

TRAINING AND PHYSICAL WORK ENVIRONMENT AS DETERMINANTS OF HEALTHCARE WORKER PERFORMANCE

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ABSTRACT: This study examines the effects of training and the physical work environment on healthcare worker performance in a hospital context. It advances human resource and performance theory by clarifying the differential explanatory power of capability development and environmental conditions, while introducing gender-based heterogeneity into the performance model. Using a quantitative causal design, data from 153 healthcare workers were analyzed through SEM-PLS. Overall performance was rated high, as were training and physical work environment conditions. Structural results indicate that both variables contribute to performance, yet gender-based analysis reveals that training does not significantly predict performance across groups, whereas the physical work environment exerts a substantially stronger effect on male employees than on female employees. These findings underscore the strategic importance of designing evidence-based, gender-sensitive HR policies to optimize healthcare workforce performance.

Keywords: Training, Physical Work Environment, Healthcare Worker Performance, PLS-SEM, Human Resource Management

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INTRODUCTION

Organizations operate under conditions of rapid digital transformation and intensifying global competition, compelling firms to reconfigure workforce capabilities to sustain performance (Firdaus & Kuswinarno, 2023). Human resource management (HRM) therefore functions as a strategic architecture for aligning individual competencies with organizational objectives and securing competitive advantage (Septiana et al., 2023; Aldyanto et al., 2024). Human resources represent the knowledge, skills, and abilities that generate organizational value (Bangun, 2012; Bhatia & Kumar, 2023), and effective HRM practices are closely associated with productivity enhancement and employee retention (Adelia et al., 2024; Nguyen & Duong, 2021). Employee performance, conceptualized through responsibility, timeliness, and task achievement (Assiddiki, 2023; Supardi et al., 2021), remains a core indicator of organizational effectiveness and managerial accountability (Rohman et al., 2021; Pusparani, 2021).

These dynamics are particularly salient in healthcare institutions, where service quality depends on the integration of professional expertise and operational reliability (Hermawan & Sary, 2025). Even within structured evaluation systems, performance outcomes often fluctuate, suggesting that formal appraisal mechanisms alone are insufficient to ensure sustained excellence. Emerging evidence indicates that training and the physical work environment are frequently perceived as dominant drivers of performance relative to other factors. Training strengthens job-relevant competencies and supports learning and confidence formation (Ramadhany et al., 2020; Zaky, 2022; Azan et al., 2021; Almarashdah, 2024), while a supportive physical environment enhances comfort, efficiency, and task execution (Putri et al., 2019; Sabita & Nuraini, 2020; Sitepu et al., 2020).

However, prior empirical findings remain inconclusive, with some studies reporting significant positive effects of training and work environment on performance (Mandasari & Andjarwati, 2020; Moyau et al., 2021; Prasetya et al., 2021; Hartomo & Luturlean, 2020), and others identifying non-significant relationships (Suparman, 2020; Warongan et al., 2022; Andayani & Hirawati, 2021; Alfarisi, 2022). This study advances the literature by integrating training and physical work environment within a unified structural model in a high-demand healthcare context, thereby clarifying their relative explanatory power and addressing persistent inconsistencies in prior findings. By situating these variables within a service-intensive institutional setting, this research offers a theoretically grounded and empirically rigorous contribution to the HRM–performance nexus.

THEORETICAL REVIEW

Organizational productivity is sustained through the deliberate cultivation of competencies and supportive work systems. Training constitutes a central HRM instrument in this regard, as organizations must continuously recalibrate employee skills to match evolving job demands (Robbins & Coulter, 2021). Conceptually, training involves systematic efforts to enhance knowledge and skills that are directly transferable to task execution (Hamali, 2023; Mathis et al., 2016). Beyond immediate skill acquisition, training also shapes work behaviors and professional orientation, equipping employees with capabilities required for sustained effectiveness (Kasmir, 2016). By strengthening job-relevant competencies and behavioral alignment, training is theoretically positioned as a proximal determinant of individual performance.

Complementing capability development, the work environment constitutes a structural condition shaping employees' capacity to perform. The physical work environment encompasses tangible workplace conditions that influence employees' task execution (Sedarmayanti, 2011). It affects not only individual comfort but also broader organizational processes and functionality (Karim, 2023). Classical perspectives describe the work environment as encompassing all external factors surrounding workers that may facilitate or hinder task completion (Nitisemito, 2015). Widyaningrum (2019) differentiates physical from non-physical aspects, identifying the physical dimension as including workspace layout, facilities, cleanliness, lighting, temperature, and noise. These environmental attributes, whether directly or indirectly experienced, shape employees' concentration, well-being, and efficiency, thereby establishing a structural pathway to performance outcomes.

