

The Influence of Education, Work Experience, and Individual Characteristics on Employee Performance at PT Mohandas Oeloeng, Semarang.

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ABSTRACT

This study aims to examine the influence of education, work experience, and individual characteristics on employee performance at PT Mohandas Oeloeng Semarang. This study is motivated by the importance of improving employee performance in the construction sector, which demands practical skills and experience in the field. The method chosen for this study is quantitative research with a sample of 60 workers selected using purposive sampling techniques. Data acquisition was carried out using questionnaires and analyzed using multiple linear regression analysis and using SPSS. The findings of this research are that work experience or knowledge has a positive and significant impact on employee performance. Conversely, education and individual characteristics have no other impact on employee performance. However, simultaneously, education, work knowledge, and personality characteristics have a positive and significant impact on employee performance. The results show that work experience as a variable has a positive and significant influence on employee performance, namely variables in the construction sector, while education and individual characteristics play a supporting role in the context of organizations that have a standardized work system.

INTRODUCTION

Human resource competency is a major contributor to national economic growth. One example is in road construction companies. Increasing competition in the contracting industry requires companies to manage and develop human resources sustainably to improve employee performance (Mulyaningsih et al., 2021). Therefore, employee development is a strategic aspect because human resources can be said to be a key element in achieving company goals (Amalia & Winarningsih, 2019). Employee performance can be improved through education level, job knowledge, and individual characteristics. Education and job knowledge play a role in shaping employees' abilities to carry out tasks effectively (Yana Mulyana, Adam Shaleh, and Ibah Misbah., 2021). The higher the level of education and work knowledge inherent in employees, the better the performance they demonstrate (Robby Pradana and Hermin Nainggolan., 2025). In addition, individual characteristics such as motivation, initiative, and adaptability also influence employee performance (Hitalessy, Roni, and Iswandi., 2020).

The education factor is a fundamental aspect in improving the quality of human resources because it plays a role in forming individual mindsets, attitudes and competencies (Mulyaningsih et al., 2021). Work experience provides practical knowledge gained through direct involvement in the work, so experienced employees have the potential to be more skilled and productive (Basyit, Sutikno, and Dwiharto., 2020). On the other hand, differences in individual characteristics within a company are inseparable, because each employee has a different personality and potential that can influence their contribution to the company (Setiawan and Ariani., 2024). This is very relevant to PT. Mohandas Oeiong as a service company engaged in the field of road construction, where employees are required to have technical competence, field experience, and a disciplined and responsible work character to support the smooth implementation of construction projects in accordance with the quality, time, and work safety standards that have been set by the company (Hartati, Beni Saputra, and Andriani., 2021). Therefore, companies are required to have human resources with optimal performance to effectively achieve organizational goals. One way to improve employee performance is by considering factors that drive employee performance, such as education level, work experience, and individual characteristics (Lumanauw., 2022). Not only that, there are also Febianti et al., (2023) also stated that gender also influences performance. The following data is based on employee education levels at PT. Mohandas Oeiong, presented in Table 1.

Table 1. Education Level of Employees of PT. Mohandas Oeloeng Semarang

No	Description	Gender		Number of Employees
		Man	Woman	
1	S2	1	0	1
2	S1	8	3	11
3	D-III	6	1	7
4	High School Equivalent	40	1	41
Total		55	5	60

Source: PT. Mohandas Oeloeng, Semarang, 2025

Table 1 shows that the education level of employees at PT. Mohandas Oeloeng Semarang is dominated by high school graduates or equivalent. This indicates a variation in educational levels within the company's workforce structure, which can impact differences in mindset, analytical skills, and employee performance. The higher a person's education level, the higher their performance, as their understanding and problem-solving abilities significantly improve (Belschak et al., 2020). The length of service of PT. Mohandas Oeloeng Semarang employees is shown in Table 2.

Table 2. Length of Service of Employees of PT. Mohandas Oeloeng Semarang

No	Years of service	Amount	Presentation
1	< 5 Years	16	26.7%
2	5-10 Years	20	33.3%
3	> 10 Years	24	40%
Total		60	100%

Source: PT. Mohandas Oeloeng, Semarang, 2025

Based on Table 2, it can be seen that the length of service of PT. Mohandas Oeloeng Semarang employees is dominated by employees with a service period of more than 10 years, namely 24 people (40%), followed by employees with a service period of 5–10 years as many as 20 people (33.3%), and employees with a service period of less than 5 years as many as 16 people (26.7%). This condition indicates that most employees have quite extensive work experience, so they have the potential to have a good understanding of work processes, job characteristics, and company operational standards. The work experience possessed by these employees is expected to support improved performance, especially in terms of work accuracy, efficiency, and the ability to solve problems that arise during the implementation of work.

