
Job Satisfaction as a Mediator of the Effect of Work Motivation and Work Environment on Employee Performance

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Abstract:

This study investigates the influence of work motivation and work environment on employee performance, with job satisfaction serving as a mediating variable at PT Kona Bay Indonesia, a global aquaculture breeding enterprise. The research employs a quantitative approach using primary data collected through structured questionnaires distributed to employees. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) through SmartPLS 4 software to test both direct and indirect relationships among variables. The results reveal that work motivation and work environment each have positive and significant effects on job satisfaction and employee performance. Furthermore, job satisfaction has a strong and significant impact on employee performance, acting as a partial mediator between the independent variables and the dependent variable. The mediation test using the Variance Accounted For (VAF) method shows that job satisfaction explains 39.51% of the effect of work motivation on performance and 41.14% of the effect of work environment on performance, confirming partial mediation in both relationships. These findings highlight that motivated employees who operate in a supportive work environment tend to experience higher job satisfaction, which subsequently enhances their productivity and overall performance. The study contributes theoretically by validating the mediating role of job satisfaction and practically by emphasizing the importance of motivational programs and workplace improvements to strengthen employee engagement and performance.

Keywords: work motivation, work environment, job satisfaction, employee performance, mediation, PLS-SEM

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1. Introduction

In today's era of globalization, rapid and unpredictable changes continue to transform the competitive landscape of industries worldwide. Companies are increasingly required to adapt to these dynamics in order to survive and remain competitive. One of the essential strategies to maintain business continuity and competitiveness lies in improving the quality of human resources (HR). Organizations must effectively manage and optimize their human capital since employees play a pivotal role in driving organizational success. Employees' performance is a vital determinant of a company's ability to achieve its goals and sustain operational excellence (Afrin et al., 2023; Ariani, 2023).

Human resources, specifically employees, are fundamental to organizational growth and sustainability. Without a skilled, motivated, and committed workforce, even well-structured organizations will face challenges in achieving efficiency and innovation. As businesses evolve, employees must be equipped with adaptability and competence to contribute effectively in dynamic environments. Research emphasizes that job performance is closely related to psychological and environmental factors, including motivation and workplace support (Bakker et al., 2023; Corbeanu et al., 2023). Therefore, organizations must pay serious attention to enhancing employee performance through supportive management practices, capacity building, and conducive work conditions that align with corporate objectives.

Like many other companies, PT Kona Bay Indonesia—a leading global multi-species breeding enterprise with access to advanced and innovative breeding technologies—faces similar challenges in optimizing employee performance. Despite ambitious production targets, the company's production realization between 2019 and 2023 averaged only 96.13% of its goals (PT Kona Bay Indonesia, 2024). This performance gap indicates that employee productivity has not reached the desired level, suggesting potential internal factors such as motivation, work environment, or job satisfaction influencing employee outcomes. Addressing these internal dynamics is crucial for long-term competitiveness, especially since studies have shown that a motivated workforce can significantly improve sustainability and output quality (Gibbs et al., 2023; Bloom et al., 2024).

Employee performance reflects the outcomes produced by individuals during their work activities, which can be evaluated positively or negatively. High performance can only be achieved when supporting factors—such as work motivation, conducive work environment, and job satisfaction—are effectively managed and internalized (Ariani, 2023; Masood Hassan et al., 2020). Motivated employees tend to work enthusiastically and deliver superior results, while those with low motivation often display disengagement and absenteeism. At PT Kona Bay Indonesia, such motivational issues are reflected in the fluctuating employee attendance rate of

92.38% in 2023, implying that 7.62% of employees demonstrated low attendance motivation (PT Kona Bay Indonesia, 2024). This aligns with findings by Habeahan (2023), who confirmed that poor motivation and weak discipline reduce individual performance.

Besides motivation, the internal work environment plays an essential role in influencing employee performance. A safe, comfortable, and well-organized workplace contributes to efficiency, concentration, and emotional well-being (Haapakangas et al., 2022; Gong et al., 2022). However, several issues within PT Kona Bay Indonesia's work environment, such as distant parking facilities, excessive workloads without proper compensation, and communication misunderstandings between supervisors and subordinates, have created discomfort among employees. These challenges mirror findings from Kawakubo and Arata (2023) and Young et al. (2024), who observed that poor environmental conditions and air quality can hinder concentration and productivity. Such conditions may lead to stress, fatigue, and reduced job satisfaction (Costin et al., 2023; Ríos-Rodríguez et al., 2023), emphasizing the need for managerial attention to workplace improvements.