Performance itself represents the realized contribution of employees toward organizational objectives. It has been conceptualized as measurable output, attendance, and work attitudes (Adamy, 2016), as well as observable results and behavioral execution in completing assigned tasks (Kasmir, 2016). Wibowo (2022) extends this view by emphasizing the processes and methods underlying task accomplishment. Empirically, performance is often assessed through multidimensional indicators, including work quality, timeliness, initiative, ability, and communication (Sarwana & Wahyuningtyas, 2023). Within this framework, training enhances internal capability, whereas the physical work environment conditions external task execution. Both mechanisms theoretically converge in shaping employee performance. Drawing on this integrated perspective, the following hypotheses are advanced as also presented in Figure 1.

H1: Training has a positive and significant effect on employee performance.

H2: The physical work environment has a positive and significant effect on employee performance.

H3: There is no difference in the effect of training on employee performance between male and female employees.

H4: There is no difference in the effect of the physical work environment on employee performance between male and female employees.

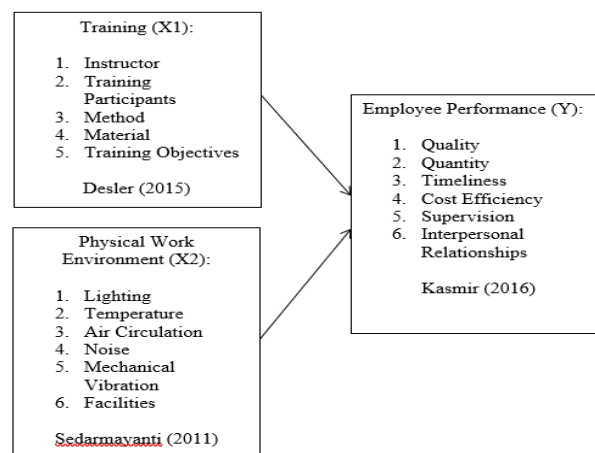


Figure 1. Conceptual Framework

RESEARCH METHOD

This study adopts a quantitative, explanatory design grounded in a reflective measurement framework. The conceptual model specifies training (X1) and physical work environment (X2) as exogenous latent constructs predicting employee performance (Y). The operationalization of each construct strictly follows established theoretical sources to ensure construct validity and reproducibility. Training (X1) is measured using five dimensions derived from Desler (2015): instructor quality, participant engagement, training methods, training materials, and clarity of training objectives. The physical work environment (X2) is operationalized based on Sedarmayanti (2011), encompassing lighting, temperature, air circulation, noise, mechanical vibration, and adequacy of facilities. Employee performance (Y) is measured according to Kasmir (2016), covering quality, quantity, timeliness, cost efficiency, supervisory compliance, and interpersonal relationships. All indicators are specified as reflective measures.

The population consisted of healthcare professionals from a local hospital, Edelweis Hospital, who had participated in institutional training programs. Using purposive sampling, 153 respondents met the inclusion criteria: clinical or psychological service role, participation in at least one formal training program, and minimum one-year tenure. Data were collected through a structured questionnaire using a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). Prior to hypothesis testing, the measurement model was evaluated for reliability and validity. Indicator reliability was assessed through outer loadings (>0.70 threshold), internal consistency through Cronbach's alpha and composite reliability (>0.70), and convergent validity through

average variance extracted (AVE >0.50). Discriminant validity was examined using the HTMT criterion (<0.90).

Structural relationships were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with bootstrapping of 5,000 resamples to estimate path coefficients and confidence intervals. Model evaluation included assessment of collinearity (VIF <5), coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2 via blindfolding). Multi-group analysis was conducted to test gender-based differences in structural paths. This procedure ensures full transparency and reproducibility of both measurement and structural estimations.