Individual characteristics are a crucial factor influencing employee performance. This encompasses differences in abilities, attitudes, personalities, perceptions, and motivations among employees, leading to variations in how employees complete tasks and address challenges in the workplace. These differences in individual characteristics can impact

accuracy, responsibility, and teamwork, particularly in the work at PT Mohandas Oeloeng, which demands discipline, punctuality, and strong coordination. This aligns with the opinion of Hidayat and Cavorina., (2018) which states that individual characteristics influence employee behavior and performance in an organization, because each individual has a different background, attitude and abilities which will be reflected in their work results.

Theoretically, education level, work experience, and individual characteristics are some of the various factors that influence employee performance. These factors are important to consider because they influence employees' mindsets, attitudes, and work behaviors in carrying out their duties and responsibilities within the company. PT. Mohandas Oeloeng employees have various educational backgrounds, with formal education such as college being considered more potential than high school or equivalent. Considering that field workers are needed for the company's core activities to run smoothly, recruitment can be carried out more thoroughly. Because employee performance will be assessed based on their ability to carry out their duties. Through education, work experience, and individual characteristics, employees are expected to be able to contribute to the company.

Based on various existing research issues and emerging phenomena, the results of this study examine the influence of education, work experience, and individual characteristics on employee performance. This study aims to examine the influence of education, work experience, and individual characteristics on employee performance at PT. Mohandas Oeloeng Semarang.

The influence of education on employee performance. Education plays a role in improving employees' knowledge, skills, and ways of thinking in completing work. Higher levels of education enable employees to work more effectively and efficiently. Previous research has shown that education has a positive impact on employee performance (Basyit, Sutikno, and Dwiharto., 2020). Based on the results of research conducted by Basyit, Sutikno, and Dwiharto., (2020) which states that "Education level can have a significant influence on employee performance at CV. Gajah Jaya, Pasuruan City" and research conducted by (Maulana and Riyanto Setyo., 2022) which states that "Education has a positive and significant influence on work experience". H1: Education has a positive and significant impact on employee performance.

The influence of work experience on employee performance. Work experience provides practical skills and greater adaptability in carrying out job duties. Employees with longer work experience have the potential to demonstrate more optimal performance. This study aligns with research conducted by Basyit, Sutikno, and Dwiharto., (2020) which states that work experience has a positive and significant effect on employee performance variables, and work experience has a positive and significant effect on employee performance. H2: Work experience or knowledge has a positive and significant effect on employee performance. have a real impact on employee performance.

The influence of individual characteristics on employee performance. Individual

characteristics reflect differences in attitudes, motivations, and abilities that influence work behavior. Good individual characteristics encourage increased quality and responsibility in work. Previous research has shown that individual characteristics positively impact employee performance, as demonstrated by Widyani, Utami, and Primadani., (2023) which states that individual characteristics have a partial positive and significant effect on employee performance and there is a positive and significant effect between individual characteristics and employee performance. H3: Individual characteristics have a positive and significant effect on employee performance.

The influence of education, work experience, and individual characteristics on employee performance. Education, job knowledge, and individual characteristics simultaneously shape an employee's abilities, skills, and work behaviors. These three factors complement each other in driving performance improvement. H4: Education, Work Experience, and Individual Characteristics Influence Employee Performance

Conceptual Framework. This study explains employee performance as a dependent variable influenced by education, work experience, and individual characteristics as independent variables. The education variable reflects the level of education, the suitability of the field of study to the job, and previous training that can improve skills and work abilities. The work experience variable is able to provide an overview of the length of service, task mastery, and problem-solving abilities acquired through the learning process in the workplace for each individual. Meanwhile, individual characteristics variables include aspects of age, motivation, attitude, personality, and personal abilities that contribute to shaping a person's behavior and work ethic. These three variables are suspected to have an influence on employee performance as reflected in the quality of work, quantity of work, responsibility, cooperation, and initiative in carrying out the tasks they are given. Based on the formulation of the hypothesis, the researcher proposed a research structure as shown in Figure 1.

