

Building Employee Performance through Education and Training: A Human Capital Perspective

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Abstract

This study examines the effects of education and training on employee performance from a human capital development perspective. As organizations increasingly demand higher levels of employee competence, productivity, and work quality, education and training serve as strategic mechanisms for developing workforce capabilities. A quantitative survey design was employed, with primary data collected through questionnaires administered to employees. The data were analyzed using descriptive statistics and inferential techniques to assess the relationships among education, training, and employee performance. The findings demonstrate that education and training exert positive and statistically significant effects on employee performance. These results indicate that relevant educational opportunities and job-aligned training programs can strengthen employee competence, productivity, and work quality. From a managerial perspective, organizations should continuously evaluate and refine human resource development initiatives by aligning them with employee competencies, job requirements, and organizational objectives. Overall, the study underscores the strategic importance of systematic and needs-oriented education and training in strengthening human capital and enhancing organizational effectiveness.

Keywords

Education; Training; Employee Performance.

1. Introduction

Human resources constitute a pivotal strategic asset that influences the sustainability and realization of corporate objectives. Individuals who work in an organization do not only serve as task executors, but also play an important role in shaping the organization's capacity and excellence. Pangestu et al. (2023) emphasize that human resources are individuals who work and are one of the keys to the success of an organization. In the realm of development, the caliber of human resources is more vital as the workforce's potential must be cultivated into productive capability that can facilitate the attainment of sustainable objectives (Cooke et al., 2022). Entities possessing proficient human capital have superior capacity to execute tasks with efficacy and efficiency (Shet et al., 2019). Therefore, the development of employee competencies through education and training

becomes one of the strategic approaches to improving the quality of human resources while simultaneously strengthening organizational performance.

Education and training play a role in shaping and enhancing the knowledge, skills, attitudes, behaviors, and abilities of individuals relevant to job demands (Beer & Mulder, 2020). Karim et al. (2019) explain that education and training are learning processes that enable human resources to develop skills, insights, attitudes, behaviors, and expertise related to work through systematic stages. In a work environment facing changing demands and task complexity, education provides the foundational knowledge necessary to perform the job (Meyer & Norman, 2020), while training helps individuals develop more specific abilities according to job requirements (Rodriguez & Walters, 2017). Training also provides the knowledge, skills, experience, and information needed by workers to perform their jobs competently in achieving organizational goals (Sundari & Kusmiati, 2022). Consequently, education and training are perceived not just as administrative functions but as an investment in human capital that may augment individual capabilities and facilitate improved performance.

Employee performance is one of the important indicators in assessing the extent to which human resources can translate their competencies into job achievements (Alamsyah et al., 2024). Employee performance fundamentally represents the outcomes attained by individuals in fulfilling the tasks and responsibilities entrusted to them. Optimal performance achievement is reflected through employees' ability to meet job standards, achieve targets, and carry out tasks effectively and productively (Vuong & Nguyen, 2022). Kareem & Hussein (2019) show a correlation between employee performance and the development and training of human resources. That perspective shows that improving competencies through the learning process can serve as a foundation for enhancing the quality of work outcomes. In line with that, human resource development is a process carried out systematically to enhance individual capacity to meet job and organizational needs (Werdhiastutie et al., 2020). Thus, education and training conceptually hold an important position in shaping employee capabilities, which can ultimately be reflected in performance improvement.

Although education and training are theoretically viewed as important instruments in human resource development, performance improvement cannot always be achieved solely through the provision of development programs. The effectiveness of education and training is largely contingent upon the extent to which learning content aligns with job requirements, employees are provided with opportunities to apply acquired knowledge and skills, and organizations effectively integrate developmental outcomes into workplace practices (Mardis et al., 2018). Performance issues can also be reflected in the achievement of suboptimal targets, productivity, work efficiency, coordination, and employees' ability to meet evolving job demands (Diamantidis & Chatzoglou, 2019). These conditions indicate that investment in human resource development needs to be accompanied by the management of relevant, systematic, and sustainable programs. From a human resource management perspective, workforce quality constitutes a critical determinant of organizational success, as the attainment of

organizational objectives is fundamentally shaped by employees' capabilities to effectively fulfill their respective roles and responsibilities (Darmawan et al., 2020). Therefore, empirical understanding of the extent to which education and training can contribute to employee performance remains a relevant issue to be studied.