RESULTS

Result of Structural Model Testing (Outer Model)

In this study, both the Measurement Model and Outer Model are used to test the measurement model. The goal is to determine how well the indicators or items can explain the latent variables. This testing involves two stages: validity testing and reliability testing, where three indicators are used for the assessment: convergent validity, discriminant validity, and reliability (Indrawati, 2015). The independent variables in this study are Training (X1) and Physical Work Environment (X2), while the dependent variable is Healthcare Worker Performance (Y). The software AnaliSEM is used for the testing. The evaluation of the reflective measurement model (outer model) is used to assess whether the indicators for each variable correlate well with each other. In SEM-PLS, this testing is performed through several stages of analysis as in Table 1.

Table 1. Measurement Model Assessment

Construct	Indicator	Loading	AVE	Alpha	CR
KTK (Employee Performance)	KTK1	0.803	0.5793	0.9191	0.9322
	KTK2	0.7135			
	KTK3	0.7278			
	KTK4	0.7355			
	KTK5	0.7666			
	KTK6	0.7464			
	KTK7	0.8259			
	KTK8	0.7683			
	KTK9	0.7719			
	KTK10	0.7452			
LKF (Physical Work Environment)	LKF1	0.7656	0.5625	0.914	0.9276
	LKF2	0.7459			
	LKF3	0.7162			
	LKF4	0.706			
	LKF5	0.7114			
	LKF6	0.7163			
	LKF7	0.7095			
	LKF8	0.8152			
	LKF9	0.836			
	LKF10	0.7646			
PLT (Training)	PLT1	0.7598	0.5973	0.9252	0.9367
	PLT2	0.7599			
	PLT3	0.7052			
	PLT4	0.7526			
	PLT5	0.8231			
	PLT6	0.7687			
	PLT7	0.7908			
	PLT8	0.7974			
	PLT9	0.7499			
	PLT10	0.8137			

Source: AnaliSEM output (2025)

Convergent validity in SEM-PLS is measured through loading factors, which indicate the strength of the relationship between the indicators and the variables. An indicator is considered valid if the loading is greater than 0.70, although a value between 0.5 and 0.6 is still acceptable for initial research (Ghozali, 2018). The results of the loading factors are shown in Table 1. Based on the findings, it shows that there are no issues with the convergent validity or the loading factor of the research indicators according to the output in the table above. Furthermore, the loading factors of all indicators in this study are greater than 0.7 (in accordance with the criteria), indicating that the indicators in this study are effective and have sufficient convergent validity.

The Discriminant validity is assessed using the Fornell-Larcker criterion and Heterotrait Monotrait test, which compares the square root of the AVE with the correlations between constructs. If the square root of the AVE is higher than the correlation with other constructs, then discriminant validity is considered fulfilled. Alternatively, cross-loading analysis compares the correlation of an indicator with its related construct and other constructs. An indicator should have the highest correlation with the construct it is measuring. The complete results are presented in Table 2.

Table 2. Discriminant Validity Assessment (Fornell–Larcker and HTMT)

Construct	LKF	PLT	KTk
Fornell–Larcker Criterion			
LKF	0.75		
PLT	0.4446	0.7728	
KTk	0.5098	0.5324	0.7611
HTMT Ratio			
LKF	—		
PLT	0.4727	—	
KTk	0.532	0.5579	—

Source: The AnaliSEM output (2025)

Note. Diagonal elements (bold) in the Fornell–Larcker section represent the square root of AVE. Discriminant validity is supported when these values exceed inter-construct correlations. All constructs satisfy this criterion. HTMT values are below the conservative threshold of 0.85, confirming adequate discriminant validity.

Discriminant validity was first assessed using the Fornell–Larcker criterion. The square roots of AVE for each construct exceeded their respective inter-construct correlations, indicating that each latent variable captures a distinct conceptual domain and is empirically separable from the others. This result confirms that the constructs are not only statistically distinguishable but also theoretically coherent within the proposed model. The HTMT is also accepted as evident from all scores under 0.9 criterion.

Convergent validity and internal consistency reliability were subsequently evaluated. All constructs demonstrated AVE values above the recommended threshold of 0.50, confirming that the indicators adequately represent their underlying latent variables. Composite reliability and Cronbach’s alpha coefficients surpassed the accepted benchmark of 0.70, indicating satisfactory internal consistency. Collectively, these findings demonstrate that the measurement model satisfies established PLS-SEM criteria for validity and reliability, thereby supporting progression to structural model evaluation.

The coefficient of determination (R^2) is used to assess the explanatory power of the structural model by indicating the proportion of variance in the endogenous construct accounted for by its predictors. As general benchmarks, values around 0.67 are considered substantial, approximately 0.33 moderate, and near 0.19 weak. The detailed R^2 results for the model are presented in Table 3.

