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The Influence of Transformational Leadership and Innovative Work Behavior on Employee Performance

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ABSTRACT
This study examines the effects of transformational leadership and innovative work behavior on employee performance at PT. Cipta Niaga Semesta, an FMCG distribution company in Bojonegoro, East Java. A quantitative approach was used, involving all 50 employees as both population and sample through saturated sampling, with data analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 4.0. The results show that transformational leadership has a positive and significant effect on employee performance and on innovative work behavior, while innovative work behavior has no significant effect on employee performance. This implies that strengthening transformational leadership is a more effective lever for improving performance than innovative work behavior alone. The study is limited to a single company and a cross-sectional design, which restricts generalizability.

Keywords: transformational leadership; innovative work behavior; employee performance

ABSTRAK
Penelitian ini menganalisis pengaruh kepemimpinan transformasional dan perilaku kerja inovatif terhadap kinerja karyawan di PT. Cipta Niaga Semesta, perusahaan distribusi FMCG di Bojonegoro, Jawa Timur. Penelitian menggunakan pendekatan kuantitatif dengan melibatkan seluruh 50 karyawan sebagai populasi sekaligus sampel melalui teknik sampling jenuh, dan data dianalisis menggunakan Partial Least Squares Structural Equation Modeling (PLS-SEM) melalui SmartPLS 4.0. Hasil penelitian menunjukkan bahwa kepemimpinan transformasional berpengaruh positif dan signifikan terhadap kinerja karyawan maupun perilaku kerja inovatif, sedangkan perilaku kerja inovatif tidak berpengaruh signifikan terhadap kinerja karyawan. Temuan ini mengimplikasikan bahwa penguatan kepemimpinan transformasional lebih efektif dalam meningkatkan kinerja dibandingkan perilaku kerja inovatif semata. Penelitian ini terbatas pada satu perusahaan dengan desain cross-sectional sehingga generalisasinya terbatas.

Kata Kunci: Kepemimpinan transformasional; perilaku kerja inovatif; kinerja karyawan

INTRODUCTION

Information technology is a rapidly evolving field that impacts every aspect of our lives. These shifts, which began with the internet and have led to the implementation of artificial intelligence systems, not only produce innovation but also create new realities that radically transform our daily existence (Nazwa, 2023).

Human resource development in today's digital age is crucial for improving employee performance. Enhancing the quality of human resources allows employees to align their capabilities with their assigned tasks and determines how effectively they execute their work. This is particularly vital for long-tenured employees, as a lack of digital literacy often becomes a barrier to keeping pace with technological advancements (Angga, 2023).

The transformation of human resources in the digital era is becoming increasingly critical as technology's influence in the workplace grows. Companies must quickly adapt to shifting skill requirements to overcome digital-era challenges. Competencies such as data literacy, analytical skills, and the ability to adapt to new technologies are vital (Ramadhan, 2024).

PT. Cipta Niaga Semesta is a national distribution company operating in the Fast-Moving Consumer Goods (FMCG) sector, located in Bojonegoro, East Java Province. The company distributes well-known Mayora Group products, including Le Minerale (Gallons), Teh Pucuk, Tujuh Kurma, Torabika coffee, Beng-Beng, Choki-Choki, Energen, Astor, Kalpa, Roma Kelapa, Malkist, Slai O'lai, Kopikap, Fruta Gummy, and Kopiko candy.

Employee performance is defined as the level and volume of work achieved by an employee in carrying out their responsibilities. Work efficiency is a primary parameter of a company's success in executing its functions and reaching its objectives (Widiyasari, 2023). However, based on interviews with employees at PT. Cipta Niaga Semesta, performance has seen a decline in work quality or results that do not meet the company's expectations.

Performance is the outcome of effort achieved by an individual when carrying out responsibilities based on ability, experience, commitment, and time duration; in this sense, performance is understood as the achievement obtained by someone when performing a task (Sari, 2023). One method used to improve employee performance is through Innovative Work Behavior. This refers to a series of sequential employee activities aimed at developing and increasing work effectiveness. This process consists of several stages:

1. Identifying and understanding the scope of work.
2. Having a high awareness of work quality and creatively seeking solutions.
3. Building cooperation and commitment to realize innovative improvement proposals within team work processes (De Jong, 2010).

Research conducted by Ponggohong (2025) explains that innovative work behavior significantly impacts performance. The findings show that through F-tests, innovative work behavior impacts employee performance by 0.88, with a T-statistic (X1=>Y) of 4.445. Conversely, a study by Nurchalis (2024) indicates that innovative work behavior does not have a significant impact on performance; hypothesis testing suggested that innovative work behavior was not empirically capable of increasing employee performance. Based interviews with employees at PT. Cipta Niaga Semesta, the phenomenon of innovative work behavior there is hindered by a lack of management support (budget and time) and a mismatch between employee competencies and innovation demands.

