, and work spirit, thus having an impact on increasing work results as a whole.

H4: Occupational Health and Safety have a positive effect on Employee Performance

The results indicate that Occupational Health and Safety (OHS) has a positive and statistically significant impact on Employee Performance, as evidenced by a t-statistic of 4.474 and a p-value of 0.000, which meets the required significance threshold. Effective implementation of OHS practices such as the proper use of personal protective equipment (PPE), comprehensive safety training, and regular safety audits plays a crucial role in enhancing employee productivity. A secure work environment enables employees to perform their tasks with greater focus and efficiency, minimizing concerns related to potential occupational hazards.

H5: Job Satisfaction has a positive effect on Employee Performance

The results demonstrate that Job Satisfaction exerts a positive and statistically significant influence on Employee Performance, as indicated by a t-statistic of 2.853 and a p-value of 0.004, which falls well below the 0.05 significance level. This finding suggests that employees who experience higher levels of job satisfaction tend to deliver superior performance, not only in terms of work quality and speed but also in collaborative efforts within teams. Elevated job satisfaction fosters stronger commitment and intrinsic motivation, which in turn contributes to higher productivity and overall organizational effectiveness.

Indirect Effect Hypothesis Testing

Table 6.
Indirect Effect

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P value	Description
Work Environment → Job Satisfaction → Employee Performance	0,106	0,103	0,040	2,626	0,009	Able to Mediate
Occupational Health and Safety → Job Satisfaction → Employee Performance	0,084	0,081	0,031	2,674	0,008	Able to Mediate

Source: Processed primary data, 2025

Based on Table 6, the influence of Job Satisfaction as a mediating variable can be explained as follows:

The role of Job Satisfaction in mediating the influence of Work Environment on Employee Performance

Based on the results of the hypothesis test, it is known that the p-value is 0.009 < 0.05 and the t-statistic value is 2.626 > 1.96, strengthened by the original value of 0.106 (positive). These results show that the variable Job Satisfaction mampu memediation has a positive and significant influence of Work Environment on Employee Performance.

The role of Job Satisfaction in mediating the influence of Occupational Health and Safety on Employee Performance

Based on the results of the hypothesis test, it is known that the p - value is 0.008 < 0.05 and the t - statistic value is 2.674 > 1.96, which is strengthened by the original value of 0.084 (positive). These results show that the variable Job Satisfaction mampu memediation has a positive and significant influence Occupational Health and Safety on Employee Performance.

R Square

The R - square value is used to measure how large a variable is independen mampu menjeclassify the l dependent variable in research model.

Table 7.
Testing R Square

	R - square
Employee Performance (Y)	0,649
Job Satisfaction (Z)	0,659

Source: Processed primer data, 2025

According to Table 7, the R-square value for the Employee Performance (Y) construct is 0.649, indicating that 64.9% of the variation in employee performance is explained by the three independent variables: Work Environment, Occupational Health and Safety, and Job Satisfaction. Similarly, the R-square value for the Job Satisfaction (Z) construct is 0.659, meaning that 65.9% of the variation in job satisfaction is influenced by Work Environment and Occupational Health and Safety. Based on the criteria outlined by Hair et al. (2019), R-square values between 0.60 and 0.75 are classified as moderate. Therefore, both endogenous constructs demonstrate good explanatory power, and the model is considered effective in explaining the relationships among the variables.

Direct Influence

Influence of Work Environment on Job Satisfaction

The research findings indicate that work environment indicators exert a positive and significant effect on job satisfaction, as evidenced by a p-value of 0.000 (< 0.05) and a t-statistic of 8.442 (> 1.96). Furthermore, the original sample value of 0.494 confirms the positive relationship between these variables. This outcome aligns with the study by Ridha Arrozak et al. (2021), which highlighted that a comfortable and supportive work environment contributes significantly to employees' job satisfaction. Similar conclusions were drawn by Fitri & Azizi (2025) and Rif'an et al. (2024), who emphasized that both physical and social aspects of the work environment play a critical role in shaping employee satisfaction levels.

A well structured work environment not only fosters job satisfaction but also enhances overall employee engagement and performance, which ultimately supports organizational success.