Table 3. Structural Model Assessment (Coefficient of Determination and Effect Size)

Dependent Variable	R^2	Adjusted R^2	Model Strength
KTk	0.3765	0.364	Moderate
Predictor → KTk	f^2	Effect Size Interpretation	
LKF → KTk	0.1439	Small to Medium	
PLT → KTk	0.1792	Medium	

Source: The AnaliSEM Output (2025)

Note. R^2 indicates the proportion of variance in employee performance (KTK) explained by training (PLT) and physical work environment (LKF). According to common PLS-SEM benchmarks (0.25 = weak, 0.50 = moderate, 0.75 = substantial), the model demonstrates moderate explanatory power. Effect size (f^2) values are interpreted using Cohen's criteria (0.02 = small, 0.15 = medium, 0.35 = large). Training shows a medium effect, while physical work environment demonstrates a small-to-medium effect on performance.

The model in Table 3 explains a meaningful proportion of variance in healthcare worker performance, indicating moderate explanatory power according to established R^2 benchmarks. Effect size analysis further clarifies the relative contribution of each predictor. Training demonstrates a moderate effect on performance, indicating that capability development meaningfully strengthens individual outcomes. In contrast, the physical work environment exhibits a small-to-moderate effect, suggesting that while contextual conditions remain influential, their impact is comparatively weaker than structured training interventions.

Due to its absence in the AnalISEM output, the Goodness-of-Fit (GoF) test must be executed manually in SEM-PLS. A small (0.10), medium (0.25), or large (0.38) score is assigned to GoF depending on the average AVE and R^2 . The average AVE for the three variables (Training, Physical Work Environment, Healthcare Worker Performance) is 0.5797, calculated as $(0.5625 + 0.5973 + 0.5793) / 3$, according to the data obtained from AnalISEM. The individual variables' average AVE values are 0.5625 for PWE, 0.5973 for T, and 0.5793 for HWP. Healthcare Worker Performance (HWP) has a R^2 value of 0.3765. Therefore, the GoF calculation is:

$$\begin{aligned} GoF &= \sqrt{\text{Average AVE} \times R^2} \quad \dots\dots (1) \\ GoF &= \sqrt{0,5797 \times 0,3765} \\ GoF &= \sqrt{0,2180} \\ GoF &= 0,4669 \end{aligned}$$

The Goodness-of-Fit (GoF) value obtained is 0.4669, indicating a high level of overall model fit. According to commonly accepted benchmarks, a GoF value exceeding 0.38 reflects strong global model adequacy, suggesting that the proposed model demonstrates substantial explanatory and predictive capability within the PLS-SEM framework. Model robustness is further supported by the evaluation of R^2 and f^2 statistics, which confirm both the explanatory power of the endogenous construct and the relative contribution of each predictor. Taken together, the assessment of the outer and inner models indicates that the measurement and structural specifications satisfy established criteria for validity, reliability, and model adequacy. The complete SEM-PLS estimation results are illustrated in Figure 2.

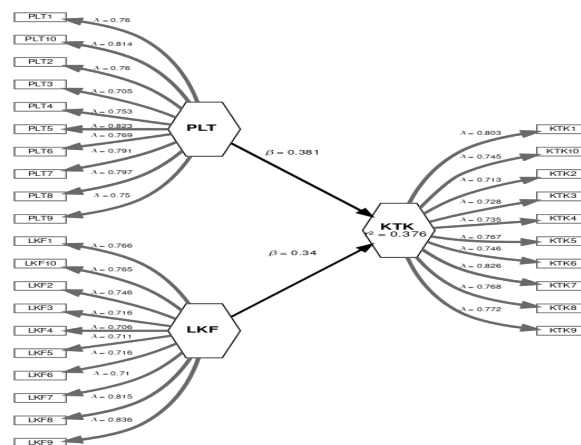


Figure 2. Outer Model and Inner Model
Source: AnalISEM (2025)

To test the proposed hypotheses, the structural relationships among constructs were examined using bootstrapping procedures within the PLS-SEM framework. Path coefficients, t-values, and confidence intervals were evaluated to determine the significance and direction of the hypothesized effects. In addition, a multi-group analysis (MGA) was conducted to assess whether

structural relationships differ across gender groups. The results of both the overall structural model and the MGA are presented in Table 4.