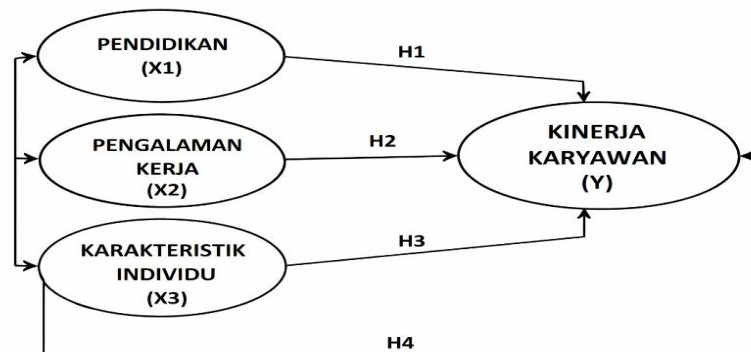


Figure 1. Research Model

Hypothesis

H1: Education has a positive influence on Employee Performance.

H2: Work Experience has a positive influence on Employee Performance

H3: Individual Characteristics have a positive influence on Employee Performance

H4: Education, Work Experience, Individual Characteristics have a positive influence on Employee Performance

RESEARCH METHODS

This research uses a quantitative approach with PT Mohandas Oeloeng as the research object. According to Alqershi et al., (2022) Population is the totality of all objects or individuals who have certain, clear and complete characteristics that will be studied. Dede and Firmansyah., (2022), a sample is a portion of the number and characteristics possessed by the population. Based on this, the population of this study is all employees of PT. Mohandas Oeloeng Semarang totaling 60 employees who were taken using a purposive sampling technique, with the criteria of employees who have worked for more than one year. Data collection was carried out through an online questionnaire. The assessment of variables in this study used a Likert scale with four response categories, where a score of 1 reflects a very high level of disagreement and a score of 4 reflects a very high level of agreement.

The data analysis technique in this study used the Statistical Package for the Social Sciences (SPSS) version 24. The analysis began with a data quality test that included validity and reliability tests using Cronbach's Alpha values. After that, standard hypothesis tests were carried out, including normality checks, multicollinearity checks, and heteroscedasticity checks. The tests were carried out from multiple linear regression analysis, with determination effect tests (R^2), F tests to see the overall impact of variables, as well as t tests to determine the impact of variables separately at a 5% significance level.

RESULTS & DISCUSSION

This study involved 60 respondents who were employees at PT Mohandas Oeloeng in Semarang. Respondent characteristics included gender, length of service, and highest level of education. The following data, collected in Table 3, shows the characteristics and categories of the respondents.

Table 3. Respondent Characteristics

Description	Category	Frequency	Percentage (%)
Gender	Man	55	91.5%
	Woman	5	8.3%
Years of service	< 5 Years	16	26.7%
	5-10 Years	20	33.3%
	> 10 Years	24	40%
Last education	S2	1	1.67%
	S1	11	18.33%
	D-III	7	11.67%
	High School Equivalent	41	68.33%

Source: Research Data (Processed), 2025.

Table 3 presents the characteristics of respondents by gender and length of service. All

questionnaires distributed to 60 respondents were successfully collected and used in the research analysis. Based on gender, 55 respondents (91.5%) were male, while 5 respondents (8.3%) were female. This indicates that the workforce structure of the study area is largely male. In terms of length of service, respondents with more than 10 years of service constituted the largest group, at 24 (40%). Respondents with 5–10 years of service numbered 20 (33.3%), while respondents with less than 5 years of service numbered 16 (26.7%). This distribution indicates that the majority of respondents have relatively long service periods, making them relevant as data sources for this study.

Validity and Reliability Test Results. Validity testing was conducted by comparing the calculated correlation coefficient (r count) with the r table value. The r table value was determined based on the degrees of freedom (df), namely the number of samples minus two ($df = 30 - 2 = 28$). At a significance level of 5%, the r table value for $df = 28$ was 0.361. The test results showed that all statement items had a calculated r value greater than the r table (r count $>$ r table). Thus, all statement items in the research instrument were declared valid.

Next, a reliability test was conducted using the Cronbach's Alpha coefficient. The test results showed that all variables had a Cronbach's Alpha value greater than 0.60, thus concluding that the research instrument had a good level of reliability and all variables were declared reliable. Based on the test results, the validity test results for the research variables are shown in Table 4.