Another method companies can apply to improve employee performance is the implementation of Transformational Leadership. This style inspires staff to perform better than their usual habits; in other words, it strengthens the self-confidence of subordinates, which subsequently has a positive effect on increasing work productivity (Asri, 2024). According to a study by Ina Mery (2023), improving employee achievement can be facilitated through transformational leadership. The study revealed that partial tests on the transformational leadership variable were directly related to employee performance, where the t-count reached 2.395—higher than the t-table value of 2.037—with a significance level of 0.023.

However, interviews at PT. Cipta Niaga Semesta suggest that transformational leadership is lacking in wisdom regarding subordinate involvement in decision-making, which prevents the organization from developing or reaching its vision and mission. Furthermore, research by Purnamandiri (2024) explains that the transformational leadership model does not always impact employee work achievement. Their findings revealed a t-count for transformational leadership of -1.152, while the t-table value at df (65-3-1=61) was 1.670, indicating a significance value > 0.05.

THEORETICAL BACKGROUND

2.1 Employee Performance

Employee performance is defined as the level and volume of work outcomes achieved by an employee in carrying out the responsibilities or tasks assigned to them. Work efficiency serves as the primary parameter of a company's success in executing its functions and achieving its objectives (Widiyasari, 2023).
Performance is the result of effort attained by an individual while performing responsibilities based on ability, experience, commitment, and time duration. In this context, performance can be understood as the achievements obtained by someone when performing tasks according to applicable standards (Sari, 2023).

2.2 Innovative Work Behavior

Innovative work behavior is a set of actions performed by individuals within an organization aimed at creating, developing, and implementing new ideas that have the potential to improve performance or provide added value to the organization (Nurdinni, 2024). Innovative work behavior is a three-stage process where employees generate ideas (Idea Generation) and realize them into tangible products or processes that increase productivity. These stages include creating new ideas or modified solutions, sharing ideas to gain support, and implementing those ideas into something concrete within individual or team work (Made, 2021).

2.3 Transformational Leadership

Transformational leadership is a successful leadership model used in many global organizations to manage the interaction between leaders and their followers. The term "transformational leadership" is derived from the word "transform," which means changing something into a different form (Suriagiri, 2020).

Transformational leadership is an individual's ability to influence team members in executing and implementing changes, characterizing a leader who can steer the organization onto a new path (Robbins, 2017).

RESEARCH METHODS

This study employed a quantitative approach with an explanatory (associative) research design to examine the causal relationships between transformational leadership, innovative work behavior, and employee performance. The population consisted of all 50 employees of PT. Cipta Niaga Semesta. Because the population size was fewer than 100, a saturated sampling technique *(sampling jenuh)* was applied, in which the entire population was used as the research sample (Ghozali, 2014).

Data were collected through a structured questionnaire measured on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), covering three variables: transformational leadership, innovative work behavior, and employee performance, with indicators derived from the theoretical background discussed in the previous section.

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0. The outer (measurement) model was evaluated through convergent validity (outer loading and Average Variance Extracted/AVE), discriminant validity (Fornell-Larcker criterion and cross-loading), and reliability (Cronbach's Alpha and Composite Reliability). The inner (structural) model was evaluated through the path coefficient, coefficient of determination (R^2), and hypothesis testing using the bootstrapping procedure, with a t-statistic threshold of 1.96 (5% significance level) used to determine the significance of each relationship (Ghozali, 2014).