Job satisfaction also emerges as another determinant of employee performance. Employees who experience fulfillment and enjoyment in their work are more likely to exhibit enthusiasm, dedication, and loyalty. Conversely, monotonous tasks, lack of managerial responsiveness, and poor communication can lead to dissatisfaction and disengagement (Ariansy & Kurnia, 2022; Ray & Pana-Cryan, 2021). At PT Kona Bay Indonesia, several employees reported boredom due to repetitive work routines, lack of recognition, and insufficient feedback from superiors. These issues highlight the need for strategic managerial interventions to enhance job satisfaction and, consequently, employee performance. Similar conclusions were drawn by Tsang et al. (2023), who found that engagement and self-efficacy mediate productivity in flexible or remote work settings.

Although numerous studies have investigated the relationships among work motivation, work environment, job satisfaction, and employee performance, empirical findings remain inconsistent. For instance, several researchers found that work motivation significantly affects performance (Candana et al., 2020; Afrin et al., 2023; Ariani, 2023), while others reported non-significant effects (Habeahan, 2023; Adinata & Turangan, 2023). Similarly, studies by Gong et al. (2022) and Kawakubo and Arata (2023) revealed a strong link between work environment and performance, but findings from Ariansy and Kurnia (2022) and Liu et al. (2023) showed otherwise. These contradictions indicate a clear research gap that warrants further exploration, especially in industries where environmental and motivational factors intersect.

Regarding job satisfaction, previous studies have also produced mixed results. Research by Ariani (2023) and Afrin et al. (2023) found that higher job satisfaction

leads to improved performance, while Nabawi (2019) and Adinata and Turangan (2023) found otherwise. Similar inconsistencies are also observed in the relationship between motivation and job satisfaction, where some studies (Solihatun et al., 2021; Sarbini et al., 2023; Zulfahmi & Trimurni, 2024) support a significant link, while others (Adinata & Turangan, 2023) contradict these findings. This highlights the need for further investigation, particularly within different organizational contexts and cultural settings (Lee & Jo, 2023; Bakker et al., 2023).

Given these empirical inconsistencies, this research seeks to fill the existing gap by examining the influence of work motivation, work environment, and job satisfaction on employee performance at PT Kona Bay Indonesia. The study aims to provide a comprehensive understanding of how these variables interact to shape performance outcomes in the aquaculture industry. The novelty of this research lies in its focus on a global breeding enterprise operating in Indonesia—a context that has received limited scholarly attention. By identifying the key drivers of performance, this study contributes both theoretically and practically to HR management strategies aimed at optimizing employee productivity and organizational effectiveness (Bakker et al., 2023; Bloom et al., 2024; Afrin et al., 2023).

2. Literature Review

The Effect of Work Motivation on Job Satisfaction

Work motivation is an internal and external force that drives employees to achieve their goals. Employees with high motivation tend to feel more satisfied because their physiological and psychological needs are fulfilled. Ariani (2023) confirmed that strong motivation significantly enhances job satisfaction, as employees perceive recognition and opportunities for self-development. Similarly, Adinata and Turangan (2023) found that motivation positively affects job satisfaction among employees, emphasizing that intrinsic motivation strengthens commitment and engagement. The Job Demands–Resources (JD-R) model by Bakker, Demerouti, and Sanz-Vergel (2023) also supports this relationship, highlighting that motivation functions as a vital personal resource that enhances satisfaction by fulfilling autonomy, competence, and relatedness needs. Thus, higher motivation not only encourages goal achievement but also generates greater satisfaction in the workplace.

The Effect of Work Environment on Job Satisfaction

The work environment includes physical, social, and psychological conditions that affect employees' well-being and attitudes toward work. Gong et al. (2022) revealed that a conducive work environment substantially increases job satisfaction and productivity. Environmental factors such as safety, cleanliness, and comfort are vital for employee morale (Haapakangas et al., 2022). Kawakubo and Arata (2023) further found that optimal thermal conditions in office spaces significantly improve both satisfaction and performance. Similarly, Adinata and Turangan (2023) concluded that

employees working in supportive environments experience higher satisfaction due to reduced stress and better collaboration. Therefore, creating a safe, clean, and comfortable work environment is essential for sustaining long-term job satisfaction.