Table 4. Structural Path Estimates and Multi-Group Analysis

Panel	Path	β	t-value	95% CI	Result
A. Structural Model (Overall Sample)					
H1	LKF $\rightarrow$ KTK	0.34	2.432	[0.074, 0.533]	Supported
H2	PLT $\rightarrow$ KTK	0.381	2.98	[0.230, 0.644]	Supported
B. Multi-Group Analysis (MGA)					
	LKF $\rightarrow$ KTK (Group 1)	0.7	—	—	Significant (p = 0.01)
	LKF $\rightarrow$ KTK (Group 2)	0.11	—	—	
	Difference ($\Delta\beta$)	0.59	—	—	
	PLT $\rightarrow$ KTK (Group 1)	0.17	—	—	
	PLT $\rightarrow$ KTK (Group 2)	0.6	—	—	Not Significant (p = 0.98)
	Difference ($\Delta\beta$)	-0.43	—	—	

Source: The AnalISEM Output (2025)

Note. Structural coefficients estimated using bootstrapping (5,000 resamples). A path is significant when the 95% confidence interval excludes zero. MGA significance is determined using PLS-MGA; $p < 0.05$ indicates a statistically significant difference between groups.

As reported in Table 4, both training and the physical work environment exert statistically significant positive effects on employee performance in the overall sample, thereby supporting the primary hypotheses. The findings indicate that improvements in capability development and workplace conditions are associated with enhanced performance outcomes. The multi-group analysis reveals a significant difference in the effect of the physical work environment across gender groups, whereas the effect of training does not significantly differ. These results suggest that contextual workplace factors may operate differently across demographic groups, while the benefits of structured training appear more uniformly distributed.

DISCUSSION

The findings reported in Table 4 confirm that both training and the physical work environment exert significant positive effects on employee performance, reinforcing the central premise of strategic HRM that capability development and contextual support operate as complementary drivers of performance. Training enhances task-relevant knowledge, behavioral alignment, and skill mastery, which directly translate into measurable work outcomes (Mathis et al., 2016; Robbins & Coulter, 2021). Empirical evidence similarly demonstrates that structured training interventions improve engagement and performance by strengthening employees' perceived competence and role clarity (Ramadhany et al., 2020; Nguyen & Duong, 2021). The present results are consistent with prior findings showing a positive linkage between training and performance (Hartomo & Lutuilean, 2020; Prasetya et al., 2021), and extend this stream by validating the relationship within a high-demand healthcare setting characterized by professional complexity and service sensitivity.

The significant role of the physical work environment further underscores the structural dimension of performance management. Classical HRM perspectives emphasize that tangible workplace conditions shape employee concentration, comfort, and efficiency (Sedarmayanti, 2011; Nitisemito, 2015). Contemporary empirical research corroborates that supportive physical environments enhance performance either directly or through mediating attitudinal mechanisms such as discipline and satisfaction (Putri et al., 2019; Sitepu et al., 2020; Assiddiki, 2023). The present findings align with studies reporting a positive environmental effect (Mandasari & Andjarwati, 2020; Moyau et al., 2021), suggesting that performance is not solely an outcome of internal capability but also of ergonomic and infrastructural adequacy. In service-intensive institutions, where errors carry significant consequences, environmental stability becomes a critical enabler of sustained performance.

Importantly, the multi-group analysis reveals that the impact of the physical work environment differs across gender groups, whereas the influence of training remains statistically equivalent. This pattern suggests that capability-building mechanisms may operate uniformly

across demographic categories, while contextual workplace conditions may be differentially experienced. Such findings resonate with broader HRM discussions highlighting the interaction between structural conditions and employee characteristics in shaping work outcomes (Bhatia & Kumar, 2023; Adelia et al., 2024). While some prior studies report non-significant environmental or training effects (Andayani & Hirawati, 2021; Suparman, 2020; Warongan et al., 2022), the present evidence indicates that heterogeneity in structural experiences may partially explain inconsistencies in earlier findings.

Collectively, these results reinforce the integrative view that performance emerges from the interaction between developmental investments and environmental conditions. Performance is conceptualized not merely as output but as a multidimensional construct encompassing quality, timeliness, and behavioral execution (Adamy, 2016; Wibowo, 2022; Sarwana & Wahyuningtyas, 2023). By simultaneously modeling training and physical work environment within a unified structural framework, this study clarifies their relative contributions and demonstrates that HRM effectiveness in healthcare settings requires alignment between skill development initiatives and infrastructural support systems. This integrated approach advances understanding of the HRM–performance nexus beyond isolated variable testing and toward a more systemic perspective.