RESULT AND DISCUSSION

Research Results

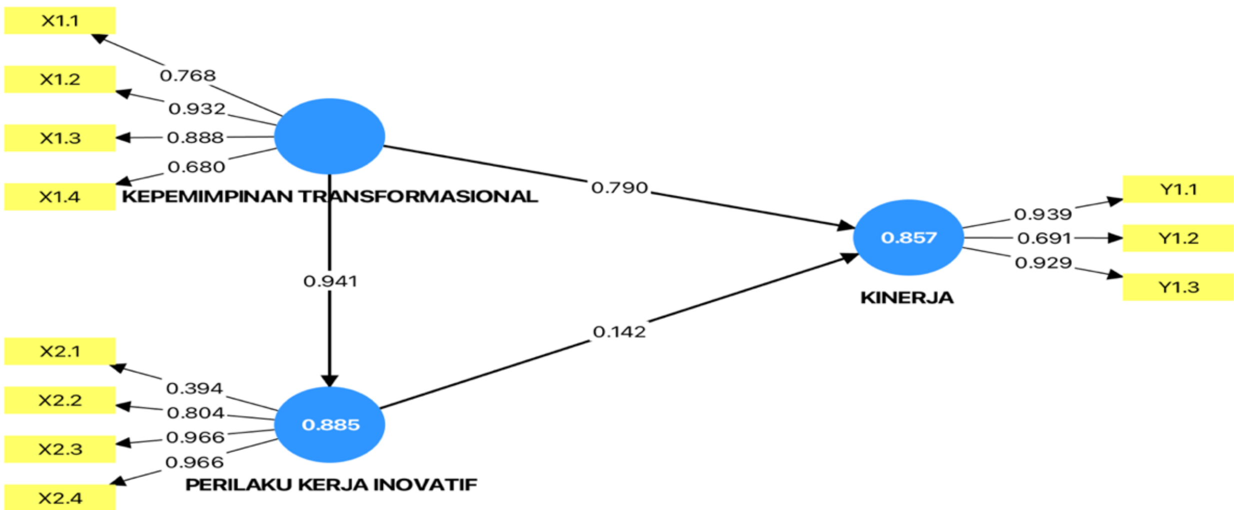

Figure 2: Bootstrapping Model Measurement

Source: Smart-PLS 4.0 (2026)

The findings indicate that transformational leadership has a positive and significant effect on employee performance, with a path coefficient of 0.790 and a t-statistic of 3.677 (p = 0.000).

This confirms that the transformational leadership practiced at PT. Cipta Niaga Semesta positively influences employee performance.

Table 1. Path coefficient

Relationship between variables	Original Sampel	t-statistic	P-Values
Transformational leadership on employee performance	0.790	3.677	0.000
Transformational leadership on innovative work behavior	0.941	6.920	0.001
innovative work behavior on performance	0.142	0.648	0.000

Source: Smart-PLS 4.0 (2026)

In this case, the coefficient value serves as a measure of positive transformational leadership and innovative work behavior. The findings indicate that transformational leadership has a path coefficient of 0.941 with a t-statistic of 6.920 (p=0.001). These results confirm that transformational leadership impacts innovative work behavior. The transformational leadership interaction between superiors and subordinates at PT. Cipta Niaga Semesta has been shown to positively contribute to employee performance.

In contrast, innovative work behavior shows a positive but statistically non-significant relationship with employee performance, with a path coefficient of 0.142 and a t-statistic of 0.648, which is below the critical value of 1.96 at the 5% significance level. This suggests that innovative work behavior alone is not yet a strong determinant of employee performance at PT. Cipta Niaga Semesta, consistent with employees' reports of limited managerial support for innovation at the company.

Discriminant Validity

This study used a discriminant validity test to assess whether the indicators were able to explain or represent the latent variables, as well as to assess the cross-loading values and root mean square value (AVE). The results of the discriminant validity test are presented below.

Table 2. Discriminant validity value

Variable	AVE	Transformational leadership	Inovative work behavior	Employee Performance
Transformastional leadership	0,771	0.771		
Innovative work behavior	1.021	0.814		
Employee Performance	1.026	0.950	0.791	

Source: Smart-PLS 4.0 (2026)

Discriminant validity was assessed using the Average Variance Extracted (AVE) and the Fornell-Larcker criterion, whereby a construct is considered valid if its AVE exceeds 0.50 and the square root of its AVE is greater than its correlation with other constructs. As shown in Table 3, the AVE for Transformational Leadership (0.771) meets this criterion.

However, the AVE values reported for Innovative Work Behavior (1.021) and Employee Performance (1.026) exceed the theoretical maximum of 1.0, indicating a measurement anomaly that should be re-examined through the outer loading estimation, as also noted in the study's limitations.

Reliability Test

Reliability testing is a method of assessing a questionnaire's ability to measure construct variables. A questionnaire is considered reliable if individual responses to the questions remain consistent or stable over time (Ghozali, 2014).

Table 3. Uji Reliabilitas

Variable	Composite Reliability	Cronbanch alpha	Description
Transformational leadership	0.890	0.839	Valid
Innovative work behavior	0.912	0.825	Valid
Employee Performance	0.800	0.840	Valid

Source: Smart-PLS 4.0 (2026)

The results of construct reliability testing with values above 0.70, thus ensuring that all models applied in the study have shown a high and good level of reliability.

DISCUSSION

This study examines empirical data that supports the proposed theory, specifically the role of transformational leadership and innovative work behavior in improving performance. According to the study, the proposed hypothesis is supported by real-world data analysis, which demonstrates the impact of transformational leadership and innovative work behavior on performance.

The Effect of Transformational Leadership on Performance

With a path coefficient of 0.790 and a t-statistic of 3.677 ($p = 0.000$), employee performance is positively and significantly influenced by transformational leadership. This confirms that the transformational leadership implemented by PT. Cipta Niaga Semesta has a positive impact on employee performance.

Research conducted by Ina Mery (2023) supports the findings of this study, which demonstrates how transformational leadership can significantly improve employee performance. The research found that a partial test of the transformational leadership variable on employee performance yielded a t-value of 2.395 at a significance level of 0.023. This t-value exceeds the t-table value of 2.037, confirming a statistically significant effect.