However, there is still a gap in the literature regarding the contribution of education and training to employee performance, particularly in organizations with different job characteristics and service demands. Research examining the influence of both partially and simultaneously is still limited. Therefore, this research aims to analyze the influence of education and training on employee performance. Theoretically, this research is expected to enrich the study of human resource management, while practically providing a foundation for organizations to design competency development programs that are relevant and aligned with job needs and organizational goals.

2. Literature Review

2.1 Education

Education is a systematic process that plays a role in shaping knowledge, skills, and the capacity of individuals to carry out responsibilities effectively (González-salamanca et al., 2020). In the context of organizations, education becomes an important asset because it enables individuals to develop potential, expand knowledge, and enhance skills relevant to job demands (Muzam, 2023). Shavkidinova et al. (2023) posit that educational attainment constitutes an integral component of individual capability development, enabling individuals to pursue their objectives while strengthening the competencies and skills required for effective performance. Thus, education can be viewed as an investment in human capital that provides a foundation of knowledge and capacity for employees in performing their work. The enhancement of capacity conceptually can encourage accuracy, efficiency, productivity, and the quality of work results. Previous research also shows that education can contribute to the improvement of employee performance, both individually and when combined with training (Hajdari et al., 2023; Rivaldo & Nabella, 2023; Santi, 2020). Based on the theoretical arguments and empirical evidence, education is viewed as one of the factors that has the potential to improve employee performance.

2.2 Training

Training constitutes a structured learning process aimed at developing the knowledge, skills, and capabilities necessary for individuals to perform their assigned tasks effectively (Yimam, 2022). Achackzai et al. (2024) explain that training is a program aimed at developing the skills necessary to perform a job, both for current and future needs, while Mohd et al. (2020) state that training can help employees improve their work skills and reduce stress in carrying out tasks. The effectiveness of training can be reflected through the clarity of objectives, the relevance of the material, the methods used, the qualifications of the participants, and the competence of the trainers (Sandbakk et al., 2023). Training that is relevant to job needs allows employees to directly apply the knowledge and skills acquired in task execution, thereby potentially improving

quality, efficiency, productivity, and timeliness of work. Prior empirical evidence consistently indicates a positive association between training and employee performance, both when training is examined as an independent predictor and when it is considered alongside educational development (Mahardika & Luturlean, 2020; Niati et al., 2021; Santi, 2020). Therefore, training is viewed as a strategic instrument in improving employee performance through the enhancement of competencies that align with job demands.

2.3 Employee Performance

Employee performance refers to the outcomes achieved by individuals in effectively fulfilling the tasks and responsibilities assigned to them (Heriyanto et al., 2024). Indra et al. (2026) conceptualize employee performance as work outcomes reflected in the quantity and quality of achievements relative to predetermined targets. Within organizational settings, employee performance represents a critical indicator of effectiveness, as the attainment of organizational objectives is substantially dependent on employees' capacity to execute their responsibilities efficiently and productively (Akpa et al., 2021). Syahputra et al. (2025) identify performance through several aspects, namely the accuracy of work results, efficiency and precision, neatness of work results, the number of tasks completed, and timeliness. Performance is also related to human resource development because the improvement of competencies through education and training needs to be manifested in tangible work results. Previous research shows that education and training can contribute to the improvement of employee performance, both partially and simultaneously (Hidayat, 2018; Rivaldo & Nabella, 2023; Sendawula et al., 2018). Thus, employee performance is positioned as the dependent variable that represents the outcomes of the application of competencies and capacities developed through education and training.