CONCLUSION AND FURTHER STUDY

This study demonstrates that both training and the physical work environment significantly enhance employee performance within a healthcare context. Training exerts a comparatively stronger effect, underscoring the strategic importance of structured capability development in service-intensive institutions. The physical work environment also contributes meaningfully to performance, particularly through contextual support that facilitates task execution. The multi-group analysis further reveals that environmental factors may operate differently across gender groups, whereas the benefits of training appear more uniformly distributed. Collectively, these findings reinforce the integrative HRM perspective that performance is shaped by the alignment of developmental investments and structural workplace conditions.

Several limitations warrant consideration. First, the cross-sectional design restricts causal inference and does not capture performance dynamics over time. Second, the use of self-reported measures may introduce perceptual bias despite established validity and reliability. Third, the study focuses on a single institutional setting, which may limit broader generalizability across diverse healthcare systems or industries. Future research should employ longitudinal or multi-source designs, incorporate objective performance indicators, and expand the model by integrating mediating variables such as engagement or job satisfaction. From a managerial standpoint, the findings suggest that healthcare organizations should prioritize systematic training programs while simultaneously investing in ergonomic and infrastructural improvements. Strategic HR policies must be evidence-based and sensitive to demographic differences in workplace experiences to sustain high and stable performance outcomes.

ETHICAL DISCLOSURE

All participants provided written informed consent prior to participation. They were informed about the study's purpose, their voluntary participation, the right to withdraw at any time, and the confidentiality of their responses.

CONFLICT OF INTERESTS

There is no conflict of interest in this study.

REFERENCES

- Adamy, M. (2016). *Buku Ajar Manajemen Sumber Daya Manusia Teori, Praktik Dan Penelitian*. Ljokseumawe: Unimal Press.
- Adelia, A., Daud, I., Azazi, A., Kalis, M. C. I., & Hendri, M. I. (2024). Exploring turnover intentions in Indonesian generation z: Emotional exhaustion, employee engagement, and job