The Influence of Transformational Leadership on Innovative Work Behavior

Transformational leadership exhibits a positive coefficient, consistent with research findings. The path coefficient for transformational leadership is 0.941 with a t-statistic of 6.920 ($p=0.001$). These results indicate that transformational leadership impacts innovative work behavior, with interactions between superiors and subordinates at PT Cipta Niaga Semesta having a proven impact on performance.

The research findings align with those of Hoirunnisak (2022), who explained that transformational leadership impacts innovative work behavior. The findings demonstrate the impact of transformational leadership and innovative work behavior demonstrated by employees, as evidenced by a significant correlation of 0.000 ($p<0.05$) with a coefficient of 0.573.

The Influence of Innovative Work Behavior on Performance

Innovative work behavior does not show a statistically significant impact on performance in this study. The findings indicate a path coefficient of 0.142 and a t-statistic of 0.648, below the critical value of 1.96, meaning the effect cannot be considered significant at the 5% level.

This result differs from the findings of Alamsyah (2024), who reported a significant influence of innovative work behavior on employee productivity, with a t-value of 2.250 (higher than the t-table value of 2.021) and a significance value of 0.029. The discrepancy may be attributed to contextual differences between the two research settings, such as the extent of managerial support for innovation, organizational culture, or the specific characteristics of the FMCG distribution sector examined in this study, in which employees reported limited budget and time support for realizing innovative ideas.

CONCLUSION

This study demonstrates that transformational leadership has a positive and significant effect on both employee performance and innovative work behavior at PT. Cipta Niaga Semesta, whereas innovative work behavior does not have a statistically significant effect on employee performance. These findings suggest that strengthening transformational leadership is a more effective and immediate lever for improving employee performance than relying on innovative work behavior alone, which in this context remains constrained by limited managerial support and a mismatch between employee competencies and innovation demands. The study is limited by its single-company, cross-sectional design and its reliance on self-reported data from only 50 employees at one FMCG distributor, which restricts the generalizability of the findings to other organizations, sectors, or regions; in addition, several AVE values and significance results reported in the analysis require further methodological verification, as discussed in the Result and Discussion section.

Future research is encouraged to broaden the scope by involving multiple companies across different industries and regions, adopt a longitudinal design, and incorporate additional variables such as job satisfaction, work motivation, organizational culture, or compensation as predictors, mediators, or moderators to build a more comprehensive model of employee performance. Researchers are also advised to conduct pilot testing of research instruments prior to full-scale data collection to ensure valid and reliable measurement. For practical purposes, PT. Cipta Niaga Semesta is encouraged to strengthen transformational leadership through structured leadership training and greater involvement of subordinates in decision-making, while also providing adequate time, budget, and facilities to support employees' innovative initiatives so that these efforts can more effectively translate into improved performance.

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The Impact of Investment Policy, Company Size, and Return on Assets (ROA) on the Company Value of Telecommunications Companies Listed on the Indonesia Stock Exchange (IDX) from 2019 to 2024

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ABSTRACT
This study aims to analyze the effects of investment policy, company size, and Return on Assets (ROA) on Company value in telecommunications companies listed on the Indonesia Stock Exchange during the 2019–2024 period. The study employs a quantitative method with an associative approach and uses secondary data in the form of corporate financial statements. Data analysis was conducted using multiple linear regression. The results indicate that investment policy has a negative and significant effect on company value, while company size and ROA have positive and significant effects. Simultaneously, all three variables influence company value. This study is limited to specific variables and sectors.

Keywords: Investment Policy; Company Size; ROA; Company Value; Telecommunications

ABSTRAK
Penelitian ini bertujuan untuk menganalisis pengaruh kebijakan investasi, ukuran perusahaan, dan *Return On Assets* (ROA) terhadap nilai perusahaan pada perusahaan sektor telekomunikasi yang terdaftar di Bursa Efek Indonesia periode 2019–2024. Penelitian menggunakan metode kuantitatif dengan pendekatan asosiatif dan data sekunder berupa laporan keuangan perusahaan. Analisis data dilakukan menggunakan regresi linier berganda. Hasil penelitian menunjukkan bahwa kebijakan investasi berpengaruh negatif dan signifikan terhadap nilai perusahaan, sedangkan ukuran perusahaan dan ROA berpengaruh positif dan signifikan. Secara simultan, ketiga variabel berpengaruh terhadap nilai perusahaan. Penelitian ini terbatas pada variabel dan sektor penelitian tertentu.

Kata kunci: Kebijakan Investasi; Ukuran Perusahaan; ROA; Nilai Perusahaan; Telekomunikasi

INTRODUCTION

Stock prices are a key element in investment activities in the capital market because they reflect a company's value in the eyes of investors. According to Ayu Sekar Sari (2024), stock prices are determined through the interaction between supply and demand among market participants. Stock market prices reflect the amount investors are willing to pay to own shares in a company; thus, they can be considered a fair price and serve as an indicator for assessing a company's value. Consequently, the higher the stock price, the more the company's value tends to increase, and vice versa.

