

VEHICLE TESTER PERFORMANCE OPTIMIZATION: THE ROLE OF TECHNICAL COMPETENCE AND THE IMPLEMENTATION OF STANDARD OPERATING PROCEDURES

OPTIMALISASI KINERJA PENGUJI KENDARAAN: PERAN KOMPETENSI TEKNIS DAN PENERAPAN PROSEDUR OPERASI STANDAR

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ABSTRACT

This study aims to analyze the influence of competence and the application of Standard Operating Procedures (SOP) on the performance of vehicle testers at the Tangerang Regency Transportation Office. This study is motivated by the importance of improving the quality of motor vehicle testing services, where human resource competence and procedural compliance are key factors. The research method uses an associative quantitative approach with census sampling techniques, involving all testing officers. Data were collected through questionnaires and observations, then analyzed by classical assumption tests and multiple linear regression. The results of the study show that both competence and the implementation of SOPs have a positive and significant effect on employee performance, both partially and simultaneously. These findings reinforce the human resource management theory that improved competence and procedural discipline can drive operational performance. This study provides practical contributions in the form of recommendations for improving competency-based training programs and strict supervision of the implementation of SOPs. The policy implications of this study can be a reference for relevant agencies in formulating strategies to improve service quality. The proportion of influence of other factors that were not studied opens up opportunities for further research by adding variables such as leadership or incentive systems.

Keywords : Technical competence, SOPs, performance of public sector employees, vehicle testing, linear regression

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh kompetensi dan penerapan Standar Operasional Prosedur (SOP) terhadap kinerja penguji kendaraan di Dinas Perhubungan Kabupaten Tangerang. Penelitian ini dilatarbelakangi oleh pentingnya peningkatan kualitas pelayanan pengujian kendaraan bermotor, di mana kompetensi sumber daya manusia dan kepatuhan terhadap prosedur merupakan faktor kunci. Metode penelitian menggunakan pendekatan kuantitatif asosiatif dengan teknik sampling sensus, yang melibatkan seluruh petugas pengujian. Data dikumpulkan melalui kuesioner dan observasi, kemudian dianalisis menggunakan uji asumsi klasik dan regresi linier berganda. Hasil penelitian menunjukkan bahwa baik kompetensi maupun penerapan SOP berpengaruh positif dan signifikan terhadap kinerja pegawai, baik secara parsial maupun simultan. Temuan ini memperkuat teori manajemen sumber daya manusia bahwa peningkatan kompetensi dan disiplin prosedural dapat mendorong kinerja operasional. Penelitian ini memberikan kontribusi praktis berupa rekomendasi untuk peningkatan program pelatihan berbasis kompetensi dan pengawasan ketat terhadap pelaksanaan SOP. Implikasi kebijakan dari penelitian ini dapat menjadi acuan bagi instansi terkait dalam merumuskan strategi peningkatan kualitas pelayanan. Proporsi pengaruh dari faktor lain yang belum diteliti membuka peluang untuk penelitian lanjutan dengan menambahkan variabel seperti kepemimpinan atau sistem insentif.

Kata kunci: Kompetensi teknis, SOP, kinerja pegawai sektor publik, pengujian kendaraan, regresi linier.

1. INTRODUCTION

Human Resources (HR) is both a science and an art that manages and directs people within an organization to achieve goals effectively and efficiently. As one of the most valuable organizational assets, competent human resources are expected to meet various challenges that arise from both internal and external environments. In the era of globalization, HR has become a key pillar of success for institutions in both the private and public sectors. Technological advances and increasing service demands have driven organizations to prioritize the development of employee competence and service quality. While the private sector focuses on improving competitiveness through skills training, public institutions are required to ensure regulatory compliance and deliver excellent public service simultaneously. (Tahayu 2019:43).

Within public service institutions such as the Department of Transportation, especially the Tangerang Regency branch, HR development encounters complex challenges. These challenges include aligning technical and administrative skills, adapting to regulatory updates, and utilizing modern testing technologies. HR management plays a strategic role in ensuring that vehicle inspectors not only perform their duties based on technical expertise but also adhere to established Standard Operating Procedures (SOPs). However, in practice, many inspectors have demonstrated inconsistencies, particularly in delivering accurate, timely, and compliant services. These performance issues often stem from gaps in competence, insufficient training, outdated certifications, and lack of enforcement of SOP adherence.

