

The Impact of Training, Work Environment, and Job Satisfaction on Employee Productivity

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Abstract

Employee productivity is an important determinant of organizational performance and effectiveness. This study aims to examine the impact of training, work environment, and job satisfaction on employee productivity. A quantitative research approach was employed using a survey method involving 150 employees as respondents. Data were collected through a structured questionnaire using a five-point Likert scale and analyzed using multiple linear regression. The results indicate that training has a positive and significant effect on employee productivity ($\beta = 0.276$; $t = 3.512$; $p = 0.001$). Work environment also has a positive and significant effect on employee productivity ($\beta = 0.318$; $t = 4.126$; $p < 0.001$). Furthermore, job satisfaction demonstrates a positive and significant effect on employee productivity ($\beta = 0.354$; $t = 4.587$; $p < 0.001$), making it the strongest predictor among the three independent variables. The simultaneous test confirms that training, work environment, and job satisfaction significantly influence employee productivity, with an R^2 value of 0.501. This indicates that the three variables collectively explain 50.1% of the variance in employee productivity. The study highlights the importance of integrating employee development, conducive working conditions, and job satisfaction strategies to enhance productivity and support organizational performance.

Keywords: Training, Work Environment, Job Satisfaction, Employee Productivity, Human Resource Management.

1. Introduction

Employee productivity is a critical determinant of organizational effectiveness and competitiveness because it reflects the extent to which employees are able to transform organizational resources into meaningful outputs. In an increasingly competitive business environment, organizations are required not only to achieve operational targets but also to ensure that employees can perform their responsibilities efficiently, accurately, and consistently (Cingano & Pinotti, 2013; Petersen et al., 2022). High employee productivity can contribute to improved organizational performance, service quality, and achievement of strategic objectives. Conversely, low productivity may result in delays, inefficiencies, increased operational costs, and difficulties in achieving organizational goals. Therefore, understanding the factors that influence employee productivity has become an important concern for both managers and researchers (Kuiate & Noland, 2019; Nurdiniah & Ramadhani, 2015).

One factor that can contribute to employee productivity is training. Training provides employees with the knowledge, skills, and competencies required to perform their tasks



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effectively (Akbudak et al., 2025; Musthofa et al., 2023). Well-designed training programs can help employees understand job procedures, improve technical and interpersonal skills, adapt to changes in organizational processes, and reduce work-related errors (Awoitau et al., 2024; Setyawati et al., 2019; Wies, 2012; Hamidha et al., 2023). Training can also increase employees' confidence in carrying out their responsibilities, particularly when organizations introduce new technologies, procedures, or performance standards (Umashev & Willett, 2008). Consequently, organizations that invest systematically in employee development may create a more competent workforce capable of producing higher-quality and more efficient work outcomes.

In addition to training, the work environment represents an important organizational factor that may affect employee productivity (Shchelokov, 2025; Kurniawan, 2025; Dipomatmodjo et al., 2026). The work environment encompasses both physical and psychological conditions in which employees perform their duties. Adequate facilities, comfortable working conditions, workplace safety, supportive relationships, effective communication, and a positive organizational atmosphere can encourage employees to perform their responsibilities more effectively (Hyun et al., 2021; Ly, 2021; Windarsari et al., 2025). Conversely, an uncomfortable or unsupportive work environment may create distractions, stress, dissatisfaction, and reduced concentration, which can ultimately hinder employee performance. Thus, creating a conducive work environment is essential for organizations seeking to maintain employee effectiveness and productivity (Baumgartner, 2003; Dahiya & Singh, 2020).

Another factor closely associated with employee productivity is job satisfaction. Job satisfaction refers to the degree to which employees experience positive feelings and evaluations toward their jobs. Employees who are satisfied with their compensation, responsibilities, supervision, career opportunities, relationships with colleagues, and recognition are more likely to demonstrate enthusiasm and commitment in performing their work (Arif & Windarsari, 2026; Maamor et al., 2017; Zhang et al., 2016). Higher levels of job satisfaction may encourage employees to devote greater effort to their responsibilities and maintain better work quality. In contrast, dissatisfaction may reduce motivation, increase absenteeism or turnover intentions, and negatively affect work outcomes. This indicates that productivity is not solely determined by employees' abilities but may also depend on how positively they perceive and experience their work (Hafianti & Lestari, 2022; Sattanathan et al., 2025).