Based on the stock price charts of telecommunications sector companies listed on the Indonesia Stock Exchange (IDX) for the 2019–2024 period, it is evident that stock price movements have experienced significant fluctuations from year to year. These fluctuations indicate that investor perceptions of the performance and prospects of telecommunications companies are dynamic. This situation will indirectly impact the company's value, given that stock prices are one of the primary proxies used in its measurement. This phenomenon is reinforced by company value data proxied using the Price-to-Book Value (PBV) ratio. The company value data can be seen in the following table:

Table 1. Price-to-Book Value (PBV) Data for Telecommunications Companies

NO	KODE	PBV					
		2019	2020	2021	2022	2023	2024
1	BALI	225,92	1542,8	29,279	27,21	25,812	53,207
2	BTEL	83,454	70,558	2,1147	1,7674	1,5448	1,33064
3	CENT	75,505	179,15	351,56	589,53	116,99	31,7262
4	EXCL	1456,7	1660,6	1668,1	1134	99,065	111,146
5	GHON	1225,6	1166,3	79,973	628,61	125802	102620
6	GOLD	955,69	948,46	12515	9757,1	295,81	358,294
7	IBST	8440,9	843,92	8826,8	30398	11912	3542,76
8	ISAT	1833,9	2261,1	327	157,48	227,83	54,5553
9	JAST	22316	445956	60651	46775	44637	53164,9
10	KBLV	257,8	410,22	16337	21,227	106,96	106,162
11	LCKM	6463,4	8738,2	217,5	228,5	2101,6	205,613
12	LINK	2536	1574,8	218,18	151	87,897	66,9292
13	OASA	633,58	555,16	270,24	56,298	130,44	148,345
14	SUPR	265,81	125,06	384,28	1204,7	677,78	745,3
15	TBIG	122,1	439,38	136,55	95,438	76,617	90,066
16	TLKM	137,23	130,2	137,62	111,83	12871	8508,19
17	TOWR	31,952	38,079	47,58	38,882	30,587	17,4314

Source: Compiled by the researcher (2026)

The PBV of telecommunications companies shows inconsistent fluctuations across companies. For example, companies such as EXCL exhibit high PBV values in certain periods, while others, such as BALI, remain at relatively lower levels. Additionally, companies like ISAT and SUPR experience significant year-over-year spikes and declines. This situation indicates the presence of a "gap" phenomenon, where a company's valuation does not move consistently and reflects market instability in perceiving the company's performance.

According to Herman (Herman H Ndruru et al., 2019), a company's valuation represents investors' perception of the company's success in managing its resources, as reflected in stock prices. This is supported by (Ningrum, 2022), who states that a company's value is a key indicator reflecting market conditions as well as the company's future prospects. Thus, fluctuations in a company's value indicate a mismatch between the company's performance and investor perceptions.

One factor believed to influence firm value is investment policy. According to (Budi et al., 2025), investment policy refers to strategic decisions regarding the allocation of a company's funds into various assets expected to generate future returns. (Syahidah et al., 2024) also state that an appropriate investment policy can enhance productivity and firm value. However, based on the data obtained, the growth of telecommunications companies' assets shows sharp fluctuations, indicating that investment policies do not necessarily have a direct positive impact on firm value. Additionally, firm size is another factor influencing firm value. (Ningrum, 2022) states that firm size reflects the scale of a company, as seen through its total assets and operational activities. (Muh Hamzah Thiofani Muzayin, 2019) adds that larger companies tend to have more stable resources. However, the data shows that firm size tends to increase gradually, but this is not always accompanied by an increase in firm value, indicating that firm size is not the sole determinant of firm value.

Empirically, previous research findings indicate inconsistencies (a research gap). A study (Syahidah et al., 2024) found that investment policy has a positive effect on firm value. Meanwhile, (Damayanti & Mendra, 2025) stated that firm size has a positive but insignificant effect on firm value. On the other hand, a study (Nurahma & Budiharjo, 2022) showed that firm size and profitability do not have a significant effect on firm value. These differing research results indicate that the relationship between these variables remains inconsistent and requires further testing. Given the phenomenon of fluctuations in corporate value and the inconsistencies in previous research findings, this study is important to conduct in order to gain a more comprehensive understanding of the factors influencing corporate value. Additionally, the 2019–2024 study period was selected because it reflects dynamic economic conditions and significant changes in the telecommunications sector. Thus, the objective of this study is to analyze the effects of investment policy, firm size, and Return on Assets (ROA) on firm value in telecommunications sector companies listed on the Indonesia Stock Exchange (IDX) during the 2019–2024 period.