2.4 Research Framework and Hypotheses

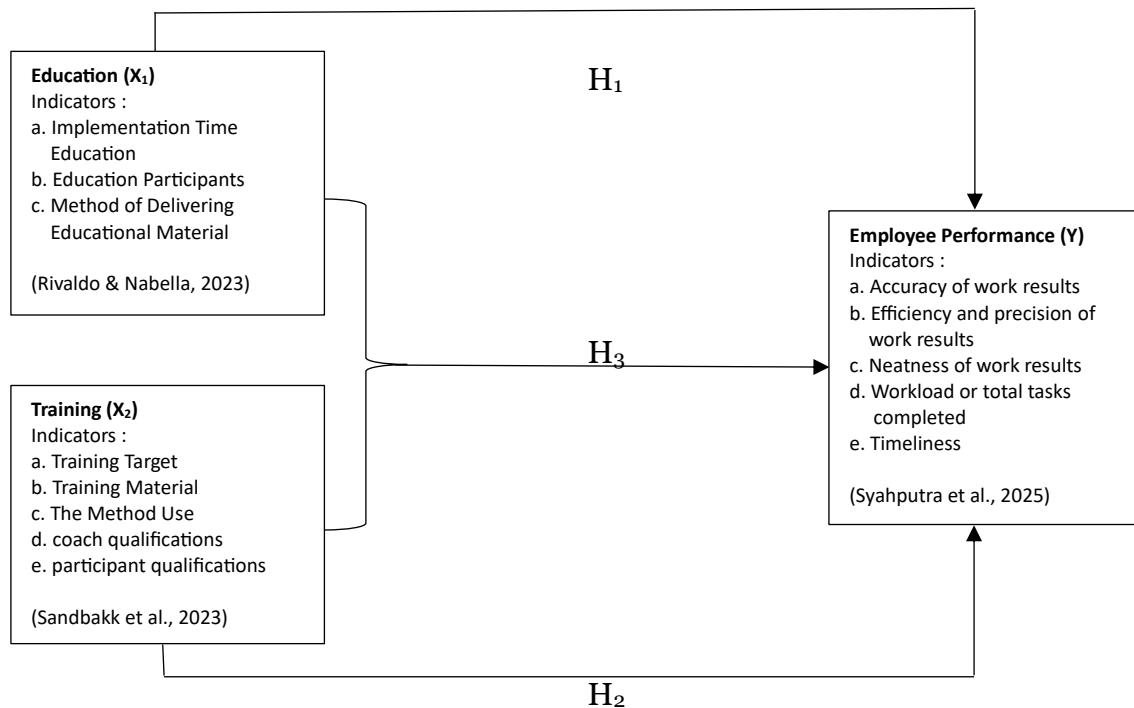


Figure 1. Research Framework

Source: Data Processed, 2025

Based on that framework, the research hypothesis is formulated as follows:

H₁: Education has a positive and significant impact on employee performance.

H₂: Training has a positive and significant impact on employee performance.

H₃: Education and training simultaneously have a positive and significant impact on employee performance.

3. Method

This study was conducted at the Bureau of Government and Regional Autonomy of the Regional Secretariat of Lampung Province, located at Jalan Robert Wolter Monginsidi No. 69, Telukbetung, Bandar Lampung, Indonesia. As a public sector institution, the organization relies substantially on the quality and capabilities of its human resources to support effective task execution and the achievement of institutional objectives. This research uses that context to examine the influence of education and training on employee performance. Data collection was conducted over a two-week period.

3.1 Research Design

This study adopts a quantitative approach employing a descriptive and causal-correlational research design (Thomas & Zubkov, 2023). Data were collected through a field survey to empirically examine the effects of education (X₁) and training (X₂) on employee performance (Y). The descriptive approach is used to describe the research variables, while the causal correlational approach is used to examine the relationships and influences between variables.