Performance data from July 2023 to June 2024 show a downward trend in several critical indicators. These include a decline in testing punctuality, increased administrative errors, reduced accuracy and quality of testing reports, and weakened adherence to SOPs and testing methods. For instance, on-time inspections dropped from 81% to 68%, and administrative errors increased from 8% to 13%. These figures suggest that without prompt corrective actions, the performance and reliability of services provided by the vehicle testing unit may continue to deteriorate. Education background data also reveal that more than half of the employees in this unit have only completed secondary education, and less than 10% have a diploma or higher, which affects overall competency levels. The lack of structured training programs and expired certifications further contribute to reduced service efficiency and user dissatisfaction.

In addition to the competency gaps, another key issue lies in the implementation of SOPs. Although the Tangerang Regency Department of Transportation has established clear SOPs based on Regent Regulation No. 45 of 2019, field observations reveal inconsistent application. Employees often skip crucial procedural steps due to pressure, lack of discipline, or minimal supervision. Furthermore, some staff members misunderstand the purpose of SOPs, viewing them as bureaucratic obstacles rather than helpful guidelines. This misperception leads to deviations from standardized procedures, lowering testing quality and increasing the risk of inaccurate evaluations. Bridging this gap between regulatory standards and actual practice is essential to improve public trust and service credibility.

Previous studies offer differing conclusions about the influence of competency and SOP application on employee performance. Some studies, such as Werni Sarumaha's research (2022), found a significant positive relationship between employee competency and performance. Others, like Sri Adrianti Muin's study (2023), concluded that the influence of competency was not statistically significant. Similarly, research on SOPs shows varied results; while some institutions found SOP adherence to be impactful, others did not observe a strong connection. Given these mixed findings and the performance decline observed at the Tangerang Regency Transportation Office, this study is highly relevant. It aims to further examine the influence of competency and SOP implementation on the performance of vehicle inspectors, and ultimately propose practical solutions for improving service quality and organizational performance.

2. LITERATURE REVIEW

2.1. The Influence of Competence on Employee Performance

Competence is a combination of knowledge, skills, and attitudes needed to complete tasks effectively (Spencer & Spencer, 1993). According to Boyatzis (1982), adequate competence will increase work productivity because individuals are able to complete work more efficiently. Previous research by Prajogo & McDermott (2011) showed that employees with good technical and managerial competence tend to have superior performance. In the context of vehicle testing, technical competencies such as understanding regulations, operational capabilities of test equipment, and analysis of emission test results are factors that determine work quality (Chen et al., 2018).

2.2. The Effect of the Implementation of SOPs on Employee Performance

The Standard Operating Procedure (SOP) serves as a standardized work guide to ensure consistency and accuracy of work results (ISO 9001:2015). According to Tjiptono & Diana (2003), SOPs that are well implemented can reduce performance variations and minimize procedural errors. Research in the public sector by Tummers & Knies (2016) found that compliance with SOPs is positively correlated with accountability and transparency of services. In vehicle testing, SOPs regulate vehicle feasibility check procedures, so non-compliance can have implications for the safety of road users (WHO, 2018).

2.3. Competency Interaction and SOP Implementation

The Resource-Based View theory (Barney, 1991) states that human resources (competencies) and systems (SOPs) are strategic assets to achieve optimal performance. Research by Pereira & Gomes (2012) in the transportation sector shows that the combination of high competence and SOP compliance results in a 30% increase in service speed. However, a contrasting study from Liu et al. (2020) reveals that SOPs that are too rigid can hinder the initiative of highly competent employees, especially in non-routine situations. This study fills the gap in the literature by: Focusing on the context of motor vehicle testing in Indonesia, which has not been widely researched. Testing the unique interactions between specific technical competencies and public sector SOPs. Provide evidence-based policy implications for the Department of Transportation.