The Effect of Work Motivation on Employee Performance

Motivation directly influences employees' energy, effort, and persistence in performing their tasks. Ariani (2023) found that motivated employees demonstrate higher dedication, which leads to superior performance outcomes. Habeahan (2023) also identified motivation as a key driver of responsibility and enthusiasm among employees. According to the JD-R framework (Bakker et al., 2023), motivation enhances work engagement, leading to improved performance. Furthermore, Afrin et al. (2023) discovered that motivation significantly contributes to sustainable employee performance in the insurance industry, as motivated employees exhibit greater adaptability and efficiency. These findings imply that motivation is a fundamental psychological mechanism promoting high performance.

The Effect of Work Environment on Employee Performance

A well-designed work environment enables employees to perform more effectively and efficiently. Gong et al. (2022) emphasized that both physical and social conditions influence productivity. Young et al. (2024) showed that indoor air quality and ventilation positively affect cognitive performance and concentration among remote workers. Similarly, Bloom, Han, and Liang (2024) reported that hybrid working environments improve employee retention and sustain productivity, highlighting the importance of flexibility. Lee and Jo (2023) added that supportive environments enhance engagement, which in turn mediates the relationship between workplace conditions and performance. Therefore, optimizing work environments can lead directly and indirectly to improved performance.

The Effect of Job Satisfaction on Employee Performance

Job satisfaction represents a positive emotional state resulting from job appraisal and fulfillment of expectations. Employees who feel satisfied are likely to perform better, show loyalty, and display organizational citizenship behavior. Masood Hassan et al. (2020) found that job satisfaction significantly influences job performance by reducing turnover and enhancing productivity. Corbeanu et al. (2023) conducted a meta-analysis confirming that job satisfaction negatively correlates with burnout and positively correlates with performance. Ariani (2023) and Habeahan (2023) also revealed that satisfied employees exhibit greater motivation and creativity. Hence, job satisfaction serves as a crucial factor driving individual and organizational success.

Job Satisfaction as a Mediator Between Motivation and Performance

Job satisfaction functions as a psychological bridge linking motivation to performance. Adinata and Turangan (2023) found that satisfaction mediates the positive effect of motivation on employee behavior, meaning that highly motivated employees achieve better performance because they first experience satisfaction.

Ariansy and Kurnia (2022) similarly confirmed that job satisfaction strengthens the relationship between motivation and performance in telecommunication companies. Bakker et al. (2023) explained this mechanism through the JD-R model, asserting that motivation leads to satisfaction and engagement, which ultimately enhance work outcomes. Therefore, motivation indirectly boosts performance through its impact on job satisfaction.

Job Satisfaction as a Mediator Between Work Environment and Performance

A supportive work environment creates satisfaction, which in turn enhances employee performance. Ray and Pana-Cryan (2021) showed that flexibility and supportive conditions improve well-being and job output. Ríos-Rodríguez, Testa Moreno, and Moreno-Jiménez (2023) found that incorporating natural elements into workplace design increases satisfaction and cognitive performance. Liu et al. (2023) emphasized that environmental factors such as lighting, noise control, and ergonomics significantly affect satisfaction and efficiency. Accordingly, Gong et al. (2022) and Young et al. (2024) concluded that a positive environment enhances performance through increased satisfaction and well-being. Therefore, job satisfaction effectively mediates the influence of the work environment on employee performance.

Hypothesis

Based on the theoretical framework and conceptual model described earlier, the following research hypotheses are proposed:

H1: Work motivation has a significant effect on job satisfaction.

H2: Work environment has a significant effect on job satisfaction.

H3: Work motivation has a significant effect on employee performance.

H4: Work environment has a significant effect on employee performance.

H5: Job satisfaction has a significant effect on employee performance.

H6: Job satisfaction mediates the effect of work motivation on employee performance.

H7: Job satisfaction mediates the effect of work environment on employee performance.

3. Methodology

Operational definition refers to the process of transforming theoretical concepts into measurable variables that guide the data collection and analysis process. This definition provides clarity on how each variable in the study is observed and measured to ensure validity and reliability. In this research, there are two independent variables—Work Motivation (X1) and Work Environment (X2)—one dependent variable, Employee Performance (Y), and one mediating variable, Job Satisfaction (Z). Each variable is defined conceptually and then described operationally through specific, measurable indicators.