3.2 Participants / Sample

The study population comprised 50 employees of the Bureau of Government and Regional Autonomy of the Regional Secretariat of Lampung Province. Using the Slovin formula with a 5% margin of error, the required sample was 44.44 respondents, rounded to 44 respondents. Thus, this study uses 44 employees as the research sample.

3.3 Data Collection

The study utilized both primary and secondary data. Primary data were collected through closed-ended questionnaires, while secondary data were obtained from relevant literature and documents. All constructs were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), capturing respondents' perceptions of education, training, and employee performance indicators. The collected data is then processed to obtain an overview of the response trends of respondents toward each research variable.

3.4 Data Analysis

The data were analyzed using descriptive and inferential statistics. Multiple linear regression was employed to examine the effects of education and training on employee performance, expressed as $(Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \epsilon)$. Prior to hypothesis testing, normality, multicollinearity, and heteroscedasticity tests were conducted. Partial and simultaneous effects were assessed using the t -test and F -test, respectively, at a 5% significance level ($p < 0.05$). The coefficient of determination (R^2) was subsequently examined to assess the extent to which education and training explain variations in employee performance.

3.5 Ethical Considerations

The research adheres to ethical principles in the process of data collection and management. Participation was voluntary, and all questionnaire data were used exclusively for research purposes. The identities and personal information of the respondents are kept confidential during the processing and reporting of the research results.

4. Results

4.1 Respondent Characteristics

Research data were collected through questionnaires administered to employees of the Bureau of Government and Regional Autonomy of the Regional Secretariat of Lampung Province. Respondent characteristics were classified by gender, age, and educational attainment to provide an overview of the sample composition.

Table 1. Respondent Characteristics

Characteristics Category		Frequency Percentage (%)	
Gender	Female	28	63.6
	Male	16	36.4
Age	16–25 years	5	11.4

Characteristics Category	Frequency	Percentage (%)
25–30 years	12	27.3
31–40 years	22	50.0
41–50 years	2	4.5
Above 51 years	3	6.8
Educational Level Senior High School	18	40.9
Diploma (D1/D2/D3)	1	2.3
Bachelor's Degree	13	29.5
Master's Degree	12	27.3

Source: Data Processed, 2025

As shown in Table 1, female respondents constituted the majority of the sample, with 28 participants (63.6%), compared with 16 male respondents (36.4%). In terms of age, respondents aged 31–40 years represented the largest group, comprising 22 participants (50.0%), followed by those aged 25–30 years, with 12 participants (27.3%).

Regarding educational attainment, the largest proportion of respondents held a high school qualification, comprising 18 participants (40.9%). Next, respondents with a bachelor's degree (S1) number 13 people or 29.5%, those with a master's degree (S2) number 12 people or 27.3%, and those with a diploma (D1/D2/D3) number 1 person or 2.3%. These characteristics provide an overview of the composition of respondents, which will be used in statistical analysis.

4.2 Measurement Quality

Data quality testing is conducted to ensure that the research instruments produce valid and reliable data. Validity and reliability assessments were conducted before the data were subjected to further analysis.

4.2.1 Validity Test

Validity was assessed using Pearson's bivariate correlation by comparing the Pearson correlation coefficient for each item with the critical r -value at the 5% significance level. The validity test results for the Education variable are presented in the following table.

Table 2. Validity Test: Education			
Item	Pearson Correlation	r table	Decision
PD1	0.935	0.3843	Valid
PD2	0.935	0.3843	Valid
PD3	0.692	0.3843	Valid

Source: Data Processed, 2025

As shown in Table 2, all Education items recorded Pearson correlation coefficients above the critical r -value of 0.3843, ranging from 0.692 to 0.935.

Accordingly, items PD1, PD2, and PD3 were deemed valid and retained for subsequent analysis.