2.4. Hypothesis Formulation

Based on the literature review, the following hypotheses were formulated:

H1: Competence has a positive and significant effect on the performance of vehicle testers. Theoretical Basis: Competency Theory (Spencer & Spencer, 1993) and empirical findings of Prajogo & McDermott (2011).

H2: The implementation of SOPs has a positive and significant effect on the performance of vehicle testers. Basic Theory: ISO 9001:2015 and research by Tummers & Knies (2016).

H3: Competence and simultaneous implementation of SOPs have a positive effect on the performance of vehicle testers. Basic Theory: Integration of the Resource-Based View (Barney, 1991) and the Pereira & Gomes (2012) study.

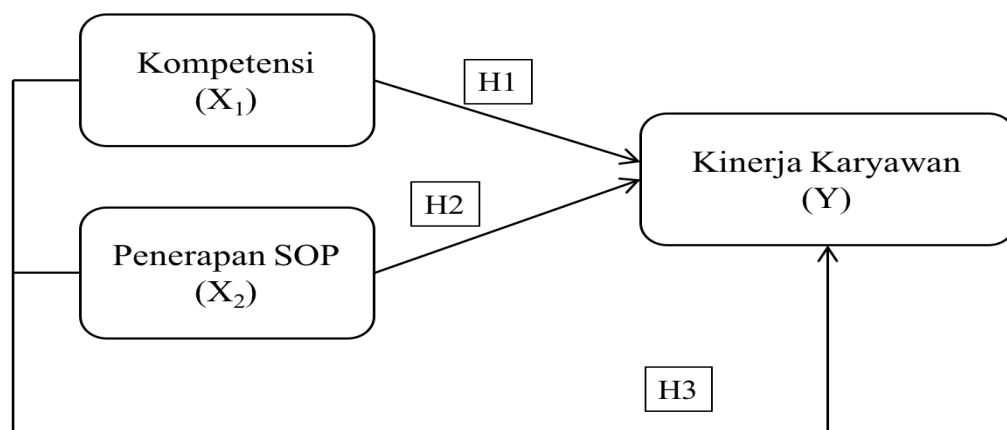


Figure 1. Conceptual framework**2. METHODS**

The research approach chosen by the author is a quantitative research approach. Quantitative research is closely related to social survey techniques, including structured interviews and questionnaires, structured observation, content analysis, formal statistical analysis, and the use of SPSS Version 29 as a tool to process numerical data derived from the research questionnaires. This research was conducted at the Department of Transportation of Tangerang Regency, located on Jalan Raya Parahu, Parahu Village, Sukamulya District, Tangerang Regency, Banten Province. The location was selected as it is considered an appropriate site for obtaining the necessary data. The research timeline was planned to begin with initial observations, followed by data collection, questionnaire distribution, and other related activities, conducted from October 2024 to January 2025. The data sources used in this study are primary and secondary data. Primary data was collected through the direct distribution of questionnaires and also via Google Forms to respondents. The population in this study consists of employees of the Department of Transportation of Tangerang Regency at the time the research was conducted. A total of 62 employees were encountered and all of them were included in the study population. The author used Probability Sampling with a Saturated Sampling method, where the entire population was used as the sample for the study. The data analysis techniques employed in this study include Validity Test, Reliability Test, Correlation Test, Coefficient of Determination Test, Regression Analysis, T-Test, and F-Test (Simultaneous Test).

3. RESULTS AND DISCUSSIONS**3.1. Validity Test Result**

Instrument validity test is a trial that shows the level of validity of an instrument. This validity test is carried out to determine whether or not each item of the instrument is valid, which can be known by correlating the score of each item with the total score, so that the data used in further analysis is data taken based on valid statement items, while invalid items are declared invalid and immediately dropped (not included in further testing). Validity testing is carried out to determine whether the measuring instrument designed in the form of a questionnaire can actually carry out its function. The calculation of the instrument validity test uses Pearson correlation analysis with the help of the SPSS version 29.