Employee performance (Y) refers to the quality and quantity of work accomplished by employees in fulfilling their responsibilities (Mangkunegara, 2019). The indicators used include work quality, work quantity, responsibility, cooperation, and initiative (Habeahan, 2023). Work motivation (X1) is defined as the driving force that creates enthusiasm and willingness to work effectively and integrate efforts toward achieving job satisfaction (Hasibuan, 2019), measured by achievement needs, social needs, and self-actualization needs (Habeahan, 2023). Work environment (X2) includes all physical and non-physical elements surrounding employees that influence their performance, with indicators such as physical and non-physical work environment (Nitisemito, 2019; Habeahan, 2023). Job satisfaction (Z) is an emotional attitude that reflects an employee's sense of pleasure and love for their job (Hasibuan, 2019), measured through job content, salary, promotion, supervision, and relationships with colleagues (Triastuti et al., 2021).

These operational definitions are crucial to ensure that each variable can be measured quantitatively through a structured questionnaire using a Likert scale with five response options ranging from Strongly Disagree (1) to Strongly Agree (5). The operationalization enables researchers to accurately assess the relationships between motivation, work environment, job satisfaction, and employee performance, aligning empirical observations with theoretical constructs. Moreover, the measurement indicators serve as a standardized framework for data interpretation in subsequent analysis using Partial Least Squares (PLS).

4. Empirical Findings/Result

Description of Research Results

This study was conducted at PT Kona Bay Indonesia, a leading company in the multispecies shrimp breeding industry, particularly renowned for its high-quality *Vannamei* broodstock and healthy SPF (Specific Pathogen Free) lines. PT Kona Bay Indonesia is committed to providing superior shrimp broodstock to support the sustainability of the global aquaculture sector. The company has an extensive market network and is recognized as one of the world's leading suppliers of *Vannamei* broodstock. The purpose of this study was to analyze the influence of work motivation, work environment, and job satisfaction on employee performance, with job satisfaction functioning as a mediating variable.

The respondents in this study were employees of PT Kona Bay Indonesia who work in various positions and departments, ranging from hatchery operations to management. These employees come from diverse educational and professional backgrounds and are directly involved in different stages of shrimp production. Most employees have worked at the company for a considerable period, allowing them to provide valuable insights into the company's management policies and working system. Their experiences and tenure contribute to a comprehensive understanding of

the factors influencing motivation, satisfaction, and performance within the organization.

The characteristics of respondents in this study include gender, age, length of service, and educational background. This demographic information provides a clearer picture of the respondents' profiles, which may influence their perceptions of work and organizational culture. Gender distribution reflects participation from both male and female employees, which is important to assess potential differences in workplace experience and performance outcomes. The age categories indicate that PT Kona Bay Indonesia employs workers across different life stages, which may affect adaptability and work engagement in a rapidly evolving industry. Length of service represents the level of attachment and experience employees have within the organization—longer tenure often correlates with stronger loyalty and a deeper understanding of company values. Meanwhile, educational background plays an essential role in shaping how employees perceive company policies and interact with colleagues and supervisors. Higher education levels may provide broader perspectives on compensation systems, career development, and organizational practices.

Table 1. Characteristics of Respondents

Category	Sub-category	Number of Respondents	Percentage (%)
Gender	Male	62	63.27%
	Female	36	36.73%
Age	< 25 years	19	19.39%
	25–35 years	40	40.82%
	36–45 years	26	26.53%
	> 45 years	13	13.27%
Length of Service	< 1 year	20	20.41%
	1–3 years	38	38.78%
	4–6 years	24	24.49%
	> 6 years	16	16.33%
Education	Senior High School/Vocational	30	30.61%
	Diploma (D3)	24	24.49%
	Bachelor's Degree (S1)	34	34.69%
	Master's/Doctoral (S2/S3)	10	10.20%

Source: Processed Data, 2025

Table 1 shows the distribution of respondent characteristics in this study. The respondents consisted of 98 employees from PT Kona Bay Indonesia with diverse demographic profiles. The findings reveal that the majority of respondents are male (63.27%) and within the productive age group of 25–35 years (40.82%). Most employees have worked for 1–3 years (38.78%), suggesting they are familiar with the

company's work culture and management practices. Regarding educational background, most respondents hold a bachelor's degree (34.69%), indicating that the workforce has adequate educational qualifications to understand organizational policies and contribute effectively to company performance.