The validity test results for the Training variable are presented in the following table. Validity was assessed by comparing the Pearson correlation coefficient of each item with the critical r -value of 0.3843 at the 5% significance level.

Table 3. Validity Test: Training			
Item	Pearson Correlation	r table	Decision
PL1	0.790	0.3843	Valid
PL2	0.900	0.3843	Valid
PL3	0.840	0.3843	Valid
PL4	0.713	0.3843	Valid
PL5	0.701	0.3843	Valid

Source: Data Processed, 2025

As shown in Table 3, all Training items recorded Pearson correlation coefficients above the critical r -value of 0.3843, ranging from 0.701 to 0.900. Accordingly, items PL1–PL5 were deemed valid and retained for subsequent analysis.

The validity test results for the Employee Performance variable are presented in the following table. Validity was assessed by comparing the Pearson correlation coefficient of each item with the critical r -value of 0.3843 at the 5% significance level.

Table 4. Validity Test: Employee Performance			
Item	Pearson Correlation	r table	Decision
KP1	0.788	0.3843	Valid
KP2	0.661	0.3843	Valid
KP3	0.700	0.3843	Valid
KP4	0.839	0.3843	Valid
KP5	0.826	0.3843	Valid

Source: Data Processed, 2025

As shown in Table 4, all items measuring Employee Performance recorded Pearson correlation coefficients exceeding the critical r -value of 0.3843. The correlation values of each item range from 0.661 to 0.839. Thus, all employee performance items, namely KP1 to KP5, are declared valid and can be used for further analysis.

4.2.2 Reliability Test

Reliability was assessed using Cronbach's alpha to evaluate the internal consistency of the research instrument. An instrument was considered reliable when the Cronbach's alpha value exceeded 0.60. The reliability test results for all study variables are presented in the following table.

Table 5. Reliability Test

Variable	Cronbach's Alpha	Cut-off Value	Decision
Education	0.803	0.60	Reliable
Training	0.848	0.60	Reliable
Employee Performance	0.796	0.60	Reliable

Source: Data Processed, 2025

As reported in Table 5, all study variables achieved Cronbach's alpha values above the 0.60 threshold. Education recorded a value of 0.803, Training 0.848, and Employee Performance 0.796, confirming satisfactory internal consistency across all constructs. Thus, all research instruments are declared reliable and can be used for further analysis.

4.3 Descriptive Analysis

Descriptive analysis was conducted to characterize the distribution of respondents' responses across the study variables. Data obtained through the questionnaire are categorized based on percentage intervals to show the tendency of respondents' assessments. The response categories were established by dividing the score range into five levels: strongly disagree, disagree, neutral, agree, and strongly agree. The resulting intervals were 16, with 20%–35.99% classified as strongly disagree, 36%–51.99% as disagree, 52%–67.99% as neutral, 68%–82.99% as agree, and 83%–100% as strongly agree.

4.3.1 Descriptive Analysis of Education

Descriptive analysis of the education variable was conducted based on the distribution of responses from 44 respondents to the education measurement items. The distribution of respondents' scores across the assessment categories is presented in Table 6.

Table 6. Distribution of Education Variable

No.	Interval	Frequency	Percentage (%)	Category
1	83–100	10	22.7	Strongly Agree
2	68–82.99	23	52.4	Agree
3	52–67.99	7	15.9	Neutral
4	36–51.99	2	4.5	Disagree
5	20–35.99	2	4.5	Strongly Disagree
Total		44	100.0	

Source: Data Processed, 2025

Based on Table 6, 23 respondents (52.4%) fall into the agree category, 10 respondents (22.7%) into the strongly agree category, 7 respondents (15.9%) into the neutral category, and 2 respondents (4.5%) each into the disagree and strongly disagree categories. Thus, the agree category is the most dominant response to the education variable.