Table 4. Validity Test

Variable	R-count	R-Table	Rhonbach' Alpha
Education	0.714	0.361	Valid
Work experience	0.665	0.361	Valid
Individual Characteristics	0.661	0.361	Valid
Employee performance	0.620	0.361	Valid

Source: Research Data (Processed), 2025

Table 4 above shows the results of the validity test of the research instrument on all variables used, namely education, work experience, individual characteristics, and employee performance. Based on the test results, all statement items in each variable had an r -count value greater than the r -table of 0.361. This indicates that all statement items were declared valid and suitable for use as measuring tools in research. Thus, the instrument used was able to accurately measure the research constructs and can be continued to the next stage of analysis. After the validity test was conducted, the results of the reliability test of the research variables are presented in Table 5.

Table 5. Reliability Test

Variable	Cronbach's Alpha	Critical Value	R-Table
Education	0.861		
Work experience	0.671	0.6	Trusted
Individual Characteristics	0.792		
Employee performance	0.770		

Source: Research Data (Processed), 2025

Table 5 shows that the overall Cronbach's Alpha score for the variables in this study exceeded the minimum threshold of 0.60, thus categorizing this study as reliable. The education variable showed a Cronbach's Alpha of 0.861 with 5 items, indicating a very good level of reliability. The work experience variable recorded a Cronbach's Alpha of 0.671 with 4 items, which is still considered reliable and acceptable. Furthermore, the individual characteristics variable obtained a Cronbach's Alpha score of 0.792 with 6 items, indicating good reliability. The employee performance variable had a Cronbach's Alpha of 0.770 with 5 items, indicating adequate internal consistency. Therefore, all of the items in this study were worthy of further analysis.

a. Structural Model Test (Inner Model). R-Square Analysis: Based on the multiple linear regression analysis presented in the Model Summary Table, the correlation effect (R) value was 0.811. This result indicates a strong correlation between education, work experience, and individual characteristics and employee performance at PT Mohandas Oeloeng.

The R Square (R^2) value of 0.658 indicates that 65.8% of the variation in employee performance can be explained jointly by education, work experience, and individual characteristics. The remaining 34.2% is influenced by factors outside the research model, such as work motivation, leadership, work environment, and other community factors not included in this study.

The Adjusted R Square value of 0.619 indicates that, after considering the number of independent variables in the model, the combined effect of education, work experience, and individual characteristics on employee performance remains significant, at 61.9%. This indicates that the regression model used is adequate and adequate to explain the relationship between variables.

b. F-Square Analysis: F-Square Analysis (f^2) is used to assess the practical impact of independent variables on dependent variables based on analysis results using SPSS. This analysis not only examines whether a variable has a statistical effect but also emphasizes the extent of its actual contribution in explaining changes in the dependent variable. Table 6 shows the results of the F-Square test.

Table 6. F Square Test Results

Model	Sum of Square	Df	Mean Square	F	Sig.
Regression	99,708	3	33,236	16,695	.000
Residual	51,759	26	1,991		
Total	151,467	29			

Source: Research Data (Processed), 2024

As seen in Table 6, the ANOVA test results listed in the ANOVA Table show that the F-value is 16.695 with a significant effect value (Sig.) of 0.000, lower than the significance level of $\alpha = 0.05$. This indicates that the regression model selected in this research is statistically significant. Therefore, the conclusion is that the variables of education, work experience, and individual characteristics simultaneously have a significant influence on employee performance at PT Mohandas Oeloeng, so that the three independent variables can simultaneously explain variations in employee performance changes.

c. Hypothesis Testing (Direct Effect). The results of the Direct Effect Coefficient Test (Inner Model) show the direct influence of the independent variables on the dependent variables in the research model. This test is used to determine the direction and significance of the influence of each variable without involving intermediary variables. In this study, the direct effect test explains the influence of education, work experience, and individual characteristics on employee performance as a basis for drawing conclusions about the relationships between variables. The results of the direct effect coefficient (inner model) test in this study are shown in Table 7.

Table 7. Results of the Direct Effect Coefficient Test (Inner Model)

Model	Unstandardized Coefficients		Unstandardized Coefficients	T	Sig.
	B	Std. Error	B		
(Constant)	1,605	2,376	33,236	.675	.505
Education	-.194	.219	-.200	-.886	.384
Work experience	.998	.280	.748	3,564	.001
Individual Characteristics	.232	.255	.246	.909	.372

Source: Research Data (Processed), 2024

The test results can be seen in the Coefficients Table, which shows the presentation of each independent variable of employee performance, namely:

The Influence of Education on Employee Performance (H1). The education variable has a regression effect value of -0.194, the calculated t value is -0.886, and the real effect value is 0.384, which is higher than the significance level of $\alpha = 0.05$. These results indicate that education does not have a significant impact on employee performance. Therefore, the hypothesis from H1 which states that education has a positive and real impact on employee

performance is rejected. This finding indicates that the level or suitability of formal education does not necessarily directly determine employee performance, especially in the context of field work which places more emphasis on experience and practical skills. In the corporate context, most work activities are technical and operational, so the successful completion of tasks depends more on field skills, work habits, and understanding of work processes gained through direct experience. Thus, formal education serves as a knowledge base, but does not directly impact employee performance improvement.