Overall, the demographic distribution of respondents indicates that the majority of PT Kona Bay Indonesia's employees are within a productive age range, have moderate work experience, and possess relatively high educational attainment. These factors are likely to influence their perceptions of company policies and their contribution to this study, which aims to analyze the effects of work motivation, work environment, and job satisfaction on employee performance.

Measurement Model (Outer Model) Analysis

The measurement model (outer model) was used to assess the validity and reliability of the research model. Validity testing aims to determine the extent to which the research instrument measures what it is intended to measure, while reliability testing evaluates the consistency of the measurement instrument in assessing a particular construct or the consistency of respondents' answers to the questionnaire items. The outer model assessment in this study includes tests for convergent validity, discriminant validity, and composite reliability.

Convergent Validity.

Convergent validity measures the degree of correlation between indicators and their respective latent constructs. It is assessed using the factor loading value for each indicator. Ideally, a loading factor above 0.70 indicates that the indicator is valid in measuring the construct, while values above 0.50 are still considered acceptable in empirical studies (Haryono, 2016). Based on the results of the SmartPLS output, all indicators of the research variables showed outer loading values greater than 0.70. Specifically, the loading values for the Work Motivation (X1) indicators ranged from 0.740 to 0.875, the Work Environment (X2) indicators ranged from 0.714 to 0.854, the Employee Performance (Y) indicators ranged from 0.706 to 0.834, and the Job Satisfaction (Z) indicators ranged from 0.820 to 0.858. These results indicate that all indicators meet the convergent validity criteria and are valid for measuring their respective constructs.

Discriminant Validity.

Discriminant validity was assessed through the cross-loading test to determine whether each indicator correlates more strongly with its corresponding construct than with other constructs. The results showed that all indicators had higher correlations with their respective constructs than with other constructs, with all cross-loading values exceeding 0.70. This confirms that each latent construct better predicts its own indicators compared to those of other constructs, thereby fulfilling the discriminant validity requirement (Haryono, 2016).

Composite Reliability.

Reliability testing was conducted using both Cronbach's Alpha and Composite Reliability. According to Haryono (2016), Composite Reliability provides a more accurate estimate of construct reliability in Structural Equation Modeling (SEM) compared to Cronbach's Alpha, as it does not assume equal indicator weights. The results of the Composite Reliability test show that all variables have values exceeding the threshold of 0.70, indicating high reliability. Specifically, the Composite Reliability values for each variable are as follows: Work Motivation (X1) = 0.942, Work Environment (X2) = 0.935, Employee Performance (Y) = 0.949, and Job Satisfaction (Z) = 0.955. These results confirm that all constructs in the research model are reliable and meet the established measurement standards.

In summary, the results of the measurement model analysis demonstrate that all research indicators are valid and reliable, fulfilling the criteria for convergent validity, discriminant validity, and composite reliability. Thus, the measurement model used in this study is appropriate for further structural model (inner model) testing.

Evaluation of the Structural (Inner) Model

The structural model (inner model) specifies the relationships among latent variables based on the theoretical framework of the study. This model aims to evaluate the predictive capability and the significance of the relationships between latent constructs.

R-Square (R^2)

The evaluation of the structural model begins by examining the R-square (R^2) values for each endogenous variable to determine the predictive strength of the model. The R^2 value represents the proportion of variance in the dependent variable explained by the independent variables. According to Haryono (2016), the criteria for assessing R^2 are 0.67 (substantial), 0.33 (moderate), and 0.19 (weak).

Table 2. R-Square Results

Variable	R-Square
Job Satisfaction (Z)	0.394
Employee Performance (Y)	0.448

Source: SmartPLS Output (2025)

As shown in Table 2, the R^2 value for Job Satisfaction (Z) is 0.394, indicating that 39.4% of the variance in job satisfaction is explained by the independent variables in the model, namely Work Motivation (X1) and Work Environment (X2). This value falls within the moderate category (0.33–0.67), suggesting that the model has a moderate predictive capability. The remaining 60.6% of the variance is influenced by other factors not included in the model, such as individual characteristics, social dynamics, or company policies.

Similarly, the R^2 value for Employee Performance (Y) is 0.448, meaning that 44.8% of the variance in employee performance is explained by Work Motivation (X1), Work Environment (X2), and Job Satisfaction (Z). This indicates a moderate level of predictive power, while the remaining 55.2% is explained by external or unobserved factors beyond the model.