At the item level, all statements regarding the education variable also fall into the agree category. The statement about the relevance of the job sector to the educational background received the highest score of 82.8%, while the two statements regarding the correlation between education level and performance each received 76.8%. Overall, the education variable received an average score of 78.8% and falls into the agree category. The results indicate that respondents generally give a positive assessment of their education, particularly in relation to the alignment of education with their jobs and task execution.

4.3.2 Descriptive Analysis of Training

Descriptive analysis of the training variable was conducted based on the distribution of responses from 44 respondents to the training measurement items. The distribution of respondents' scores based on five assessment categories is presented in Table 7.

Table 7. Distribution of Training Variable

No.	Interval	Frequency	Percentage (%)	Category
1	83–100	9	20.5	Strongly Agree
2	68–82.99	24	54.5	Agree
3	52–67.99	6	13.7	Neutral
4	36–51.99	4	9.0	Disagree
5	20–35.99	1	2.2	Strongly Disagree
Total		44	100.0	

Source: Data Processed, 2025

Based on Table 7, 24 respondents (54.5%) fall into the agree category, 9 respondents (20.5%) into the strongly agree category, 6 respondents (13.7%) into the neutral category, 4 respondents (9.0%) into the disagree category, and 1 respondent (2.2%) into the strongly disagree category. Thus, the agree category is the most dominant response to the training variable.

At the item level, all statements regarding the training variable also fall into the agree category. The statement about the suitability of the instructor's qualifications with the training field received the highest score of 79.1%, followed by the suitability of the material with the job at 78.6%, the suitability of the training material with the needs at 76.4%, the suitability of the method with the material at 75.0%, and the suitability of the training with the objectives to be achieved at 74.1%. Overall, the training variable received an average score of 76.6% and falls into the agree category. The results indicate that respondents generally gave a positive assessment of the training implementation, particularly regarding the qualifications of the instructors, the materials, the methods, and their alignment with job requirements.

4.3.3 Descriptive Analysis of Employee Performance

Descriptive analysis of the employee performance variable was conducted based on the distribution of responses from 44 respondents to the employee

performance measurement items. The distribution of respondents' scores based on five assessment categories is presented in Table 8.

Table 8. Distribution of Employee Performance Variable

No.	Interval	Frequency	Percentage (%)	Category
1	83–100	15	34.0	Strongly Agree
2	68–82.99	21	47.7	Agree
3	52–67.99	5	11.4	Neutral
4	36–51.99	3	6.9	Disagree
5	20–35.99	0	0.0	Strongly Disagree
Total		44	100.0	

Source: Data Processed, 2025

Based on Table 8, 21 respondents (47.7%) fall into the agree category, 15 respondents (34.0%) into the strongly agree category, 5 respondents (11.4%) into the neutral category, and 3 respondents (6.9%) into the disagree category. There are no respondents in the strongly disagree category. Thus, the agree category is the most dominant response to the employee performance variable.

At the item level, all statements regarding employee performance fall into the agree category. Statements about the improvement in work results compared to previous times and the results of tasks completed each received a score of 74.1%. The statement regarding the accuracy of task completion received 69.5%, while early arrival received 72.7% and creativity in performing work received 72.3%. Overall, the employee performance variable received an average score of 72.5% and falls into the agree category. The results indicate that descriptively, respondents provided a positive assessment of employee performance across various aspects measured in the study.

4.4 Classical Assumption Tests

Classical assumption tests were conducted to ensure that the regression model satisfied the statistical requirements for hypothesis testing. One of the assessments involved testing the normality of regression residuals using the One-Sample Kolmogorov–Smirnov test.

4.4.1 Normality Test

The normality test was conducted to assess whether the regression residuals followed a normal distribution using the One-Sample Kolmogorov–Smirnov test. Residuals were considered normally distributed when the significance value exceeded 0.05. The results are presented in Table 9.