Influence of Occupational Health and Safety on Job Satisfaction

The study reveals that the K3 (occupational health and safety) indicator has a significant and positive impact on job satisfaction, as indicated by a p-value of 0.000 (< 0.05) and a t-statistic of 6.073 (> 1.96). The original sample value is 0.392, confirming a positive relationship. These findings align with the research of Ramadhani et al. (2024) and Marpaung et al. (2024), who emphasized that effective implementation of occupational health and safety fosters positive job perceptions and enhances employee satisfaction. Furthermore, ensuring workplace safety not only reduces the risk of accidents and stress but also creates a secure environment where employees can work more confidently and productively, thereby strengthening overall organizational performance.

Influence of Work Environment on Employee Performance

The study reveals that the work environment significantly and positively affects employee performance, demonstrated by a p-value of 0.000 (< 0.05) and a t-statistic of 4.837 (> 1.96). The original sample value of 0.329 further confirms this positive correlation. This implies that a supportive and well-structured work environment can enhance employees' ability to perform effectively, leading to higher productivity and better organizational outcomes.

Influence of Occupational Health and Safety on Employee Performance

The findings indicate that the Occupational Health and Safety (K3) indicator exerts a positive and significant effect on employee performance, supported by a p-value of 0.000 (< 0.05) and a t-statistic of 4.474 (> 1.96). Additionally, the original sample value of 0.351 confirms the positive relationship. This suggests that implementing effective K3 practices enhances workplace safety and well-being, which in turn improves employee productivity and overall performance.

Influence of Job Satisfaction on Employee Performance

The study results demonstrate that job satisfaction has a positive and significant impact on employee performance, with a p-value of 0.004 (< 0.05) and a t-statistic of 2.853 (> 1.96). The original sample value of 0.214 further confirms this positive relationship. This finding indicates that higher levels of job satisfaction encourage employees to perform more effectively, enhancing work quality, efficiency, and overall productivity within the organization.

Indirect Influence

The Role of Job Satisfaction in Mediating the Influence of Work Environment on Employee Performance

The results of this study indicate that job satisfaction effectively mediates the positive and significant relationship between the work environment and employee performance. This is supported by a specific indirect effect p-value of 0.009 (< 0.05) and a t-statistic of 2.626 (> 1.96), reinforced by a positive original sample value of 0.106. These findings suggest that a supportive work environment enhances employee performance not only directly but also indirectly by increasing job satisfaction, which motivates employees to perform more efficiently and effectively.

The Role of Job Satisfaction in Mediating the Influence of Occupational Health and Safety on Employee Performance

The findings of this study indicate that job satisfaction serves as a positive and significant mediator in the relationship between Occupational Health and Safety (K3) and employee performance. This is evidenced by a specific indirect effect p-value of 0.008 (< 0.05) and a t-statistic of 2.674 (> 1.96), supported by a positive original sample value of 0.084. These results suggest that effective K3 practices not only directly enhance employee performance but also indirectly do so by increasing job satisfaction, which motivates employees to work more efficiently and productively.

CONCLUSION

Based on the data analysis and discussion of 237 responses from technical service personnel at PT PLN (Persero) UP3 Samarinda, several key conclusions can be drawn as follows:

1. Work Environment positively and significantly affects Job Satisfaction. A safe, comfortable, and supportive work environment both in physical and social aspects enhances employee job satisfaction. When employees perceive that their working conditions facilitate their daily tasks, they are more motivated and develop a positive attitude toward their work.
2. Occupational Health and Safety positively and significantly affects Job Satisfaction**.** Effective implementation of occupational health and safety measures such as the provision of personal protective equipment, K3 training, and supervision of work procedures creates a sense of security and stability, which directly enhances employee job satisfaction.
3. Work Environment positively and significantly affects Employee Performance. A supportive work environment not only provides comfort but also enhances work effectiveness. Employees operating in workplaces with adequate facilities, proper lighting, and harmonious interpersonal relationships are more likely to achieve optimal performance.
4. Occupational Health and Safety positively and significantly affects Employee Performance**.** A work environment that prioritizes safety and health enhances employees' confidence, mental preparedness, and ability to work productively and efficiently, particularly in performing technical tasks in the field.
5. Job Satisfaction positively and significantly affects Employee Performance. Employees who are satisfied with their jobs demonstrate loyalty, enthusiasm, and dedication. High job satisfaction motivates employees to deliver their best work, complete tasks promptly, and contribute more effectively to achieving organizational goals.

REFERENCES

Adams, J. S. (1965). Inequity in Social Exchange. Dalam L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 2, hlm. 267–299). New York : Academic Press.

Arrozak, M. H., Rahman, T., & Suryadi, T. (2021). Pengaruh lingkungan kerja terhadap kinerja karyawan di sektor industri teknik. *Jurnal Manajemen dan Kinerja, 8*(1), 45–60.