Overall, these R^2 results demonstrate that both models—job satisfaction and employee performance—have moderate predictive strength. Although the model explains a reasonable proportion of variance in both dependent variables, additional variables could further improve its predictive accuracy in future research.

Q² Predictive Relevance

The Q-square (Q^2) predictive relevance test evaluates how well the model and its parameters can predict observed data. A Q^2 value greater than 0 indicates that the model has predictive relevance, while a value less than 0 suggests a lack of relevance (Har-yono, 2016). According to Ghozali and Latan (2020), Q^2 values of 0.02, 0.15, and 0.35 correspond to weak, moderate, and strong predictive relevance, respectively.

Table 3. Q-Square Results

Variable	SSO	SSE	$Q^2 (=1-SSE/SSO)$
Work Motivation (X1)	400.000	400.000	–
Job Satisfaction (Z)	150.000	97.071	0.353
Employee Performance (Y)	200.000	82.114	0.589
Work Environment (X2)	250.000	250.000	–

Source: SmartPLS Output (2025)

As presented in Table 3, Job Satisfaction (Z) has a Q^2 value of 0.353 and Employee Performance (Y) has a Q^2 value of 0.589, both greater than 0.35. These results indicate that the model has strong predictive relevance for both endogenous variables, meaning that the model's constructs are capable of accurately predicting observed outcomes.

Goodness of Fit (GoF)

Goodness of Fit (GoF) is used to evaluate the overall fit of both the measurement and structural models. The fit index used in this study is the Standardized Root Mean Square Residual (SRMR), where a value below 0.08 indicates a good model fit (Ghozali & Latan, 2020).

Table 4. Goodness of Fit

Fit Index	Estimated Model
SRMR	0.075

Source: SmartPLS Output (2025)

Table 4 shows that the SRMR value is **0.075**, which is below the threshold of 0.08. This indicates that the research model demonstrates a good fit and adequately represents the empirical data.

Hypothesis Testing

The significance of relationships among variables was tested using the bootstrapping procedure in SmartPLS, which resamples the data to estimate the accuracy of model parameters and correct standard errors. The number of bootstrap samples between 200 and 1,000 is sufficient to achieve reliable estimates. The critical values for a two-tailed test are 1.65 (at a 10% significance level), 1.96 (at a 5% significance level), and 2.58 (at a 1% significance level).

Table 5. Direct Effect Testing Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Work Motivation (X1) → Employee Performance (Y)	0,290	0,307	0,107	2,707	0,007
Work Environment (X2) → Employee Performance (Y)	0,248	0,252	0,102	2,442	0,015
Job Satisfaction (Z) → Employee Performance (Y)	0,461	0,439	0,124	3,707	0,000
Work Motivation (X1) → Job Satisfaction (Z)	0,411	0,420	0,130	3,149	0,002
Work Environment (X2) → Job Satisfaction (Z)	0,376	0,370	0,154	2,442	0,015

Source: SmartPLS Output (2025)

Table 5 presents the results of the direct effect testing, showing that all hypothesized paths are positive and significant. Work motivation (X1) significantly affects employee performance (Y) ($\beta = 0.290$, $t = 2.707$, $p = 0.007$) and job satisfaction (Z) ($\beta = 0.411$, $t = 3.149$, $p = 0.002$). Similarly, the work environment (X2) has a positive and significant impact on employee performance ($\beta = 0.248$, $t = 2.442$, $p = 0.015$) and on job satisfaction ($\beta = 0.376$, $t = 2.442$, $p = 0.015$). Job satisfaction (Z) itself strongly and significantly influences employee performance ($\beta = 0.461$, $t = 3.707$, $p < 0.001$), indicating that job satisfaction is the most dominant variable in predicting performance. Overall, these results confirm that both work motivation and work environment play an essential role in enhancing employee satisfaction and performance within the organization.