Table 9. Normality Test

Statistic	Unstandardized Residual
N	51
Mean	0E-7

Statistic	Unstandardized Residual
Std. Deviation	4.88974508
Absolute	0.106
Positive	0.051
Negative	-0.106
Kolmogorov–Smirnov Z	0.759
Asymp. Sig. (2-tailed)	0.611

Source: Processed data, 2025.

As reported in Table 9, the Asymp. Sig. (2-tailed) value of 0.611 exceeds the 0.05 significance threshold. Accordingly, the regression residuals are normally distributed, indicating that the normality assumption is satisfied and the data are suitable for subsequent regression analysis.

4.4.2 Autocorrelation Test

The autocorrelation test was conducted to determine whether the regression residuals were correlated across successive observations using the Durbin–Watson (DW) statistic. With 44 observations and two independent variables, the critical lower bound (DL) and upper bound (DU) values were 1.4226 and 1.6120, respectively. The test results are presented in Table 10.

Table 10. Autocorrelation Test

Model R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin–Watson
1	0.987 0.975	0.974	0.989	1.521

Predictors: (Constant), Education, Training
Dependent Variable: Employee Performance

Source: Processed data, 2025.

Based on Table 10, the Durbin–Watson value is 1.521. This value falls within the range $DL < DW < DU$, which is $1.4226 < 1.521 < 1.6120$. Based on the Durbin–Watson criteria, that position is in the area that cannot yet provide a definitive decision regarding the presence or absence of autocorrelation (inconclusive). Therefore, the results of this test cannot yet be used to definitively state that the model is free from autocorrelation.

4.5 Hypothesis Testing

Hypothesis testing was conducted to assess the effects of Education and Training on Employee Performance using multiple linear regression, the coefficient of determination (R^2), the t -test, and the F -test. Multiple linear regression was first employed to determine the direction and magnitude of the relationships between the independent and dependent variables.

4.5.1 Multiple Linear Regression Analysis

Multiple linear regression analysis was employed to examine the effects of Education and Training as independent variables on Employee Performance as

the dependent variable. The estimated regression coefficients are presented in the following table.

Table 11. Multiple Linear Regression Results

Model	B	Std. Error	Beta	t	Sig.
Constant	61.642	4.103	—	2.118	0.000
Education	148.731	0.053	0.369	6.801	0.000
Training	87.089	0.031	0.085	2.882	0.005

Dependent Variable: Employee Performance

Source: Processed data, 2025.

Based on Table 11, the estimated multiple linear regression equation is expressed as follows:

$$Y = 61.642 + 148.731X_1 + 87.089X_2 + e$$

with Y as employee performance, X_1 as education, X_2 as training, and e as error. The regression coefficient for education is 148.731 and for training is 87.089, both of which are positive. The results indicate that both independent variables are positively associated with Employee Performance in the regression model.

Statistically, Education yielded a *t*-value of 6.801 with a significance value of 0.000, while Training yielded a *t*-value of 2.882 with a significance value of 0.005. As both significance values are below 0.05, each variable meets the criterion for statistical significance in the regression model.

4.5.2 Coefficient of Determination (R^2)

The coefficient of determination was used to assess the extent to which the regression model explains variation in the dependent variable. The R^2 value indicates the proportion of variance in Employee Performance explained by Education and Training. The results are presented in the following table.

Table 12. Coefficient of Determination (R^2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.987	0.975	0.974	0.989

Predictors: (Constant), Education, Training

Source: Processed data, 2025.

As reported in Table 12, the R^2 value is 0.975, while the Adjusted R^2 value is 0.974. This indicates that Education and Training jointly explain 97.5% of the variance in Employee Performance, whereas the remaining 2.5% is attributable to factors not included in the research model.

This result shows that the regression model has a high explanatory power regarding the variation in employee performance based on education and training variables.

4.5.3 Significance Test (*t*-test)

The *t*-test was employed to assess the partial effects of each independent variable on Employee Performance at the 5% significance level. The results of the individual parameter tests are presented in the following table.

