The Influence of Work Environment on Employee Performance with Motivation as a Mediating Variable at Bank Tabungan Negara, Bandar Lampung Branch Office

.

ABSTRACT

|  |
| --- |
| **Aims:** This study aims to analyze the influence of the work environment on employee performance, with motivation as a mediating variable, at Bank Tabungan Negara (BTN) Bandar Lampung Branch Office. Specifically, it examines the direct effects of the work environment on employee performance and motivation, the impact of motivation on employee performance, and the mediating role of motivation in the relationship between the work environment and employee performance.  **Study Design:** This is a quantitative explanatory study using a structural equation modeling approach.  **Place and Duration of Study:** This study was conducted at Bank Tabungan Negara (BTN), Bandar Lampung Branch Office, during the period of January to March 2025.  **Methodology:** The population in this study consisted of all 160 employees of the BTN Bandar Lampung Branch Office. Data were collected using a structured questionnaire distributed via Google Forms. The collected data were then analyzed using SmartPLS version 3.2.9 to evaluate the relationships between variables through Partial Least Squares Structural Equation Modeling (PLS-SEM).  **Results:** The analysis showed that the work environment had a positive and significant effect on both employee performance and motivation. Motivation also had a positive and significant effect on employee performance. However, motivation did not significantly mediate the relationship between the work environment and employee performance. This implies that the work environment directly enhances employee performance, independent of motivational factors.  **Conclusion:** A supportive and well-structured work environment is a key driver of employee performance at Bank BTN Bandar Lampung. While motivation positively influences performance, it does not serve as a significant mediating factor in this context. These findings suggest that efforts to improve the physical and psychological aspects of the work environment can yield direct performance improvements. |

*Keywords: Work environment, Employee performance, Motivation.*

1. INTRODUCTION

Banks are financial institutions that collect public funds in the form of savings and redistribute them in the form of credit or other financial services to improve public welfare, as regulated in Law No. 7 of 1992 concerning banking, as amended by Law No. 10 of 1998. In Indonesia, the banking industry is facing intense competition both from local and international institutions. In this environment, the role of human resources (HR) is crucial, especially in enhancing service quality, innovation, and risk management. Bank Tabungan Negara (BTN) Bandar Lampung Branch, which plays a strategic role in housing finance, must optimize the competence and motivation of its employees to maintain competitive advantage and performance excellence.

Despite positive performance indicators such as an increase in PPOP and FBI, Bank BTN KC Bandar Lampung faces operational efficiency challenges, including a higher-than-target cost of funds and underutilized physical infrastructure. Observations reveal a work environment that may hinder productivity—such as limited workspace, broken equipment, and suboptimal room conditions—which could impact employee performance. Meanwhile, inconsistent punctuality data and issues like declining discipline and focus suggest motivational challenges among employees. This raises the question of how the work environment and motivation interact to influence performance.

To address these challenges, this study proposes examining the influence of the work environment on employee performance, with motivation as a mediating variable. By analyzing both physical and non-physical aspects of the workplace and their correlation with motivation and performance, the study aims to determine whether motivation serves as a pathway through which a conducive work environment improves employee outcomes.

Prior studies show mixed results. Samuel (2015) found that the work environment significantly affects performance, while Logahan (2012) reported no such effect. Jaweera (2015) highlighted the importance of motivation, whereas Widyawati et al. (2018) did not find motivation impactful. Meanwhile, Amelia et al. (2023), Putri et al. (2023), and Handaya et al. (2024) found that motivation mediates the effect of work environment on performance. These inconsistencies suggest a need for further investigation, especially in specific contexts such as the banking sector.

This study focuses on employees of Bank BTN Bandar Lampung Branch, where performance indicators and workplace conditions present an opportunity for targeted analysis. The study adds to the literature by positioning motivation as a mediating variable and using recent data specific to the banking sector. Unlike previous studies, this research contextualizes findings within an institutional setting that is highly regulated and performance-driven, making the outcomes more relevant for managerial strategies in banking. Therefore, the author is interested in conducting research under the title: “The Influence of Work Environment on Employee Performance with Motivation as a Mediating Variable at Bank BTN Bandar Lampung Branch.”