Table 1 Pearson Correlation Test of Competence Variable (X1)

Variabell	Itelm Statement	rhitulng	rtabel	Evident
Competence (X1)	X1.1	0.752	0.250	Valid
	X1.2	0.693	0.250	Valid
	X1.3	0.729	0.250	Valid
	X1.4	0.709	0.250	Valid
	X1.5	0.773	0.250	Valid
	X1.6	0.693	0.250	Valid
	X1.7	0.760	0.250	Valid
	X1.8	0.614	0.250	Valid
	X1.9	0.709	0.250	Valid
	X1.10	0.773	0.250	Valid

Source: SPSS output data version 29, 2024

Based on table 1 above, the results of the validity test of the Competency variable (X1) show that the calculated r value $>$ r table (0.250) has a positive value. Thus, all statements are declared valid.

Tabel 2 Uji Pearson Correlation Variabel Penerapan SOP (X2)

Variabell	Item Statement	rhitung	rtabel	Evident
Implementation of SOP (X2)	X2.1	0.686	0,250	Valid
	X2.2	0.763	0,250	Valid
	X2.3	0.782	0,250	Valid
	X2.4	0.737	0,250	Valid
	X2.5	0.779	0,250	Valid
	X2.6	0.717	0,250	Valid
	X2.7	0.558	0,250	Valid
	X2.8	0.713	0,250	Valid
	X2.9	0.782	0,250	Valid
	X2.10	0.737	0,250	Valid

Source: SPSS output data version 29, 2024

Based on table 2 above, the results of the validity test of the SOP Implementation variable (X2) show that the calculated r value $>$ r table (0.250) has a positive value. Thus, all statements are declared valid.

Tabel 3 Uji Pearson Correlation Variabel Performance (Y)

Variabel	Item Statement	rhitung	rtabel	Evident
Performance (Y)	Y.1	0.451	0,250	Valid
	Y.2	0.675	0,250	Valid
	Y.3	0.646	0,250	Valid
	Y.4	0.728	0,250	Valid
	Y.5	0.742	0,250	Valid
	Y.6	0.704	0,250	Valid
	Y.7	0.687	0,250	Valid
	Y.8	0.658	0,250	Valid
	Y.9	0.747	0,250	Valid
	Y.10	0.758	0,250	Valid

Source: SPSS output data version 29, 2024

Based on table 3 above, the results of the validity test of the Performance variable (Y) show that the calculated r value $>$ r table (0.250) has a positive value. Thus, all statements are declared valid.

Reliability Test Result

Tabel 4. Reliability Test Result

Variabel	Cronbach Alpha	Standart Cronbach Alpha	Information
Competence (X1)	0.897	0,600	Reliabel

Implementation of SOP (X2)	0.899	0,600	Reliabel
Performance (Y)	0.872	0,600	Reliabel

Source: SPSS output data version 29, 2024

In table 3 the results of reliability testing show that the Cronbach Alpha value for each variable is > 0.600 . Thus, the indicators of the variables Competence (X1), Implementation of SOP (X2), Performance (Y), are declared reliable to be used as variable measuring tools.

3.2. Normality Test

The normality test used is the Kolmogorov-Smirnov statistical test. The basis for decision making is: Significance figure (sig) > 0.05 , then the data is normally distributed. And Significance figure (sig) < 0.05 , then the data is not normally distributed.

Table 5. Normality Test Results with Kolmogorov Smirnov Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		62
Normal Parameters ^a , b	Mean	0.0000000
	Std. Deviation	3.10735694
Most Extreme Differences	Absolute	0.049
	Positive	0.049
	Negative	-0.049
Test Statistic		0.049
Asymp. Sig. (2-tailed) ^c		.200 ^d

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Source: SPSS output data version 29, 2024

According to Ghazali (2019:161), Data normality testing is carried out to determine whether the data for each variable obtained is normally distributed or not. The technique used to test the normality of data for each variable in this study is the Kolmogorov-Smirnov Test, with the normality criteria being a significance (α) of 0.05. If $\text{sig} > \alpha$ then the sample comes from a normally distributed population.