- satisfaction. *Journal of Management Science (JMAS)*, 7(1), 250–256. www.exsys.iocspublisher.org/index.php/JMAS.
- Aldyanto, A. S., Wanta, W., & Romli, A. D. (2024). The Role Of Human Resources Management In Improving Employee Performance At The Pratama Asshofwan Clinic Kedungwarigin. *Management Studies and Entrepreneurship Journal*, 5(2), 5397–5406. <http://journal.yrpioku.com/index.php/msej>.
- Alfarisi, A. R. (2022). Pengaruh Pelatihan Kerja dan Lingkungan Kerja Terhadap Kinerja Karyawan PT Maan Ghodago Shiddiq Lestari Jombang. *BIMA: Journal of Business and Innovation Management*, 4(2), 307–318. <https://ejournal.unhasy.ac.id/index.php/bima/article/view/5546/2561>.
- Almarashdah, M. A. (2024). The role of organizational culture on the relationship between employee training and job performance in Jordan. *Uncertain Supply Chain Management*, 12(1), 505–512. <https://doi.org/10.5267/j.uscm.2023.9.002>.
- Andayani, T. B. N., & Hirawati, H. (2021). Pengaruh Pelatihan dan Pengembangan SDM Terhadap Kinerja Karyawan PT Pos Indonesia Cabang Magelang. *Jurnal Ilmiah Manajemen Ubhara*, 3(2), 11–22. <https://doi.org/10.31599/jmu.v3i2.982>.
- Assiddiki, A. H. (2023). Influence of Leadership and Work Environment on Job Satisfaction and Its Impact on Employee Performance. *International Journal of Business, Management and Economics*, 4(4), 293–310. <https://doi.org/10.47747/ijbme.v4i4.1454>.
- Azan, K., Zebua, A., Sukoco, J., Dacholfany, M., Murti, R., Sumantoro, I., Suaduon, J., Pohan, M., Siswanto, I., Aryadillah, Safari, M., Nurzen, S. M., & Watunglawar, B. (2021). *Manajemen sumber daya manusia: Kajian teoritis dan praktis dalam pendidikan*. Bengkalis, Riau: DOTPLUS Publisher.
- Bangun, W. (2012). *Manajemen Sumber Daya Manusia*. Jakarta: Penerbit Erlangga.
- Bhatia, M. S., & Kumar, S. (2023). An empirical analysis of critical factors of Industry 4.0: a contingency theory perspective. *International Journal of Technology Management*, 91(1), 82–106. <https://doi.org/10.1504/IJTM.2023.10052651>.
- Firdaus, M. A. A., Kuswinarno, M. (2023). Strategi Inovatif dalam Pengembangan Sumber Daya Manusia dalam Meningkatkan Daya Saing Perusahaan di Era Digital. *Jurnal Media Akademik: JMA*. 2(11). 1-19.
- Ghozali, Imam. (2018). *Aplikasi Analisis Multivariate Dengan Program IBM SPSS 25*. Semarang: Badan Penerbit Universitas Diponegoro.
- Hamali, A. Y. (2023). *Pemahaman Manajemen Sumber Daya Manusia*. Yogyakarta: CAPS (Center for Academic Publishing Service).
- Hartomo, N. K., & Lutarlean, B. S. (2020). Pengaruh Pelatihan Terhadap Kinerja Karyawan Kantor Pusat PT. Pos Indonesia (Persero) Bandung. *Jurnal Ilmiah MEA (Manajemen, Ekonomi, Dan Akuntansi)*, 4(1), 200–207. <https://doi.org/10.31955/mea.v4i1.264>.
- Hermawan, E. P., & Sary, F. P. (2025). The Effect of Self Efficacy and Work Discipline on Employee Performance at Ciamis Regional General Hospital. *Eduvest (Journal of Universal Studies)*, 5(2), 2934–2951.
- Indrawati. (2015). *Metode Penelitian Manajemen dan Bisnis Konvergensi Teknologi Komunikasi dan Informasi*. Bandung: PT Refika Aditama.
- Karim, A. (2023). *Manajemen Sumber Daya Manusia*. Bali: Intelektual Manifes Media.
- Kasmir. (2016). *Manajemen Sumber Daya Manusia (Teori dan Praktek)*. Jakarta: PT Rajagrafindo Persada.
- Mandasari, J. dan Andjarwati, T. (2020). Pengaruh Kepemimpinan Transformasional, Disiplin Kerja Dan Lingkungan Kerja Terhadap Kinerja Karyawan Pada Dinas Kelautan Dan Perikanan Provinsi Jawa Timur. *Jurnal Ekonomi Manajemen (JEM17)*, 5(2), 17-30. <https://doi.org/10.30996/jem17.v5i2.4604>.
- Mathis, R. L., Jackson, J. H., Valentine, S. R., Meglich, P. A., (2016). *Human Resource Management*. Boston: Cengage Learning.
- Moyau, H., Lobubun, M., & Fitriani. (2021). Pengaruh Lingkungan Kerja Terhadap Kinerja Karyawan CV. Perkasa Motor di Kota Jayapura. *Jurnal Ekonomi Dan Bisnis*, 12(1), 73–78. <https://doi.org/10.55049/jeb.v12i1.73>.
- Nguyen, C., & Duong, A. (2021). Employee retention: Do training and development, job satisfaction, and job performance matter? The 4th International Conference on Business,