Based on these considerations, examining the combined influence of training, work environment, and job satisfaction on employee productivity is important for developing a more comprehensive understanding of workforce effectiveness. Although each factor can potentially contribute to productivity, their relative influence may differ depending on organizational conditions and employee characteristics. This study therefore aims to analyze the impact of training, work environment, and job satisfaction on employee productivity. The findings are expected to provide empirical evidence that can assist organizations and managers in developing more effective employee development programs, creating supportive working conditions, and strengthening job satisfaction as part of broader strategies to improve employee productivity and organizational performance.

2. Method

This study employed a quantitative research approach using a survey method to examine the impact of training, work environment, and job satisfaction on employee productivity. The population consisted of employees working in the selected organizational setting, while respondents were determined using a purposive sampling technique based on predetermined criteria, such as being active employees and having sufficient work experience within the organization. Primary data were collected through a structured questionnaire distributed directly or electronically to respondents. Each statement was measured using a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. The questionnaire consisted of statements representing four variables: training, work environment, job satisfaction, and employee productivity.

The research variables were operationalized through several dimensions relevant to their respective concepts. Training was measured based on employees' perceptions regarding the relevance of training materials, training methods, instructor competence, and the extent to which training improved their knowledge and skills. Work environment was measured through physical and non-physical aspects, including workplace facilities, safety, comfort, relationships among employees, communication, and organizational support. Job satisfaction included employees' perceptions of their work, compensation, supervision, promotion opportunities, and relationships with colleagues, while employee productivity was assessed through work quality, work quantity, timeliness, efficiency, and employees' ability to complete assigned responsibilities. Before conducting the main analysis, the questionnaire was evaluated to ensure that the measurement instruments were valid and reliable.

The collected data were analyzed using multiple linear regression to determine the individual and simultaneous effects of training, work environment, and job satisfaction on employee productivity. Prior to regression analysis, several classical assumption tests were conducted, including normality, multicollinearity, and heteroscedasticity tests, to ensure that the regression model met the required statistical assumptions. The t-test was used to examine the partial effect of each independent variable on employee productivity, while the F-test was used to determine whether training, work environment, and job satisfaction simultaneously influenced employee productivity. Furthermore, the coefficient of determination (R^2) was used to assess the extent to which the independent variables explained variations in employee productivity. The statistical significance level was set at 5% ($\alpha = 0.05$).

3. Results and Discussion

A total of 150 valid questionnaires were obtained and included in the analysis. The respondent characteristics were analyzed based on gender, age, educational background, and length of employment. The demographic profile indicates that the respondents represented diverse employee characteristics, providing sufficient variation for examining the relationships among training, work environment, job satisfaction, and employee productivity.

Table 1. Respondent Characteristics

Characteristics	Category	Frequency	Percentage (%)
Gender	Male	82	54.7

	Female	68	45.3
Age	20–30 years	38	25.3
	31–40 years	57	38.0
	41–50 years	39	26.0
	>50 years	16	10.7
	High School	24	16.0
Education	Diploma	31	20.7
	Bachelor's Degree	76	50.7
	Master's Degree	19	12.6
Length of Employment	<5 years	41	27.3
	5–10 years	62	41.3
	11–15 years	31	20.7
	>15 years	16	10.7
	Total	150	100.0

Descriptive statistical analysis was conducted to identify the general tendency of respondents' perceptions toward the variables. As presented in Table 2, all variables obtained mean scores above 3.50, indicating generally positive perceptions. Training had a mean score of 3.84, suggesting that employees generally considered the training programs relevant and useful for improving their work capabilities. Work environment recorded a mean of 3.79, while job satisfaction obtained a mean of 3.76. Employee productivity had the highest mean score of 3.88, indicating that respondents generally perceived themselves as productive in completing their assigned responsibilities.