Normal P-P Plot of Regression Standardized Residual

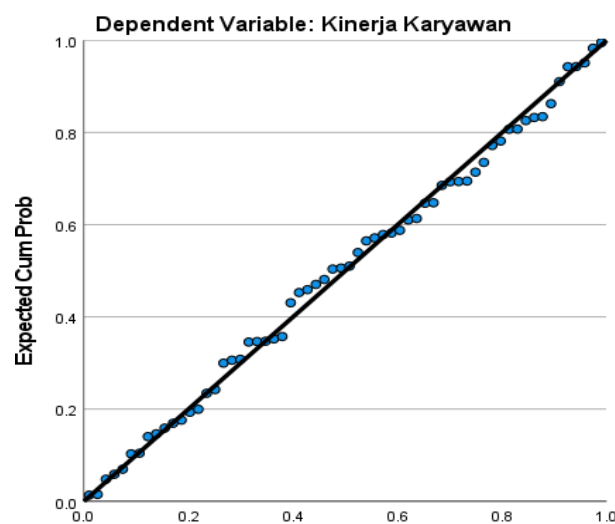


Figure 2. Normality Test Results (Graph)

The normal plot graph displays points arranged around a diagonal line and the distribution is inferred from the normal graph based on the results of the normality test using the normal plot graph. This line shows that the normality assumption is met by the regression model.

The multicollinearity test according to Ghazali (2019) is to find out whether the regression model detects a relationship between independent variables. There should be no correlation between independent variables in a viable regression model. Variance Inflation Factor (VIF) and tolerance values can be used to test multicollinearity. If the tolerance value is greater than 0.10 and the VIF value is less than 10, it is considered that multicollinearity does not occur.

Table 6. Multicollinearity Test Results

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	8.062	2.361		3.415	0.001		
	Competence (X1)	0.311	0.093	0.350	3.339	0.001	0.440	2.272
	Implementation of SOP (X2)	0.487	0.092	0.552	5.269	0.000	0.440	2.272

a. Dependent Variable: Performance

Source: SPSS output data version 29, 2024

The results of the multicollinearity test (VIF test) in table 6 show that $VIF\ 2.272 < 10$ and tolerance $0.440 > 0.10$, which means that the regression model does not contain multicollinearity and the regression model is suitable for use.

The heteroscedasticity test in this research uses a scatterplot graph. Heteroscedasticity can be detected if there is a regular pattern, whereas if the points are scattered randomly above and below the number 0 on the Y axis without a clear pattern, then there is no heteroscedasticity.

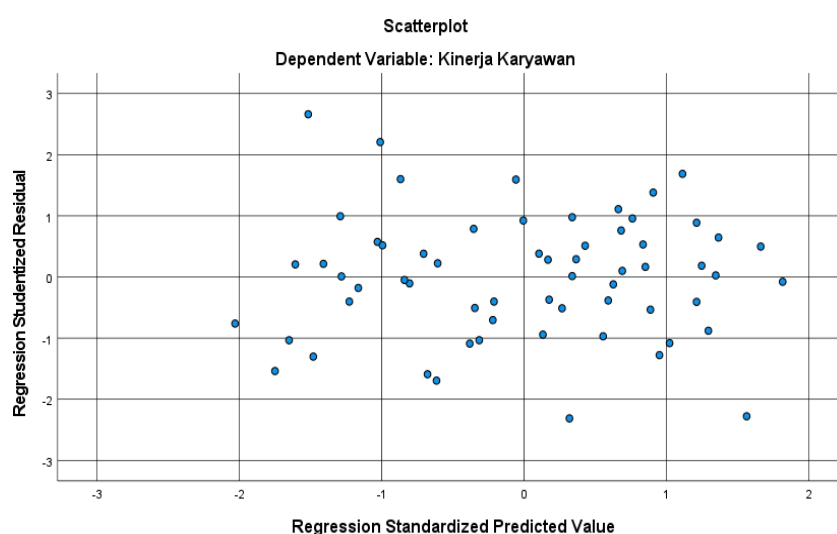


Figure 3 Heteroscedasticity Test Results

Based on the Scatterplot graph above, it can be seen that the points are spread randomly both above and below the number 0 on the Y axis, so it is concluded that there is no heteroscedasticity in the regression model.