Dov, Z. (2008). Safety climate and beyond : A multi - level multi - climate framework. *Safety Science*, 46(3), 376–387.

Ekowati, V. M., & Amin, F. M. (2019). The Effects of *Occupational Health and Safety* on *Employee Performance* Through Work Satisfaction. Dalam *Proceedings of the 2018 International Conference on Islamic Economics and Business (ICONIES 2018)* (hlm. 242–245).

Fitri, M., & Azizi, P. (2025). Pengaruh keselamatan kerja dan lingkungan kerja terhadap kinerja karyawan dengan kepuasan kerja sebagai variabel intervening pada karyawan bagian produksi Mebel Azia. *Digital Bisnis : Jurnal Publikasi Ilmu Manajemen dan E - Commerce, 4*(1), 40–56.

Herzberg, F. I. (1966). *Work and the Nature of Man*. Cleveland, OH : World Publishing Company.

Isbahi, M. B., Zuana, M. M. M. ., & Mariana, E. R. . (2022). The Technology Strategy in Website Communication Media in Improving Business Activities. *Majapahit Journal of Islamic Finance and Management*, *1*(2), 126–138. https://doi.org/10.31538/mjifm.v1i2.17

Isbahi, M. B., Zuana, M. M. M., & Toha, M. (2024). The Multi-Social Relation of the Cattle Industry in the Plaosan Subdistrict Animal Market of Magetan Regency. *Malacca: Journal of Management and Business Development* , *1*(1), 31–46. https://doi.org/10.69965/malacca.v1i1.51

Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, NJ : Prentice Hall.

Marpaung, H., Andriani, T., Nasution, R. S., & Sajidah, Q. (2024). Pengaruh lingkungan kerja dan kesehatan serta keselamatan kerja (K3) terhadap kepuasan kerja karyawan Afdeling II PT. Bridgestone Perkebunan Aek Tarum. *Management Studies and Entrepreneurship Journal, 5*(1), 306–314.

Oldham, G. R., & Rotchford, N. L. (1983). Relationships between office characteristics and employee reactions : A study of the physical environment. *Administrative Science Quarterly*, 28(4), 542–556.

Oldham, G. R., & Rotchford, N. L. (1983). Relationships between office characteristics and employee reactions : A study of the physical environment. *Administrative Science Quarterly*, 28(4), 542–556.

Ramadhani, N. N., Nasrul, Syaifuddin, D. T., Maharani, S. W., & Putera, A. (2024). Analisis mediasi kepuasan kerja pada pengaruh kesehatan kerja, keselamatan kerja dan lingkungan kerja terhadap kinerja karyawan. *Jurnal HOMANIS : Halu Oleo Manajemen dan Bisnis, 1*(1), 14–31.

Rif'an, A., Sulistyowati, A., Pitoyo, B. S., Yunita, T., & Jumawan. (2024). Pengaruh K3 dan lingkungan kerja terhadap kinerja karyawan melalui kepuasan kerja pada PT. Artha Envirotama. *Indonesian Journal of Economics, Management, and Accounting, 1*(7), 814–827.

Sekaran, U., & Bougie, R. (2016). *Research methods for business : A skill - building approach* (7th ed.). Wiley.

Sugiyono. (2017). *Metode penelitian kuantitatif, kualitatif dan R&D*. Alfabeta.

Toha, M., Zuana, M. M. M., & Isbahi, M. B. (2024). Acculturation of Mataraman Local Wisdom with Islamic Values: Implications for Social and Economic

Development. *Danadyaksa: Post Modern Economy Journal*, *2*(1), 33–47. https://doi.org/10.69965/danadyaksa.v2i1.143

Wibowo, F. P., & Widiyanto, G. (2019). Pengaruh keselamatan dan kesehatan kerja dan lingkungan kerja terhadap kinerja karyawan bagian produksi pada perusahaan Tom's Silver Yogyakarta. *Primanomics : Jurnal Ekonomi dan Bisnis*, 17(2), 142–156.

Zamroni, M. A., Toha, M., Zuana, M. M. M., & Baiqun Isbahi, M. (2023). Exploring Zakat Distribution Via Blockchain in Indonesia Perspective of Maslahah Mursalah Wahbah Zuhaili. *Indonesian Interdisciplinary Journal of Sharia Economics (IIJSE)*, *6*(3), 3544-3555. https://doi.org/10.31538/iijse.v7i3.5821