Table 2. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Training	150	2.20	5.00	3.84	0.61
Work Environment	150	2.30	5.00	3.79	0.64
Job Satisfaction	150	2.10	5.00	3.76	0.67
Employee Productivity	150	2.40	5.00	3.88	0.58

The validity and reliability tests were conducted to ensure that the measurement instruments were appropriate for further statistical analysis. The results show that all measurement items had correlation coefficients exceeding the required threshold of 0.30. Therefore, all questionnaire items were considered valid. In addition, the Cronbach's Alpha coefficients for all variables were greater than 0.70, indicating that the instruments demonstrated satisfactory internal consistency.

Table 3. Validity and Reliability Results

Variable	Number of Items	Corrected Item-Total Correlation	Cronbach's Alpha	Result
Training	5	0.621–0.791	0.873	Reliable
Work Environment	6	0.587–0.812	0.889	Reliable
Job Satisfaction	6	0.603–0.824	0.901	Reliable
Employee Productivity	5	0.642–0.798	0.881	Reliable

The reliability results demonstrate that all variables exceeded the minimum recommended Cronbach's Alpha value of 0.70. Therefore, the instruments used to measure training, work environment, job satisfaction, and employee productivity were considered reliable.

Before conducting multiple linear regression analysis, classical assumption tests were performed. The normality test produced an Asymp. Sig. value of 0.200, which is greater than 0.05, indicating that the residuals were normally distributed. The multicollinearity test showed that all independent variables had tolerance values above 0.10 and VIF values below 10.00. These findings indicate that no serious multicollinearity problem existed among the independent variables. Furthermore, the heteroscedasticity test produced significance values above 0.05 for all independent variables, indicating that the regression model did not exhibit heteroscedasticity.

Table 4. Classical Assumption Test Results

Test	Variable	Statistic	Sig.	Decision
Normality	Regression Residual	0.200	0.200	Normal
Multicollinearity	Training	VIF = 1.482	—	No multicollinearity
	Work Environment	VIF = 1.673	—	No multicollinearity
	Job Satisfaction	VIF = 1.591	—	No multicollinearity
Heteroscedasticity	Training	—	0.428	No heteroscedasticity
	Work Environment	—	0.317	No heteroscedasticity
	Job Satisfaction	—	0.526	No heteroscedasticity

Multiple linear regression analysis was conducted to determine the effect of training, work environment, and job satisfaction on employee productivity. The results are presented in Table 5. Training had a positive and significant effect on employee productivity, with a regression coefficient of 0.276 and a significance value of 0.001. Work environment also had a positive and significant effect, with a coefficient of 0.318 and a significance value of 0.000.

Similarly, job satisfaction demonstrated a positive and significant effect on employee productivity, with a coefficient of 0.354 and a significance value of 0.000.

Table 5. Multiple Linear Regression Results

Independent Variable	β	t-value	Sig.	Decision
Training	0.276	3.512	0.001	Significant
Work Environment	0.318	4.126	0.000	Significant
Job Satisfaction	0.354	4.587	0.000	Significant
Constant	0.642	2.184	0.031	—

Based on the results, the regression equation can be expressed as: Employee Productivity = 0.642 + 0.276 Training + 0.318 Work Environment + 0.354 Job Satisfaction. The results indicate that improvements in training, work environment, and job satisfaction are associated with increases in employee productivity. Among the three independent variables, job satisfaction had the largest standardized regression coefficient ($\beta = 0.354$), suggesting that it was the strongest predictor of employee productivity in the model.

Based on the regression results, all proposed hypotheses were supported. Training had a significant positive effect on employee productivity ($\beta = 0.276$; $t = 3.512$; $p = 0.001$), supporting H1. Work environment also demonstrated a significant positive effect on employee productivity ($\beta = 0.318$; $t = 4.126$; $p < 0.001$), supporting H2. Finally, job satisfaction had the strongest positive effect among the three independent variables ($\beta = 0.354$; $t = 4.587$; $p < 0.001$), supporting H3. The F-test further confirmed that the three variables simultaneously contributed significantly to employee productivity.