2. methodology

**2.1 Research Approach**

This study adopts a quantitative descriptive approach, where data obtained from the entire population is analyzed using statistical methods and interpreted accordingly. The data source is derived from questionnaire responses. The questionnaires were structured based on indicators of each research variable, and respondents were asked to answer based on actual conditions. Quantitative methods are rooted in positivist philosophy and are designed to test hypotheses using a structured instrument and statistical analysis (Sugiyono, 2011). The aim is to examine how work environment and motivation affect employee performance.

**2.2 Types and Sources of Data**

Primary data were collected directly from respondents through structured questionnaires and interviews. The questionnaire included Likert-scale items, while interviews were used to gain deeper insights. Secondary data were obtained from internal documents provided by the organization, including employee data, institutional structure, and official performance reports from BTN Bandar Lampung Branch.

**2.3 Data Collection Methods**

Data for this study were collected using a combination of methods to ensure both depth and breadth of understanding. First, structured questionnaires were employed to gather quantitative data regarding respondents' perceptions of each research variable, as outlined by Sugiyono (2011). To complement this, interviews were conducted to obtain qualitative insights that could enrich the interpretation of questionnaire results (Priadana & Muis, 2009). Additionally, direct observation was carried out at BTN Bandar Lampung to assess both physical and psychological aspects of the work environment in real-time settings. Finally, a document review was performed, analyzing internal company reports, statistical data, and relevant archives to provide contextual background and support data triangulation (Satori & Komariah, 2009). This multi-method approach helped ensure the robustness and validity of the data collected for the study.

**2.4 Operational Definitions and Variable Measurement**

**Table 1. Operational Definitions and Variable Measurement**

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Definition | Indicators | Scale |
| Work Environment (X) | All physical and non-physical aspects that interact with employees (Hafeez et al., 2019) | Physical: Cleanliness, lighting, noise, room layout; Non-physical: supervisor support, coworker relations (Awan & Tahir, 2015) | Likert |
| Motivation (M) | The effort to align employee potential with organizational goals (Musinguzi et al., 2017) | General motivation, burnout, job satisfaction, intrinsic motivation, organizational commitment, awareness, punctuality | Likert |
| Employee Performance (Y) | Work output aligned with organizational goals (Koopmans et al., 2014) | Task performance, contextual performance, counterproductive behavior | Likert |

**2.5 Population and Sampel**

The population in this study includes all 160 employees of BTN Bandar Lampung Branch. Since the number is manageable, no sampling technique was used—a census approach was applied.

**Table 2. Number of Employees at BTN KC Bandar Lampung**

|  |  |  |
| --- | --- | --- |
| **No.** | **Position** | **Number** |
| 1 | Branch Manager | 1 |
| 2 | Deputy Branch Manager | 2 |
| 3 | Unit Head | 7 |
| 4 | Sub Branch Head | 5 |
| 5 | Deputy Sub Branch Head | 3 |
| 6 | Supervisor | 2 |
| 7 | Staff | 140 |
| **Total** | | **160** |

**2.6 Data Analysis**

The data in this study were collected via Google Forms and analyzed using SmartPLS version 3.2.9 through the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. PLS-SEM was selected due to the non-normal distribution of the dataset. This method enables the estimation of relationships between latent variables through their respective observed indicators, as suggested by Hair et al. (2019). Figure 1 illustrates the analytical workflow comparison between CB-SEM and PLS-SEM to justify the method selection.

To determine how well the model fits the data, a Goodness of Fit (GoF) assessment was conducted. According to Hair et al. (2019), model fit in PLS-SEM can be evaluated using several indicators such as the Standardized Root Mean Square Residual (SRMR), which should be below 0.08; d\_ULS greater than 2.000; d\_G greater than 0.900; and the Normed Fit Index (NFI), which should exceed 0.90. These indicators provide an understanding of whether the proposed measurement and structural models adequately represent the relationships among variables.