Multiple linear regression analysis is an analysis that aims to predict how much influence one or two independent variables have on one dependent variable. This analysis is used to prove the extent of the influence of Competence (X1) and SOP Implementation (X2) on Vehicle Examiner Performance (Y) at the Tangerang Regency Transportation Agency. The results of multiple linear regression can be seen in the following table:

Table 7. Multiple Linear Regression Test Results

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.062	2.361		3.415	0.001
	Competence (X1)	0.311	0.093	0.350	3.339	0.001
	Implementation of SOP (X2)	0.487	0.092	0.552	5.269	0.000

a. Dependent Variable: Performance

Source: SPSS output data version 29, 2024

Based on the results of the multiple regression test in table 7 above between the Competence variables (X1) and SOP Implementation (X2) on performance (Y) it can be concluded that the equation:

$$Y = 8,062 + 0,311C + 0,487SOP + e$$

- 1) The constant value of the Unstandardized Coefficients is 8.062, meaning that if the value of the Competence variables (X1) and SOP Implementation (X2) is 0 (zero), then the Performance variable (Y) will be worth 8.062.
- 2) The regression coefficient value of Competence (X1) is 0.311, which means that if the value of the other independent variables does not change and the Competence variable (X1) increases by 1 unit, then the Performance variable (Y) will increase by 0.311 units.
- 3) The regression coefficient value of SOP Implementation (X2) is 0.487, which means that if the other independent variables do not change and the SOP Implementation variable (X2) increases by 1 unit, then the Performance variable (Y) will increase by 0.487 units.
- 4) Because the coefficient values of both independent variables are positive, it can be said that the two independent variables Competence (X1), and SOP Implementation (X2) have a positive effect on the dependent variable Employee Performance (Y).
- 5) Standardized Coefficients Beta shows the Competence variable (X1) with a value of 0.350 or 35% and the SOP Implementation variable (X2) with a value of 0.552 or 55.2%. This indicates that the SOP Implementation variable (X2) has a greater influence on Employee Performance (Y) compared to the Competence variable (X1), because the Beta value of the SOP Implementation variable (X2) is 55.2% greater than the Beta value of the Competence variable (X1) which is only 35%.
- 6) The significance value (sig) (X1) and (X2) have significant values with sig values (X1) 0.001 < 0.005 and sig (X2) 0.001 < 0.005 indicating that both variables are significant.

Coefficient of Determination Test Results

This determination coefficient test is conducted to see whether there is a perfect or imperfect relationship indicated by whether changes in the independent variable will be followed by the dependent variable in the same proposition. This test is done by looking at R Square (R^2). The value of the determination coefficient is between 0 and 1, then a small R^2 value means that the ability of the independent variables to explain the dependent variation is very limited. A value close to 1 means that the independent variables provide all the information needed to predict the dependent variation. The value of the determination coefficient is determined by the R square (R^2) value which can be seen as follows:

Table 8 Results of the Determination Coefficient Test Between Competence (X1) and SOP Implementation (X2) on Performance (Y)

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.846 ^a	0.715	0.706	3.160

a. Predictors: (Constant), SOP Implementation, Compensation

b. Dependent Variable: Employee Performance Source: SPSS output data version 29, 2024

$$K_d = r^2 \times 100\%$$

$$K_d = 0,706 \times 100\%$$

$$K_d = 70,6\%$$

By looking at (Adjusted R Square) it can be seen that the value of the Determination Coefficient is 0.706 or 70.6% indicating that the Competence variables (X1) and SOP Implementation (X2) together contribute to Performance (Y) by 70.6%, while the remaining 29.4% (100% - 70.6%) is from epsilon (indicator of variables not studied).

Hypothesis Test Results (T)

The t-test basically shows how far the influence of one explanatory/independent variable individually in explaining the variation of the dependent variable. This test aims to test the influence of Competence (X1) and SOP Implementation (X2) on Performance (Y) separately or partially, with the test criteria if the significant value $< \alpha$ 0.05 then H_a is accepted and H_0 is rejected, then the hypothesis in this study is accepted. If significant $> \alpha$ 0.05 then H_a is rejected and H_0 is accepted, then the hypothesis in this study is rejected or not accepted.