THEORETICAL BACKGROUND

2. 1. Company Value

According to Herman H Ndruru et al. (2019), company value is defined as investors' perception of how well a company manages its existing resources, as reflected in the rising stock price each year, thereby instilling investor confidence in the company's current and future performance. In this study, corporate value is proxied using the Price-to-Book Value (PBV) ratio, calculated using the following formula:

$$\textbf{PBV} = \frac{\textit{Stock Price}}{\textit{Book Value Per Share}} \qquad (1)$$

2. 2. Investment Policy

Investment policy is a company's strategic decision to allocate funds to various assets expected to generate future returns. Budi et al. (2025) state that an investment policy reflects a company's growth opportunities. In this study, the investment policy is measured using asset growth, calculated using the following formula:

$$\textbf{Asset Growth} = \frac{Total\ Asset\ t - Total\ Asset\ t{-}1}{Total\ Asset\ t{-}1} \quad (2)$$

2. 3. Company Size

Company size indicates the scale of a company, as measured by its total assets. Ningrum (2022) states that larger companies tend to have greater stability and broader access to financing. In this study, company size is measured using the natural logarithm of total assets (Ln total assets) according to the following formula:

$$\textbf{Company Size} = \textbf{Ln (Total Asset)} \quad (3)$$

2. 4. Return On Assets (ROA)

Profitability refers to a company’s ability to generate profits from its assets. Veronica (2024) states that Return on Assets (ROA) indicates a company’s effectiveness in utilizing its assets. The higher the ROA, the better the company’s performance in generating profits.

$$\textbf{ROA} = \frac{Net\ Profit}{Total\ Asset} \times 100\% \quad (4)$$

2. 5. Conseptual Framework

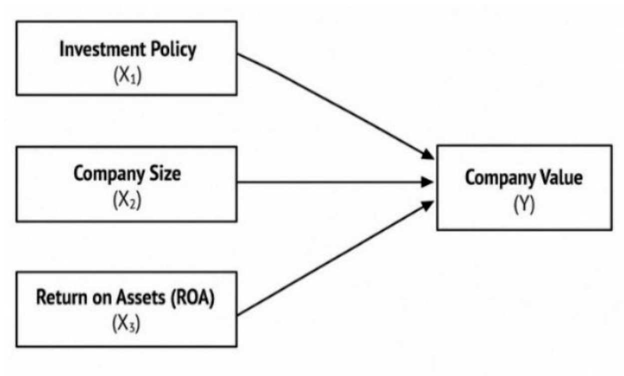

Figure 1. Conceptual Framework
Source : Data Processed by Author (2026)

2. 6. Hypotheses

Based on the background, problem formulation, objectives, literature review, and conceptual framework, the research hypotheses are formulated as follows:

H1: Investment policy affects company value in telecommunications companies listed on the IDX from 2019 to 2024

H2: Company Size affects Company Value in telecommunications sector companies listed on the IDX from 2019 to 2024

H3: Return on Assets (ROA) affects Company Value in telecommunications sector companies listed on the IDX from 2019 to 2024.

RESEARCH METHODS

The research method used is a quantitative method with an associative approach, which aims to analyze the relationship between the independent variables—namely, investment policy, firm size, and Return on Assets (ROA)—and the dependent variable, which is firm value. The data used consists of secondary data in the form of financial statements from telecommunications sector companies listed on the Indonesia Stock Exchange (IDX) for the period 2019–2024, obtained through the official IDX website (www.idx.co.id).

The research data is panel data, which combines time series and cross-sectional data, thereby providing an overview of the companies' conditions over time. The study population consists of all telecommunications sector companies listed on the IDX, with the sample determined using purposive sampling based on specific criteria. Data analysis was conducted using multiple linear regression. Prior to hypothesis testing, the data were tested using classical assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation. Next, the coefficient of determination (R^2) was calculated to determine the effect of independent variables on firm value. Hypothesis testing was performed using the F-test to examine the combined effect of independent variables on the dependent variable, as well as the t-test to determine the effect of each individual variable.

RESULT AND DISCUSSION

4.1. Testing Classical Assumptions

Normality Test

Table 2. Results of the Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Predicted Value
N		102
Normal Parameters[a,b]	Mean	1084786260,5098000
	Std. Deviation	1681128201,18731000
Most Extreme Differences	Absolute	0,057
	Positive	0,053
	Negative	-0,057
Test Statistic		0,057
Asymp. Sig. (2-tailed)		.200[c,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: Processed SPSS 25 data (2026)

The results of the normality test using the One-Sample Kolmogorov-Smirnov Test, as shown in the Asymp. Sig. (2-tailed) value is 0.200, which indicates that it is greater than 0.05 (0.200 >

0.05). Thus, it can be concluded that the data are normally distributed, so the assumption of normality in the regression model has been met and the results are valid.