Model evaluation in PLS-SEM consists of two main stages: the outer model evaluation and the inner model evaluation. The outer model evaluation measures how well the observed indicators represent the latent constructs. According to Pineda et al. (2022), this includes testing convergent validity using the Average Variance Extracted (AVE), which must be ≥ 0.5, and outer loadings, which must be ≥ 0.7. Discriminant validity is assessed through cross-loadings (≥ 0.7) and the Fornell-Larcker criterion, where each indicator's loading should be higher for its own construct than for others. Reliability is tested using Cronbach’s Alpha, Composite Reliability, and Rho\_A, with all values required to be ≥ 0.7 to ensure internal consistency.

The inner model evaluation assesses the strength of the relationships among latent variables in the structural model. This includes calculating the coefficient of determination (R²), which ranges from 0 to 1; predictive relevance (Q²), which indicates model accuracy and is considered weak at 0.02, moderate at 0.15, and strong at 0.35; and effect size (f²), classified as small (0.02), medium (0.15), or large (0.35). Furthermore, the path coefficient analysis is used to test hypotheses. A hypothesis is accepted (Hₐ) if the t-statistic exceeds 1.96 (with p-value < 0.05) and is rejected (H₀) if the t-statistic is less than 1.96. The path analysis is conducted through bootstrapping procedures provided in SmartPLS.

3. results and discussion

**3.1 Results**

This study utilized both descriptive analysis and Structural Equation Modeling using Partial Least Squares (PLS-SEM). The evaluation followed two phases: measurement model (outer model) assessment and structural model (inner model) validation.

**Measurement Model**

To examine the validity and reliability of constructs, convergent and discriminant validity tests were conducted. Convergent validity was assessed through indicator loadings and Average Variance Extracted (AVE). The results showed that all indicators for Work Environment and Employee Performance exceeded the threshold value of 0.70, confirming adequate convergent validity. In the Motivation construct, several items (e.g., Z2, Z3, Z4, Z5, Z6, Z7, Z8, Z28) had loadings below 0.70 and were thus excluded from further analysis.

**Table 3. Average Variance Extracted (AVE)**

|  |  |  |
| --- | --- | --- |
| **Construct** | **AVE** | **Description** |
| Work Environment | 0.703 | Valid |
| Motivation | 0.579 | Valid |
| Employee Performance | 0.732 | Valid |

Following item elimination, the AVE values for all three constructs—Work Environment (0.703), Motivation (0.579), and Employee Performance (0.732)—exceeded the minimum threshold of 0.50, indicating good convergent validity.

**Table 4. Composite Reliability and Cronbach’s Alpha**

|  |  |  |  |
| --- | --- | --- | --- |
| **Construct** | **Cronbach’s Alpha** | **Composite Reliability** | **Description** |
| Work Environment | 0.953 | 0.959 | Reliable |
| Motivation | 0.971 | 0.974 | Reliable |
| Employee Performance | 0.979 | 0.981 | Reliable |

For discriminant validity, the cross-loading analysis confirmed that each indicator loaded highest on its respective construct compared to others, satisfying the Fornell-Larcker criterion. Additionally, the reliability of all constructs was established, with Cronbach’s Alpha and Composite Reliability values exceeding 0.90, indicating excellent internal consistency (Work Environment α = 0.953, CR = 0.959; Motivation α = 0.971, CR = 0.974; Performance α = 0.979, CR = 0.981).

**Assessment and Structural Model**

After confirming the validity and reliability of the measurement model, the inner model was evaluated using R², Q², f², and path coefficients.

**Table 5. R-Square Values**

|  |  |  |  |
| --- | --- | --- | --- |
| **Endogenous Variable** | **R²** | **Adjusted R²** | **Interpretation** |
| Employee Performance | 0.984 | 0.983 | Strong |
| Motivation | 0.955 | 0.955 | Strong |

The coefficient of determination (R²) for Employee Performance was 0.984, while for Motivation it was 0.955. These values indicate that the model explains 98.4% and 95.5% of the variance in the respective dependent variables, representing strong predictive accuracy (Hair et al., 2019).