To determine the significant value of $\alpha = 5\%$ or 0.05, the following formula is used:

$$\alpha = 5\% \text{ or } 0.05 \quad t_{table} = (a/2; n-k)$$

$$t_{table} = (0.05/2; 62-2) \quad t_{table} = (0.025; 62-2)$$

$$t_{table} = 2,000$$

Table 9 Results of Partial Hypothesis Significance Testing Based on Multiple Regression Test Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.062	2.361		3.415	0.001

Competence (X1)	0.311	0.093	0.350	3.339	0.001
Implementation of SOP (X2)	0.487	0.092	0.552	5.269	0.000

a. Dependent Variable: Employee Performance Source: SPSS output data version 29, 2024

Based on table 9, the results of the t-test above to determine the magnitude of the influence of each independent variable partially on the dependent variable are as follows:

- 1) The Effect of Competence Variable (X1) on the Performance of Vehicle Examiners (Y) at the Tangerang Regency Transportation Agency
- 2) From the calculation results in table 4.17, the t-count value is 3.339 > t- table 2.000 with a significance of 0.001 < 0.05. Thus, H₀ is rejected, H_a is accepted. So it can be said that there is a positive and significant influence between Competence (X1) on the Performance of Vehicle Examiners (Y) at the Tangerang Regency Transportation Agency.
- 3) The Effect of SOP Implementation Variable (X2) on the Performance of Vehicle Examiners (Y) at the Tangerang Regency Transportation Agency
- 4) From the calculation results in table 4.17, the t-count value is 5.269 > t- table 2.000 with a significance of 0.001 < 0.05. Thus, H₀ is rejected, H_a is accepted. So it can be said that there is a positive and significant influence between the Implementation of SOP (X2) on the Performance of Vehicle Examiners (Y) at the Tangerang Regency Transportation Service.

Simultaneous Hypothesis Test Results (F)

Hypothesis testing using simultaneous testing with the F-test aims to determine the joint influence of independent variables on the dependent variable. In this study, the independent variables are Competence and Implementation of SOPs, while the dependent variable is the Performance of Vehicle Examiners (Y) at the Tangerang Regency Transportation Agency.

The F test is a test of the significance of the equation used to determine how much influence the independent variables (X1) and (X2) have together on the dependent variable (Y). The feasibility of the model at the α level is 5%. The decision-making rules are as follows: If F count > F table, then H_a is accepted H₀ is rejected If F count < F table, then H₀ is accepted H_a is rejected

To determine the F table value, the following formula is used: $f \text{ table} = (k; n; -k-1)$
 $f \text{ table} = (2; 62-2-1)$
 $f \text{ table} = (2; 59) f \text{ table} = 3.153$

Table 10. Simultaneous F Test Results
ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1479.778	2	739.889	74.115	.000b
	Residual	588.996	59	9.983		
	Total	2068.774	61			

a. Dependent Variable: Employee Performance

b. Predictors: (Constant), SOP Implementation, Competence Source: SPSS output data version 29, 2024

The calculation results obtained an Fcount value of 74.115 with a significance level of 0.000. Fcount is greater than Ftable (3.153), the alpha value or significance of 0.000 also shows a number below 0.05 so it can be concluded that H₀ is rejected and H_a is accepted, meaning

that there is a significant influence together from the Competence variables (X1) and SOP Implementation (X2) on the Performance of Vehicle Examiners (Y) at the Tangerang Regency Transportation Service.

DISCUSSION

Competence Has a Positive Influence on Performance

The regression results show that the Competence variable (X1) has a positive and significant influence on Vehicle Tester Performance (Y), with a t count of $3.339 > t_{table} 2,000$ and a significance of $0.001 < 0.05$. This study is supported by several previous studies showing that competence affects performance partially and significantly.

From the aspect of competence, the results of the study confirm the theory of Spencer and Spencer (1993) about the importance of mastery of knowledge, skills, and professional attitudes in supporting performance. In the context of vehicle testing, technical competencies that include a deep understanding of test parameters, the ability to operate diagnostic equipment, and expertise in interpreting measurement results prove to be determinants of work quality. This finding is in line with the research of Prajogo and McDermott (2011) which affirms that improving competence will have a direct impact on the efficiency and accuracy of task implementation.