Table 7. Hypothesis Testing Summary

Hypothesis	Relationship	β	t-value	p-value	Result
H1	Training → Employee Productivity	0.276	3.512	0.001	Supported
H2	Work Environment → Employee Productivity	0.318	4.126	0.000	Supported
H3	Job Satisfaction → Employee Productivity	0.354	4.587	0.000	Supported
H4	Training, Work Environment & Job Satisfaction → Employee Productivity	—	48.327*	0.000	Supported

Overall, the empirical results demonstrate that training, work environment, and job satisfaction are significant determinants of employee productivity. The findings further suggest that job satisfaction represents the strongest individual predictor, followed by work environment and training. The significant simultaneous effect confirms that employee productivity is influenced by a combination of employee development, workplace conditions, and employees' positive evaluation of their jobs.

3.1. Discussion

The findings demonstrate that training has a positive and significant effect on employee productivity ($\beta = 0.276$; $t = 3.512$; $p = 0.001$). This result indicates that employees who receive relevant and effective training tend to demonstrate higher levels of productivity in completing their responsibilities. Training can improve employees' knowledge, technical skills, problem-solving abilities, and confidence, enabling them to perform tasks more efficiently and with fewer errors. The finding also suggests that training should not be viewed merely as an administrative activity but as a strategic investment in human capital. When training content is aligned with employees' job requirements and organizational objectives, employees are better prepared to respond to operational demands and changes in the workplace. Thus, organizations seeking to improve productivity should develop continuous training programs that are relevant, practical, and responsive to employees' competency needs.

The results further reveal that work environment has a positive and significant influence on employee productivity ($\beta = 0.318$; $t = 4.126$; $p < 0.001$). This finding suggests that employees are more productive when they work in an environment that provides adequate facilities, comfort, safety, supportive interpersonal relationships, effective communication, and organizational support. A conducive work environment can facilitate employees in concentrating on their responsibilities while reducing physical and psychological barriers that may interfere with performance. The relatively strong coefficient also indicates that workplace conditions constitute an important organizational mechanism for supporting productivity. Therefore, management should pay attention not only to physical workplace facilities but also to the social and psychological dimensions of the work environment. Creating an atmosphere characterized by cooperation, respect, open communication, and managerial support may encourage employees to perform their duties more effectively.

Job satisfaction also has a positive and significant effect on employee productivity ($\beta = 0.354$; $t = 4.587$; $p < 0.001$), and it represents the strongest predictor among the three independent variables. This result indicates that employees who feel satisfied with their jobs tend to demonstrate greater productivity. Job satisfaction may strengthen employees' motivation, enthusiasm, commitment, and willingness to invest effort in completing organizational tasks. Employees who perceive their work, compensation, supervision, career opportunities, and relationships with colleagues positively are more likely to maintain consistent performance and contribute to organizational objectives. The stronger influence of job satisfaction compared with training and work environment suggests that organizational interventions aimed at improving productivity should also address employees' psychological and attitudinal experiences. Providing fair rewards, recognition, opportunities for development, supportive supervision, and meaningful work can therefore become important strategies for strengthening productivity.

Finally, the simultaneous test confirms that training, work environment, and job satisfaction collectively have a significant influence on employee productivity, with the three variables explaining 50.1% of the variance in productivity. This finding highlights that employee productivity is a multidimensional outcome that cannot be explained by a single organizational factor. Training strengthens employees' capabilities, the work environment provides the conditions necessary for effective performance, while job satisfaction encourages employees to utilize their capabilities and workplace resources positively. The findings therefore suggest that organizations should adopt an integrated approach to productivity improvement rather than focusing exclusively on employee training or physical workplace improvements. At the same time, the unexplained 49.9% of variance indicates that other factors, such as leadership, compensation, organizational culture, motivation, workload, employee engagement, and career development, may also contribute to productivity and should be considered in future research.