**Table 6. Predictive Relevance (Q²)**

|  |  |  |
| --- | --- | --- |
| **Construct** | **Q²** | **Description** |
| Employee Performance | 0.999 | High predictive relevance |

The predictive relevance (Q²) was calculated using the blindfolding procedure, yielding a Q² value of 0.999. This result confirms high predictive relevance of the model for both dependent constructs.

**Table 7. Effect Size (f²)**

|  |  |  |
| --- | --- | --- |
| **Relationship** | **f²** | **Interpretation** |
| Work Environment → Performance | 1.001 | Large effect |
| Work Environment → Motivation | 21.414 | Large effect |
| Motivation → Performance | 0.414 | Medium–Large |

The effect size (f²) was also evaluated, showing large effects from Work Environment on both Motivation (f² = 21.414) and Performance (f² = 1.001), and a moderate-to-large effect of Motivation on Performance (f² = 0.414). According to Cohen’s guidelines (1988), these values indicate practically significant relationships.

**Table 8. Path Coefficients and Hypothesis Testing**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Hypothesis** | **Path** | **Coefficient (β)** | **T-Statistic** | **P-Value** | **Result** |
| H1 | Work Environment → Performance | 0.521 | 5.090 | 0.000 | Supported |
| H2 | Work Environment → Motivation | 0.972 | 188.929 | 0.000 | Supported |
| H3 | Motivation → Performance | 0.472 | 4.756 | 0.000 | Supported |
| H4 | Indirect (Mediation) | -0.006 | 0.500 | 0.617 | Not Supported |

The path coefficient analysis via bootstrapping revealed that all direct relationships were positive and statistically significant. Work Environment had a significant positive effect on Employee Performance (β = 0.521, t = 5.090, p < 0.001) and Motivation (β = 0.972, t = 188.929, p < 0.001). Likewise, Motivation significantly influenced Performance (β = 0.472, t = 4.756, p < 0.001). However, the indirect effect of Work Environment on Performance through Motivation was found to be not significant (β = -0.006, t = 0.500, p = 0.617), indicating no mediating role of Motivation. Overall, the structural model confirms strong direct effects, but the mediating effect of motivation was unsupported. The model exhibited strong explanatory and predictive capabilities, justifying its theoretical and empirical relevance in the banking sector context.

4. Conclusion

[The study found that the work environment has a positive and significant effect on employee performance, as well as on employee motivation. Motivation also shows a significant positive effect on employee performance. However, motivation does not act as a mediating variable between work environment and employee performance. These findings indicate that a supportive and well-structured work environment can directly enhance employee performance at Bank BTN Bandar Lampung Branch, without necessarily relying on motivational factors as an intermediary. The model used in this study demonstrated strong explanatory power with an R² of 0.984 for employee performance and 0.955 for motivation, and predictive relevance with a Q² value of 0.999.

Consent

All participants provided informed consent prior to participation in this research. Confidentiality and anonymity were strictly maintained throughout the study.

Ethical approval (where ever applicable)

All authors hereby declare that this study has been approved by the appropriate institutional ethics committee. All procedures involving human participants were conducted in accordance with the ethical standards of the institution and the 1964 Helsinki Declaration and its later amendments.

Definitions, Acronyms, Abbreviations

1. **SEM**: Structural Equation Modeling — A multivariate statistical analysis technique used to analyze structural relationships.
2. **PLS-SEM**: Partial Least Squares - Structural Equation Modeling — A variance-based SEM approach suitable for predictive modeling and theory development.
3. **SRMR**: Standardized Root Mean Square Residual — A measure used to assess the model fit in SEM.
4. **AVE**: Average Variance Extracted — A measure of the amount of variance captured by a construct versus the variance due to measurement error.
5. **CR**: Composite Reliability — A measure of internal consistency of the constructs.
6. **R²**: Coefficient of Determination — Indicates the proportion of the variance in the dependent variable that is predictable from the independent variables.
7. **Q²**: Predictive Relevance — Used in PLS-SEM to assess the predictive accuracy of the model.
8. **f²**: Effect Size — Represents the magnitude of influence an exogenous variable has on an endogenous variable in the model.
9. **Path Coefficient**: The estimated relationships between variables in a structural model.