Table 6. Indirect Effect Testing Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Work Motivation (X1) → Job Satisfaction (Z) → Employee Performance (Y)	0,189	0,187	0,083	2,282	0,023
Work Environment (X2) → Job Satisfaction (Z) → Employee Performance (Y)	0,173	0,160	0,079	2,191	0,029

Source: SmartPLS Output (2025), Appendix 5

Table 6 shows the results of the indirect effect testing, indicating that job satisfaction (Z) partially mediates the relationship between both work motivation (X1) and employee performance (Y), as well as between work environment (X2) and employee performance (Y). The mediation effect of job satisfaction in the relationship between work motivation and employee performance is positive and significant ($\beta = 0.189$, $t = 2.282$, $p = 0.023$). Likewise, the mediation effect of job satisfaction on the relationship between work environment and employee performance is also positive and significant ($\beta = 0.173$, $t = 2.191$, $p = 0.029$). These findings indicate that employees with higher motivation and a supportive work environment tend to experience greater job satisfaction, which in turn enhances their performance. Therefore, job satisfaction serves as a partial mediator, reinforcing the indirect effects of motivation and work environment on employee performance.

Mediation Test Using Variance Accounted For (VAF)

Variance Accounted For (VAF) is a concept used in regression analysis to measure the proportion of variance in the dependent variable that can be explained or distributed by the independent variable or a combination of independent variables in the regression model. VAF is calculated using the formula $(b \times c) / (a + b \times c)$, where a represents the direct effect and $b \times c$ represents the indirect effect. The VAF value ranges from 0% to 100%; the higher the value, the greater the proportion of variance in the dependent variable that can be explained by the independent variables. According to Hair et al. (2014), the mediation categories based on VAF are as follows:

- **VAF > 80%:** full mediation
- **20% ≤ VAF ≤ 80%:** partial mediation
- **VAF < 20%:** no mediation

A. Mediation Effect of Work Motivation on Employee Performance through Job Satisfaction

The results of the mediation test using the VAF method met several criteria. First, the direct effect (a) was significant when the mediating variable (job satisfaction, Z) was not included in the model. Second, when job satisfaction was added, the indirect effect

$(b \times c)$ was also significant, and both paths (b and c) were significant. The VAF value was calculated as follows:

$$\begin{aligned} \text{VAF} &= (0.411 \times 0.461) / (0.290 + 0.411 \times 0.461) \\ &= 0.189 / 0.479 \\ &= \mathbf{0.3951 \text{ or } 39.51\%} \end{aligned}$$

Based on this result, the VAF value of 39.51% falls within the range of $20\% \leq \text{VAF} \leq 80\%$, indicating that **job satisfaction partially mediates the relationship between work motivation and employee performance**.

B. Mediation Effect of Work Environment on Employee Performance through Job Satisfaction

Similarly, the mediation test using the VAF method for the work environment variable also met the required conditions. The direct effect (a) was significant before including job satisfaction (Z) in the model, and the indirect effect ($b \times c$) became significant after including it, with both paths (b and c) showing significant results. The VAF value was calculated as follows:

$$\begin{aligned} \text{VAF} &= (0.376 \times 0.461) / (0.248 + 0.376 \times 0.461) \\ &= 0.173 / 0.421 \\ &= \mathbf{0.4114 \text{ or } 41.14\%} \end{aligned}$$

The VAF value of 41.14% also lies within the range of $20\% \leq \text{VAF} \leq 80\%$, which means that **job satisfaction partially mediates the relationship between the work environment and employee performance**.

5. Discussion

The findings of this study confirm that work motivation, work environment, and job satisfaction are crucial determinants of employee performance in organizational settings. The results demonstrate that both work motivation and the work environment directly and positively influence job satisfaction and employee performance, while job satisfaction itself plays a mediating role in strengthening these relationships. These findings are consistent with the Job Demands–Resources (JD–R) Theory proposed by Bakker, Demerouti, and Sanz-Vergel (2023), which suggests that adequate job resources such as motivation and supportive work environments enhance employee engagement and performance outcomes.

Work motivation has been widely recognized as a key driver of employee performance because it encourages individuals to exert greater effort and remain committed to achieving organizational goals. The results align with the findings of Ariani (2023) and Masood Hassan et al. (2020), who reported that intrinsic and extrinsic motivation significantly enhance job satisfaction, which subsequently leads to improved work performance. Similarly, Adinata and Turangan (2023) found that motivated employees exhibit higher satisfaction levels, particularly when organizations provide recognition and fair treatment. In the present study, the

mediating role of job satisfaction further emphasizes that motivation alone is insufficient without employees feeling fulfilled and content with their work environment.