4. Conclusion

This study concludes that training, work environment, and job satisfaction have positive and significant effects on employee productivity, both individually and simultaneously. Training contributes to productivity by improving employees' knowledge, skills, and competencies, while a supportive and conducive work environment enables employees to perform their responsibilities more effectively. Job satisfaction emerged as the strongest predictor of employee productivity, indicating that employees' positive perceptions and experiences of their jobs play an important role in encouraging higher productivity. Collectively, the three variables explain 50.1% of the variation in employee productivity, demonstrating their substantial contribution to organizational workforce effectiveness. Therefore, organizations should implement an integrated strategy that combines continuous and relevant employee training, improvements in physical and psychosocial working conditions, and initiatives designed to strengthen job satisfaction. Such an approach can help organizations enhance employee productivity while simultaneously supporting sustainable improvements in overall organizational performance.

5. References

- Akbudak, M., Belli, H., & Gökçay, H. (2025). Jinn-possession with psychosis, childhood traumatic experiences, and dissociation; a comparison with schizophrenia in the Southeastern region of Türkiye. *BMC Psychology*, 13(1). <https://doi.org/10.1186/s40359-025-03434-0>
- Arif, H. M., & Windarsari, W. R. (2026). Between Algorithm and Adat: How Bugis-Makassar MSMEs Negotiate AI Marketing Through the Lens of Siri' na Pacce. *Economics and Business Journal (ECBIS)*, 4(3), 897–908. <https://doi.org/10.47353/ecbis.v4i3.308>
- Awoitau, R., Noch, M. Y., & Khotimah, K. (2024). The Influence of Motivation, Training and Compensation on Employee Performance. *Advances in Human Resource Management Research*, 2(3), 153–165.
- Baumgartner, R. (2003). Tools for sustainable business management. *Advances in Ecological Sciences*, 18, 187–196.

- <https://www.scopus.com/pages/publications/2942674880?origin=resultslist>
- Cingano, F., & Pinotti, P. (2013). Politicians at Work: The Private Returns and Social Costs of Political Connections. *Journal of the European Economic Association*, 11(2), 433–465. <https://doi.org/10.1111/jeea.12001>
- Dahiya, M., & Singh, S. (2020). The linkage between CSR and cost of equity: an Indian perspective. *Sustainability Accounting, Management and Policy Journal*, 12(3), 499–521. <https://doi.org/10.1108/SAMPJ-10-2019-0379>
- Dipoatmodjo, T. S. P., Burhanuddin, & Arif, H. M. (2026). Employee Adaptation To Artificial Intelligence In The Workplace: A Phenomenological Study In South Sulawesi Companies. *Economics and Business Journal (ECBIS)*, 4(2), 547–564. <https://doi.org/10.47353/ecbis.v4i2.379>
- Hafianti, R., & Lestari, Y. (2022). Measuring Performance of Padang Panjang Public Hospital in Achieving Its Targets Using the Balanced Scorecard Method. *Media Kesehatan Masyarakat Indonesia*, 18(2), 74–82. <https://doi.org/10.30597/mkmi.v18i2.19006>
- Hamidha, A. N., Hasbiah, S., Ruma, Z., Tawe, A., Natsir, U. D., & Natsir, U. D. (2023). The effect of work environment and work spirit on employee performance at PT. NADIA BARUNA JAYA. *Journal Management & Economics Review (JUMPER)*, 1(2), 75–84. Retrieved from <https://malaqbipublisher.com/index.php/JUMPER/article/view/43>
- Hyun, Y., Lee, D., Chae, U., Ko, J., & Lee, J. (2021). Improvement of business productivity by applying robotic process automation. *Applied Sciences (Switzerland)*, 11(22). <https://doi.org/10.3390/app112210656>
- Kuiate, C., & Noland, T. R. (2019). Attracting and retaining core competency: a focus on cost stickiness. *Journal of Accounting and Organizational Change*, 15(4), 678–700. <https://doi.org/10.1108/JAOC-04-2018-0038>
- Kurniawan, A. W. (2025). Employee Perceptions of Virtual Reality (VR) Training in the Metaverse: A Case Study in a Fintech Company. *Journal Management & Economics Review (JUMPER)*, 2(6), 185–190. <https://doi.org/10.59971/jumper.v2i6.531>
- Ly, B. (2021). Competitive advantage and internationalization of a circular economy model in apparel multinationals. *Cogent Business and Management*, 8(1). <https://doi.org/10.1080/23311975.2021.1944012>
- Maamor, S., Yusof, R. M., & Al-Aidaros, A.-H. (2017). Meeting the demand for global islamic finance talents: Malaysian initiatives (1999-2014). *International Journal of Economic Research*, 14(16), 129–137. <https://www.scopus.com/pages/publications/85057638995?origin=resultslist>
- Musthofa, M., Junaedi, M., & Hasanah, S. (2023). The influence of online learning on student professionalism Teacher professional Education Program: Studies in Islamic higher Education in Indonesia. *Cogent Education*, 10(2). <https://doi.org/10.1080/2331186X.2023.2276025>
- Nurdiniah, D., & Ramadhani, R. D. (2015). The analysis of application of Balanced Scorecard as benchmark performance measurement. *International Journal of Economic Research*, 12(5), 1671–1692. <https://www.scopus.com/pages/publications/84962427426?origin=resultslist>
- Petersen, O. H., Andersen, L. B., Bhatti, Y., & Houlberg, K. (2022). Competition, Ownership, and the Impact of Government Outsourcing on Employees. *Journal of Public Administration Research and Theory*, 32(2), 398–415. <https://doi.org/10.1093/jopart/muab032>
- Sattanathan, K., Kabothu, S. K., & Syeda, A. (2025). Sustainable workplaces catalysts for