**COMPETING INTERESTS DISCLAIMER:**

Authors have declared that they have no known competing financial interests OR non-financial interests OR personal relationships that could have appeared to influence the work reported in this paper.

References

Amelia, R., Syafitri, W., & Handayani, I. (2023). The Influence of Motivation and Work Environment on Employee Performance. Journal of Economics and Management, 12(2), 85–98.

Awan, A. G., & Tahir, M. T. (2015). Impact of working environment on employee’s productivity: A case study of Banks and Insurance Companies in Pakistan. European Journal of Business and Management, 7(1), 329–345.

Dhermawan, A. A. N. B. (2012). The Influence of Motivation, Work Environment, Competence, and Compensation on Employee Performance. Journal of Management and Entrepreneurship, 14(2), 112–121.

Friis, R. H., & Sellers, T. A. (2004). Epidemiology for public health practice (3rd ed.). Sudbury: Jones and Bartlett Publishers.

Ghozali, I. (2018). Multivariate Analysis Application with the IBM SPSS 25 Program. Semarang: Diponegoro University Publishing Agency.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2019). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (2nd ed.). Thousand Oaks: Sages.

Hafeez, U., Javed, M., & Hassan, M. (2019). Impact of workplace environment on employee performance: Mediating role of employee health. International Journal of Management Studies, 26(1), 45–59. https://doi.org/10.32890/ijms.26.1.2019.10422

Handaya, Y., Taufik, A., & Ramli, D. (2024). Mediating Role of Work Motivation in the Relationship Between Work Environment and Employee Performance. International Journal of Business and Applied Social Science, 10(1), 75–87. https://doi.org/10.1007/s00170-024-09876

Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., van Buuren, S., van der Beek, A. J., & de Vet, H. C. W. (2014). Improving the individual work performance questionnaire using Rasch analysis. Journal of Applied Measurement, 15(2), 160–175.

Logahan, A. (2012). Analysis of the Influence of Work Environment and Leadership on Employee Performance. Journal of Business Administration, 3(2), 67–74.

Malhotra, N. K. (2020). Marketing Research: An Applied Orientation (7th ed.). Pearson Education.

Mehmetoglu, M., & Venturini, A. (2021). Structural Equation Modeling with Partial Least Squares Using Stata and R. CRC Press.

Musinguzi, C., Namale, L., & Sewankambo, N. (2017). The relationship between leadership style and health worker motivation, job satisfaction and teamwork in Uganda. BMC Health Services Research, 17, 1–11. https://doi.org/10.1186/s12913-017-2642-4

Pineda, R., Sandoval, C., & Sanchez, J. (2022). Evaluating Measurement Model in PLS-SEM: Convergent and Discriminant Validity Assessment. International Journal of Quantitative Research, 8(3), 55–70.

Prakoso, A., Suryadi, B., & Rahmawati, D. (2014). The Influence of Work Environment and Motivation on Employee Performance. Journal of Applied Management and Accounting Science, 5(1), 21–29.

Putri, A. S., Fitriani, E., & Pramono, H. (2019). Work Environment and Its Impact on Employee Performance. Journal of Industrial and Organizational Psychology, 10(2), 95–104.

Putri, R. M., Zahra, F., & Mustofa, H. (2023). Mediating effect of motivation in the relationship between work environment and employee performance. Journal of Management and Business Research, 18(3), 34–41.

Rahmawanti, N., Mulyani, S., & Nurhalimah, R. (2014). The Influence of Work Environment on Employee Performance. Journal of Economics and Business, 9(1), 52–64.