4.2. Multicollinearity Test

Table 3. Results of the Multicollinearity Test

Coefficients[a]

Model	Collinearity Statistics	
	Tolerance	VIF
Investment Policy	.921	1.085
Company Size	.890	1.124
ROA	.942	1.061
Dependent Variable: Company Value		

Source: Processed SPSS 25 data (2026)

The results of the multicollinearity test found that the tolerance values for the investment policy variable are 0.921, for firm size are 0.890, and for ROA are 0.942, all of which are greater than 0.10. Meanwhile, the VIF values for each variable are 1.085, 1.124, and 1.061, which are less than 10. Therefore, it can be concluded that there is no multicollinearity in the regression model used in this study, and the variables used are suitable for further analysis.

4.3. Heteroscedasticity Test

Table 4. Results of the Heteroscedasticity Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	863994851.212	275929 193.142		3.131	.002
	Invesment Policy	-.165	.525	-2.099	-.314	.754
	Company Size	.312	1.050	1.988	.297	.767
	ROA	-6.759	11.279	-.060	-.599	.550

a. Dependent Variable: abs_RES

Source: Processed SPSS 25 data (2026)

The results of the heteroscedasticity test using the Glejser test, it was found that all independent variables had significance values greater than 0.05, namely the Investment Policy variable at 0.754, the Firm Size variable at 0.767, and the ROA variable at 0.550. This indicates that there is no evidence of heteroscedasticity in the regression model, meaning the research model satisfies the classical assumption of homoscedasticity. Consequently, the regression model is suitable for further analysis.

4.4. Autocorrelation Test

Table 5. Results of the Autocorrelation Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.787[a]	0,619	0,607	205539021,261	1,706

a. Predictors: (Constant), ROA, Investment Policy, Company Size

b. Dependent Variable: Company Value

Source: Processed SPSS 25 data (2026)

The Durbin-Watson statistic is 1.706. This value falls between the DU and (4-DU) values, so it can be concluded that the regression model does not exhibit autocorrelation. Thus, the regression model satisfies the assumption of no autocorrelation and is suitable for further analysis.

4.5. Multiple Linear Regression Analysis

Table 6. Results of the Multiple Linear Regression Analysis

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.
1	(Constant)	-2276970.945	27216119.942		-.084	.933
	Investment Policy	-.934	.306	-.217	-3.052	.003
	Company Size	.553	.169	.247	3.265	.002
	ROA	1.623	.163	.672	9.979	.000

a. Dependent Variable: Company Value

Source: Processed SPSS 25 data (2026)

The results in the coefficient table above, the constant term is -2,276,970.945, the Investment Policy coefficient is -0.934, the Company Size coefficient is 0.553, and the ROA coefficient is 1.623. Thus, the resulting multiple linear regression equation is as follows:

$$\mathbf{Y = -2276970{,}945 - 0{,}934\ X_1 + 0{,}553\ X_2 + 1{,}623\ X_3} \quad (5)$$

1. A constant value of **-2,276,970.945** indicates that if the variables Investment Policy, Company Size, and ROA are set to 0, then Company Value will be **-2,276,970.945.**
2. The coefficient value for Investment Policy of -0.934 indicates that a one-unit increase in Investment Policy will reduce Firm Value by 0.934 units, assuming all other variables remain constant. This indicates a negative relationship between Investment Policy and Company Value.
3. The coefficient value for Company Size of 0.553 indicates that a one-unit increase in company Size will increase Company Value by 0.553 units, assuming all other variables

remain constant. This suggests that as company size increases, company value tends to increase as well.

4. An ROA coefficient of 1.623 indicates that a one-unit increase in ROA will increase company value by 1.623 units, assuming all other variables remain constant. This indicates a positive relationship between profitability and company value.

4.6. Hypothesis Testing

T-Test

Table 7. Results of the T-Test

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	T	Sig.
1	(Constant)	-2276970.945	27216119.942		-.084	.933
	Investment Policy	-.934	.306	-.217	-3.052	.003
	Company Size	.553	.169	.247	3.265	.002
	ROA	1.623	.163	.672	9.979	.000

a. Dependent Variable: Company Value

Source: Processed SPSS 25 data (2026)

The Investment Policy variable has a significance value of 0.003 (< 0.05) with a negative coefficient, indicating that Investment Policy has a negative and significant effect on Value. The Company Size variable has a significance value of 0.002 (< 0.05) with a positive coefficient, indicating that Company Size has a positive and significant effect on Company Value; and the ROA variable has a significance value of 0.000 (< 0.05) with a positive coefficient, indicating that ROA has a positive and significant effect on Company Value.