- Ho Chi Minh City Open University, HCMC, Vietnam. Retrieved from <https://ssrn.com/abstract=4031830>.
- Nitisemito, A. S. (2015). *Manajemen Personalia dan Manajemen Sumber Daya Manusia*. Jakarta: Ghalia Indonesia.
- Prasetya N, J. E., Faizal, Moh., & Choirunnisak, C. (2021). Pengaruh Pelatihan dan Motivasi Terhadap Kinerja Karyawan Pada KOPILOKA 3.0 Palembang Tahun 2021. *Jurnal Ilmiah Mahasiswa Perbankan Syariah (JIMPA)*, 1(2), 145–152. <https://doi.org/10.36908/jimpa.v1i2.28>
- Pusparani, M. (2021). Faktor Yang Mempengaruhi Kinerja Pegawai: Suatu Kajian Literatur Manajemen Sumber Daya Manusia. *Jurnal Ilmu Manajemen Terapan: JIMT*. 2(4). 534-543.
- Putri, E. M., Ekowati, V. M., Supriyanto, A. S., & Mukaffi, Z. (2019). The Effect of Work Environment on Employee Performance Though Work Discipline. *International Journal of Research*, 7(4), 132–140. <https://doi.org/10.29121/granthaalayah.v7.i4.2019.882>.
- Ramadhany, S. R., Taba, M. I., & Umar, F. (2020). The Effect of Training and Job Satisfaction on Employee Engagement and Performance of Millennial Generation Employees of PT Midi Utama Indonesia Tbk in Makassar. *International Journal of Innovative Science and Research Technology*, 5(6), 566–571. www.ijisrt.com566.
- Robbins, S. P. dan Coulter. M. (2021). *Management (15th ed.)*. United States: Pearson Education.
- Rohman, A. F., Indiyati, D., & Ghina, A. (2021). The Influence of Organizational Culture and Employee Engagement on Employees Performance at Telkom University, Indonesia. *International Journal of Science and Society*, 3(1), 75–88.
- Sabita, D., & Nuraini, E. (2020). Influence of Training, Working Environment and Work Discipline on the Performance of Millenial Employees. *Proceedings of the 3rd Asia Pacific Management Research Conference (APMRC 2019)*, 149, 255–263. <https://doi.org/10.2991/aeblr.k.200812.045>.
- Sarwana, Z. T. K., & Wahyuningtyas, R. (2023). Pengaruh Disiplin Kerja Terhadap Kinerja Pegawai Dinas Kebakaran dan Penanggulangan Bencana Kota Bandung. *JPRO (Jurnal Manajemen dan Profesional)*, 4(2), 255–264
- Sedarmayanti. (2011). *Tata Kerja dan Produktivitas Kerja: Suatu Tinjauan dari Aspek Ergonomi atau Kaitan Antara Manusia dengan Lingkungan Kerjanya*. Bandung: CV Mandar Maju.
- Septiana, S., Wicaksono, R. N., Saputri, A. W., Fawwazillah, N. A., Anshori, M. I. (2023). Meningkatkan Kompetensi Sumber Daya Manusia Untuk Masa Yang Mendatang. *Student Research Journal*. 1(5). 446-466.
- Sitepu, F. A., Dalimunthe, R. F., & Sembiring, B. K. F. (2020). Effect of Physical Work Environment and Non-Physical Work Environment on Employee Performance through Job Satisfaction at PT. MNC Sky Vision Tbk Medan. *International Journal of Research and Review (Ijrrjournal.Com)*, 7(5), 302–309. https://www.ijrrjournal.com/IJRR_Vol.7_Issue.5_May2020/Abstract_IJRR0046.
- Supardi, Rivaldo, Y., & Yusman, E. (2022). Pengaruh Pelatihan Kerja, Promosi, Kompensasi dan Motivasi Terhadap Prestasi Kerja Perawat RSBP Batam. *JURNAL AS-SAID*, 1(2), 87–96. Retrieved from <https://e-journal.institutabdullahsaid.ac.id/index.php/AS-SAID/article/view/49>.
- Suparman, H. D. (2020). Pengaruh Lingkungan Kerja, Pengetahuan dan Beban Kerja Terhadap Kinerja Pegawai di CV. Perdana Mulia Desa Caringin Kulon Kecamatan Caringin Kabupaten Sukabumi. *Jurnal Ekonomedia*, 9(2), 21–36. <https://doi.org/https://doi.org/10.55651/ekonomedias.v9i02.7>.
- Warongan, B. U. C., Dotulong, L. O. H., & Lumintang, G. G. (2022). Pengaruh Lingkungan Kerja dan Stres Kerja Terhadap Kinerja Karyawan Pada PT Jordan Bakery Tomohon. *Jurnal Ekonomi Manajemen Bisnis Dan Akuntansi: EMBA*, 10(1), 963–972. Retrieved from <https://ejournal.unsrat.ac.id/index.php/emba/article/view/38527>.
- Wibowo. (2022). *Manajemen Kinerja*. Depok: PT Rajagrafindo Persada.
- Widyaningrum, M. E., (2019). *Manajemen Sumber Daya Manusia*. Surabaya: UBHARA Manajemen Press.
- Zaky, M. (2022). Pentingnya Pelatihan dan Pengembangan Sumber Daya Manusia dalam Menghadapi Tantangan Global. *Jurnal Manajemen dan Bisnis*. 1(2). 73-86.