Table 13. Individual Parameter Significance Test (*t*-test)

Model	B	Std. Error	Beta	t	Sig.
Constant	61.642	4.103	—	2.118	0.000
Training	87.089	0.031	0.085	2.882	0.005
Education	148.731	0.053	0.369	6.801	0.000

Dependent Variable: Employee Performance

Source: Processed data, 2025.

As shown in Table 13, Education has a *t*-value of 6.801 with a significance value of 0.000, which is below the 0.05 threshold. This finding indicates that Education has a positive and statistically significant effect on Employee Performance. Accordingly, H1 is supported.

The Training variable yielded a *t*-value of 2.882 and a significance value of 0.005, which is below the 0.05 threshold. This result indicates that Training has a positive and statistically significant effect on Employee Performance. Accordingly, H2 is supported.

4.5.4 Simultaneous Significance Test (*F*-test)

The *F*-test was employed to assess the simultaneous effects of Education and Training on Employee Performance by comparing the calculated *F*-value with the critical *F*-value and evaluating the significance value at the 5% level. The results of the simultaneous test are presented in the following table.

Table 14. Simultaneous Significance Test (*F*-test)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	61.642	2	20.547	49.577	0.000
Residual	0.090	41	0.979		
Total	0.358	43			

Dependent Variable: Employee Performance

Predictors: (Constant), Education, Training

Source: Processed data, 2025.

As reported in Table 14, the calculated *F*-value of 49.577 exceeds the critical *F*-value of 3.210, with a significance value of 0.000 below the 0.05 threshold. Accordingly, the null hypothesis is rejected and H3 is supported, indicating that Education and Training jointly exert a positive and statistically significant effect on Employee Performance.

5. Discussion

Education has been proven to have a positive and significant impact on employee performance ($t = 6.801$; $p < 0.001$). These findings indicate that education plays

a role in shaping knowledge, skills, and analytical capacity that support the effectiveness of job performance. In line with Shavkidinova et al. (2023), education is the foundation for the development of individual potential, while the results of this study are consistent with Muzam (2023) who found a significant influence of education on performance. These findings imply that the alignment between educational background and job demands is crucial for converting educational investments into enhanced employee capacity and performance.

Training also shows a positive and significant impact on employee performance ($t = 2.882$; $p = 0.005$). These results indicate that training can strengthen the competencies required to perform tasks effectively, especially when the materials, methods, and instructors are tailored to job needs. These findings support Rivaldo & Nabella (2023), which show that education and training have a positive and significant impact on employee performance. Thus, training needs to be viewed as an instrument for competency development based on needs, not merely an administrative activity.

Simultaneously, education and training have a positive and significant impact on employee performance ($F = 49.577$; $p < 0.001$). These findings indicate that both have complementary functions: education provides a foundation of knowledge and capacity, while training reinforces the application of competencies according to job demands. The results are consistent with Indra et al. (2026) and Akpa et al. (2021), while also reinforcing the view that integrated human resource development can be a performance enhancement strategy. Academically, these findings reinforce the literature on the role of human resource development in shaping performance, while practically emphasizing the importance of integrating education, competency-based training, and performance evaluation into sustainable employee development strategies.

6. Conclusion

This research shows that education and training have a positive and significant impact on employee performance, both partially and simultaneously. These findings affirm that capacity development through education and training is an important factor in improving performance and strengthening the human resource management literature regarding the role of competency development in achieving organizational performance.

Practically, organizations need to ensure that educational and training programs are relevant to job needs, employee competencies, and organizational goals, accompanied by periodic evaluations of the materials, methods, and effectiveness of their implementation. This research is limited to one organization and the use of a questionnaire with a relatively limited predictor model. Future research can expand the context and sample size and consider other factors, such as motivation, competence, work experience, work environment, and organizational support, to gain a more comprehensive understanding of the determinants of employee performance.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request. Due to privacy and confidentiality considerations, the dataset is not publicly available.

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