Rosidah. (2017). The Influence of Leadership and Work Environment on Employee Performance. Journal of Islamic Economics and Business, 2(2), 33–42.

Samuel, E. (2015). The Effect of Working Environment on Employees' Performance: The Case of Selected Branches of Commercial Bank in Addis Ababa. International Journal of Business and Management Review, 3(5), 67–82.

Sugiyono. (2011). Quantitative, Qualitative and R&D Research Methods. Bandung: Alfabeta.

Sugiyono. (2019). Statistics for Research. Bandung: Alfabeta.

Satori, D., & Komariah, A. (2009). Qualitative Research Methodology. Bandung: Alfabeta.

Priadana, S., & Muis, M. (2009). Interview Techniques in Qualitative Research. Yogyakarta: Pustaka Pelajar.

Widyawati, E., Sulaiman, R., & Heryanto, D. (2018). Motivation and Performance: A Study of Civil Servants. Scientific Journal of Economics and Business, 15(1), 101–115.

APPENDIX

**Work Environment (X)**

(Adapted from Workplace Environment Scale – WES-10, Friis, 1981)

Respondents were asked to indicate their level of agreement with the following statements using a 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree):

1. The organization gives me opportunities to explore my true capabilities.
2. The organization helps me become more confident in my work.
3. I do not feel tense while working at this company.
4. I do not feel anxious when going to work.
5. I receive support and encouragement from coworkers in facing job challenges.
6. I make use of my knowledge and experience in my work.
7. I do not experience conflicts among colleagues.
8. It is easy to align loyalty to my team with loyalty to my own profession.
9. I believe my workload aligns with my job description.
10. I often feel like I should be in several places at the same time.

**Employee Performance (Y)**

(Adapted from Chien et al., 2020)

Responses were based on a 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree):

1. The quality of my work results is high.
2. My work outputs are accurate.
3. I provide good customer service.
4. I achieve my personal career goals.
5. I develop skills necessary for future career opportunities.
6. I actively pursue career growth.
7. I seek out career advancement opportunities.
8. I generate new ideas.
9. I work to realize those new ideas.
10. I find better ways to perform tasks.
11. I create improved processes and procedures.
12. I work well as part of a team.
13. I gather information from others in my workgroup.
14. I help ensure the success of my workgroup.
15. I respond to the needs of coworkers.
16. I do things that help others even if not in my job description.
17. I work for the benefit of the entire organization.
18. I do things to promote the organization.
19. I help make the organization a better place to work.

**Motivation (Z)**

(Adapted from Chien et al., 2020)

Responses were based on a 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree):

1. The best aspect of any job is the financial rewards and benefits.
2. I work primarily for the financial rewards.
3. I work mostly just for money.
4. If I had to choose between jobs, I’d pick the one that pays the most.
5. I would gladly leave any job for one with higher pay.
6. People should always seek better-paying jobs.
7. It’s important to me that others recognize my contribution when I do well.
8. I work harder when I know my work is being evaluated.
9. Peer approval matters to me.
10. I give my best effort when influential people notice my work.
11. I work harder on a project if there is public recognition.
12. I often decide based on what others think.
13. If something is not enjoyable, it’s not worth doing.
14. Enjoyment is a top reason to do a job.
15. If choosing between jobs, I’d choose the more enjoyable one.
16. I only work on tasks I find enjoyable.
17. It's important that my job provides enjoyment.
18. Enjoying my job is more important than anything else.
19. It's important that I work in a job that lets me use my skills and talents.
20. I enjoy challenging work that gives me a sense of personal achievement.
21. I hold myself to high standards in decision-making.
22. It's important to me that my job helps me fulfill my potential.
23. I derive great satisfaction from doing my job well.
24. I strive to make decisions consistent with my values and ethics.
25. It is important that the organization's goals align with my personal goals.
26. I would struggle to work at a company misaligned with my beliefs.
27. An organization’s mission must align with my values for me to work hard.
28. I seek out organizations that support my personal values and beliefs.