Implementation of SOP Has a Positive Influence on Performance

The implementation of SOP (X2) also has a positive and significant influence on Performance (Y), indicated by a t count of $5.269 > t_{table} 2,000$ and a significance of $0.001 < 0.05$. This is in line with various studies that emphasize the importance of SOP in significantly improving employee performance.

In the SOP implementation variable, the results showed that consistency in following standard procedures contributed significantly to performance. This is in accordance with the quality management principles of ISO 9001:2015 which emphasizes the importance of process standardization. In vehicle testing practice, adherence to SOPs ensures that each inspection is conducted uniformly, reducing variation between testers, and minimizing the possibility of procedural errors. These findings strengthen the results of research by Tummers and Knies (2016) on the role of SOPs in improving public service accountability.

Competence and SOP Have Simultaneous Effect on Performance

Simultaneously, the variables Competence (X1) and SOP Implementation (X2) have a significant effect on Performance (Y), based on the Fcount value of $74.115 > F_{table} 3.15$ and a significance of $0.000 < 0.05$. This finding is consistent with previous studies showing that the combination of competence and SOP increases the efficiency, effectiveness, and productivity of employee performance.

What is interesting about this study is the proof that the combination of high competence and discipline in implementing SOPs produces a synergistic effect on performance improvement. These findings support the Resource-Based View theory (Barney, 1991) which states that organizations can achieve a competitive advantage through the optimization of internal resources. In this context, competent human resources supported by a good procedural system have proven to be able to provide higher quality vehicle testing services.

4. CONCLUSION

This study empirically proves that the competence and implementation of Standard Operating Procedures (SOP) have a positive and significant effect on the performance of vehicle testers at the Tangerang Regency Transportation Office. Key findings show that: (1) improving the technical competence of the tester directly improves the quality and efficiency of vehicle testing; (2) consistency in implementing SOPs plays an important role in

standardizing work processes and reducing performance variations between officers; and (3) the optimal combination of HR competencies and procedural discipline creates a synergistic effect that strengthens overall organizational performance. These results not only support all the hypotheses put forward but also enrich the literature on performance management in the public service sector, particularly in the field of motor vehicle testing.

This research makes three main contributions theoretically. First, it strengthens the validity of Spencer and Spencer's (1993) Competency theory in the technical context of vehicle testing. Second, confirming the relevance of the ISO 9001:2015 principal on the importance of standardizing procedures in a technical and repetitive work environment. Third, enriching the application of the Resource-Based View theory (Barney, 1991) by showing how the interaction between quality human resources and a good procedural system can create operational excellence in public organizations. The findings of this study imply several practical recommendations: (1) the development of a continuous training program that focuses on strengthening technical competence and regulatory understanding; (2) improvement of the internal supervision system to ensure consistency in the implementation of SOPs; (3) the development of a performance appraisal system that integrates aspects of competence and procedural compliance; and (4) optimizing resource allocation to support both aspects in a balanced manner.

This research has several limitations that need to be acknowledged. First, the scope of research is limited to one agency, so generalization of findings requires caution. Second, there were 42.2% variations in performance that could not be explained by the research model, indicating the presence of other influential factors such as work motivation, leadership, or organizational factors. Third, this study uses a quantitative approach so that it is not able to reveal qualitative aspects such as employees' perception of the existing work system. Based on these limitations, several suggestions can be proposed for further research: (1) expanding the scope of the sample by involving several transportation agencies in different regions; (2) add mediator or moderator variables such as job satisfaction or organizational commitment; (3) using a mixed-methods approach to gain a more holistic understanding; and (4) conducting longitudinal studies to observe the impact of competency improvement interventions and SOPs on performance over a certain period of time.

Overall, this study has succeeded in proving the critical role of competence and the application of SOPs in improving the performance of vehicle testers. The findings of the study not only provide an empirical basis for the improvement of the vehicle testing system in Tangerang Regency, but also offer a conceptual framework that can be adapted by similar agencies. The implementation of the resulting recommendations is expected to contribute to improving the quality of motor vehicle testing services that are more accountable, consistent, and results-oriented.

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