The Influence of Work Experience on Employee Performance (H2). The work experience variable has a regression effect value of 0.998, a t-value of 3.564, and a significance value of 0.001, which is smaller than $\alpha = 0.05$. This indicates that work experience has a positive and significant impact on employee performance. Thus, hypothesis H2 is accepted. This means that the higher the work experience an employee has, the better the resulting performance. This finding confirms that work experience makes a real contribution to improving employee adaptability, task mastery, and work effectiveness. In contrast to education, work experience has been shown to have a positive and significant influence on employee performance at PT Mohandas Oeloeng. This finding indicates that employees with longer work experience tend to have a better understanding of workflows, operational standards, and challenges faced in company activities. Work experience enables employees to work more efficiently, be able to anticipate problems, and complete tasks with a higher level of accuracy. This confirms that work experience is an important factor in supporting employee performance achievement in the company environment.

Individual characteristics are not always a determining factor in improving employee performance if the organization has implemented a standardized work system. The test results show that the individual characteristics variable has a regression coefficient value of 0.232, a t-value of 0.909, and a significance value of 0.372, which is greater than $\alpha = 0.05$. These findings indicate that individual characteristics do not have a significant effect on employee performance, so that the H3 hypothesis is rejected. This condition indicates that differences in individual abilities, values, attitudes, and interests have not directly affected employee performance at PT Mohandas Oeloeng. This is possible due to the implementation of work standards, operational procedures, and a relatively strict supervisory system, so that employee performance is more determined by compliance with rules and the ability to carry out tasks according to company provisions compared to the personal characteristics of each individual.

From the t-test, it can be seen that only work experience has no negative impact and has a significant influence on employee performance, while education and individual characteristics do not have a significant impact partially. However, based on the results of the previous F-test, all three variables as a whole still have a significant impact on employee performance. Overall, the results of the study indicate that although education and individual characteristics do not have a partial effect, all three variables simultaneously still contribute to employee performance. This finding confirms that employee performance at PT Mohandas Oeloeng is the

result of the interaction of various factors, with work experience as the most dominant variable. Therefore, the company needs to pay more attention to the management and development of employee work experience, such as through practice-based training, job mentoring, and knowledge transfer systems between employees.

CONCLUSION & SUGGESTION

The analysis results show that education partially has no effect on employee performance. This finding indicates that formal education level does not directly determine employee performance levels in carrying out their work. Conversely, work experience has been shown to influence employee performance, indicating that length of involvement and job mastery play a significant role in improving work outcomes. Meanwhile, individual characteristics did not show any effect on employee performance, suggesting that personal differences are not yet a major factor in determining performance.

However, education, work experience, and individual characteristics simultaneously influence employee performance. This suggests that employee performance is the result of the interaction of various factors, with work experience being the most influential factor in supporting employee performance improvement at PT Mohandas Oeloeng.

Based on the research, companies are advised to improve employee work experience by providing broader opportunities through field training, job rotation, and work assistance (mentoring), considering that work knowledge creates a positive impact that has a real effect on employee performance. Although formal education does not show a significant effect partially, companies still need to optimize the role of education through technical training and capacity development that is in accordance with professional needs so that employee knowledge can be applied effectively in the workplace.

In addition, companies also need to pay attention to the development of individual characteristics, such as work attitude, discipline, and responsibility, because even though they do not have a significant impact partially, individual characteristics still have a significant role in building a supportive work atmosphere. Considering that education, work knowledge, and individual characteristics as a whole can have a significant impact on employee performance, companies are advised to manage these three aspects in an integrated manner in human resource management policies and strategies. Furthermore, for future researchers it is recommended to add additional variables that may influence employee performance, such as work motivation, compensation, leadership, and work environment, as well as expanding the research object to other companies or industrial sectors to achieve more comprehensive research results that have stronger generalizability.

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