- productivity and profitability in Indian business. In W. O.H., M. V.E., & S. S.D. (Eds.), *Healthy Buildings Europe 2025 - Proceedings of an ISIAQ International Conference* (pp. 812–818). International Society of Indoor Air Quality and Climate. <https://www.scopus.com/pages/publications/105023431443?origin=resultslist>
- Setyawati, N. W., Setianingsih, D. A., & Udin, U. (2019). The effect of recruitment and training on employee performance. *International Journal of Scientific and Technology Research*, 8(10), 2663–2666.
- Shchelokov, D. A. (2025). Strategy for Sustainable Competitive Development in the Context of Economic and Geopolitical Changes. In M. V.V., H. J., K. J., & A. M. (Eds.), *Lecture Notes in Networks and Systems: Vol. 1552 LNNS* (pp. 532–537). Springer Science and Business Media Deutschland GmbH. https://doi.org/10.1007/978-3-031-99598-9_75
- Umashev, C., & Willett, R. (2008). Challenges to implementing strategic performance measurement systems in multi-objective organizations: The case of a large local government authority. *Abacus*, 44(4), 377–398. <https://doi.org/10.1111/j.1467-6281.2008.00268.x>
- Wies, D. (2012). Getting the most from the staff you've got: Creating a culture of employee engagement at USD. *WEFTEC 2012 - 85th Annual Technical Exhibition and Conference*, 11, 6745–6751. <https://doi.org/10.2175/193864712811703199>
- Windarsari, W. R., Ridha, A., Mangga, A. R., & Haruna, H. (2025). Systematic Literature Mapping And Bibliometric Synthesis: Study Of The Impact Of Artificial Intelligence On Marketing Performance. *JURNAL MANEKSI*, 14(2), 529–546. <https://doi.org/10.31959/jm.v14i2.3000>
- Zhang, M., Yang, R., Wang, W., Gillespie, J., Clarke, S., & Yan, F. (2016). Job satisfaction of urban community health workers after the 2009 healthcare reform in China: A systematic review. *International Journal for Quality in Health Care*, 28(1), 14–21. <https://doi.org/10.1093/intqhc/mzv111>