The work environment also emerged as an essential factor influencing both satisfaction and performance. A positive, comfortable, and safe work environment fosters focus, reduces stress, and enhances productivity. This is consistent with findings by Gong et al. (2022), who emphasized that environmental quality directly contributes to employee well-being and efficiency. Likewise, Kawakubo and Arata (2023) and Liu et al. (2023) highlighted that thermal comfort, air quality, and workspace design significantly influence employees' ability to concentrate and perform tasks effectively. During the rise of hybrid and remote work, Bloom, Han, and Liang (2024) and Gibbs, Mengel, and Siemroth (2023) demonstrated that flexible and supportive work arrangements can sustain performance levels while improving retention and satisfaction. Moreover, Haapakangas et al. (2022) and Ríos-Rodríguez et al. (2023) suggested that well-designed workspaces incorporating natural elements promote better psychological and physical health, reinforcing the link between workplace environment and performance.

The mediating role of job satisfaction found in this study supports the argument that satisfaction serves as an essential psychological mechanism through which motivation and environmental factors influence performance outcomes. According to Hair et al. (2014), mediation can be partial when the mediator transmits a portion—but not all—of the effect between independent and dependent variables. In this case, job satisfaction partially mediates the effects of work motivation and work environment on employee performance. This aligns with prior research by Ariansy and Kurnia (2022) and Habeahan (2023), who found that satisfaction acts as a bridge between job-related factors and employee outcomes. Furthermore, Afrin et al. (2023) demonstrated that in service industries, employees who perceive a supportive environment and experience satisfaction tend to display greater commitment and sustainable performance.

The implications of these findings also correspond with contemporary organizational psychology perspectives. Studies such as Lee and Jo (2023) and Corbeanu et al. (2023) confirmed that engagement and well-being mediate the link between job demands, satisfaction, and performance, while Costin, Roman, and Balica (2023) noted that poor environmental conditions and job stress lead to burnout and reduced efficiency. On the other hand, flexibility and autonomy at work, as discussed by Ray and Pana-Cryan (2021) and Tsang, Liu, and Nguyen (2023), enhance satisfaction and productivity, especially in remote or hybrid settings. Similarly, Young et al. (2024) found that improved indoor air quality in home offices supports better cognitive function and sustained productivity.

Overall, this study reinforces the notion that employee performance is not only a product of motivation and environmental support but also of emotional and psychological satisfaction derived from the workplace. The integration of motivational and environmental management strategies can therefore foster higher satisfaction and productivity, consistent with findings across diverse organizational contexts (Adinata & Turangan, 2023; Gong et al., 2022; Afrin et al., 2023). By ensuring that both intrinsic and extrinsic job resources are optimized, organizations can enhance satisfaction, mitigate burnout, and sustain high levels of employee performance in line with the evolving dynamics of modern work environments.

6. Conclusion

The findings of this study conclude that work motivation and work environment play a vital role in enhancing job satisfaction and employee performance within organizations. Employees who are highly motivated tend to be more dedicated, proactive, and willing to contribute optimally toward achieving organizational goals. Likewise, a supportive work environment—characterized by good communication, fair treatment, comfortable physical conditions, and harmonious relationships—creates a sense of security and belonging that drives employees to perform better. Job satisfaction serves as a partial mediator in these relationships, meaning that the effects of motivation and work environment on performance occur both directly and indirectly through the satisfaction employees feel in their work. This indicates that motivation and environmental factors alone are not sufficient unless accompanied by a sense of fulfillment and emotional well-being. Therefore, organizations should focus not only on increasing motivation through incentives and recognition but also on improving the quality of the work environment to ensure sustained satisfaction and productivity.

For future research, several directions can be considered to deepen and expand the understanding of these relationships. Researchers are encouraged to include additional variables such as leadership style, organizational commitment, emotional intelligence, or work engagement to capture the broader psychological and managerial dynamics influencing employee performance. Longitudinal research designs would be valuable to observe how motivation, satisfaction, and performance develop over time and to identify long-term effects that cross-sectional methods cannot capture. Future studies could also compare different industries or organizational sectors to identify contextual differences in the impact of motivation and environmental factors on performance. In addition, with the growing implementation of hybrid and remote work models, further studies should investigate how digital work environments, work-life balance, and technology use influence employee satisfaction and performance. Such research would provide more comprehensive insights for developing adaptive human resource strategies that align with the evolving demands of modern work settings.

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