F-Test (Model Fit)

Table 8. Results of the F-Test

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6724851718569971700.000	3	2241617239523323900.000	53.061	.000[b]
	Residual	4140136347584077800.000	98	42246289261062016.000		
	Total	10864988066154050000.000	101			

a. Dependent Variable: Company Value

b. Predictors: (Constant), ROA, Investment Policy, Company Size

Source: Processed SPSS 25 data (2026)

The calculated F-value was 53.061 with a significance level of 0.000. This significance level is less than 0.05 (0.000 < 0.05), so it can be concluded that the regression model is valid for use in this study. This indicates that the variables Return on Assets, Investment Policy, and Company Size collectively influence Company Value. Thus, the regression model used is capable of explaining the relationship between the independent variables and the dependent variable and can be used for further hypothesis testing.

Coefficient of Determination (R^2)

Table 9. Results of the Coefficient of Determination (R^2) Test

Model Summary

Model	R	R Square	Adjusted Square	RStd. Error of the Estimate
1	.787[a]	.619	.607	205539021.261

a. Predictors: (Constant), ROA, Investment Policy, Company Size

Source: Processed SPSS 25 data (2026)

The R-squared value is 0.619. This means that the variables Investment Policy, Company Size, and Return on Assets (ROA) account for 61.9% of the variation in Company Value, while the remaining 38.1% is influenced by other factors outside the scope of the variables used in this study.

The Impact of Investment Policy, Company Size, and Return on Assets (ROA) on Company Value in the Telecommunications Sector

The calculated F-value is 53.061 with a significance level of 0.000. This significance level is less than 0.05, indicating that Investment Policy, Company Size, and Return on Assets (ROA) collectively have a significant effect on Company Value in telecommunications sector companies listed on the Indonesia Stock Exchange for the 2019–2024 period. This indicates that these three variables play a crucial role in determining the level of company value.

According to Herman H Ndruru et al. (2019), company value represents investors' perceptions of a company's success in managing its resources, as reflected in the company's stock price. Furthermore, Ningrum (2022) states that company value serves as a key indicator reflecting a company's future prospects. Consequently, companies that can effectively manage investment policies, possess a large scale of operations, and maintain high profitability levels are likely to receive positive evaluations from investors.

The results of this study indicate that the combination of investment policies, company size, and a firm's ability to generate profits are key factors influencing investors' perceptions of telecommunications firms. The better a company manages these three factors, the higher its value, as reflected by the Price-to-Book Value (PBV) ratio.

These findings are supported by the research of Syahidah et al. (2024), which states that investment policies influence company value. Additionally, the study by Nurahma and Budiharjo (2022) also explains that profitability and company size are factors that influence company value. The distinction of this study lies in its focus on telecommunications sector companies from 2019 to 2024, thereby providing a more specific empirical picture of the factors influencing corporate value in Indonesia's telecommunications industry.

The Impact of Investment Policies on Company Value in the Telecommunications Sector
The results of the partial hypothesis test indicate that Investment Policy has a significance level of 0.003 (< 0.05) with a coefficient of -0.934. A negative coefficient indicates that Investment Policy has a negative or inverse relationship with Company Value. This means that any increase in Investment Policy is actually followed by a decrease in Company Value. Thus, it can be concluded that Investment Policy has a negative and significant effect on Company Value in telecommunications sector companies listed on the Indonesia Stock Exchange for the 2019–2024 period. According to Budi et al. (2025), investment policy is a strategic decision by a company to allocate funds to various assets expected to generate future returns. However, the results of this study indicate that an increase in investment policy is not necessarily met with a positive response from investors. This may occur because the investments made by the company require a long time to generate returns or are perceived as having a high level of risk.

From the perspective of Signaling Theory, investment policies should serve as a positive signal to investors regarding a company's future prospects. However, in this study, the market actually responded negatively to such signals because investors focused more on the risks and uncertainties associated with investments made by telecommunications companies. This aligns with the phenomenon of fluctuations in company value, which indicates that increased investment does not necessarily lead to an increase in company value. The results of this study are consistent with the research by Damayanti and Mendra (2025), which shows that investment policies do not always have a positive impact on company value. This study provides an understanding that suboptimal investment decisions can influence investors' perceptions of a company.

The Effect of Company Size on Company Value in the Telecommunications Sector
The results of the partial hypothesis test indicate that Company Size has a significance level of 0.002 (< 0.05) with a coefficient of 0.553. A positive coefficient indicates that Company Size has a positive or direct relationship with Company Value. This means that the larger the Company size, the higher the Company Value. Thus, it can be concluded that Company Size has a positive and significant effect on Company Value in telecommunications sector companies listed on the Indonesia Stock Exchange for the 2019–2024 period. According to Ningrum (2022), company size reflects the size of a company as seen from its total assets and operational activities. Larger firms tend to have more stable resources, broader access to funding, and higher levels of investor confidence compared to smaller firms.

The results of this study indicate that investors tend to assign higher valuations to telecommunications companies with large total assets, as they are perceived to be better equipped to withstand industry competition and have better business prospects in the future. From the perspective of Signaling Theory, company size sends a positive signal to investors regarding the company's stability and sustainability. These findings align with the research by Muh Hamzah Thiofani Muzayin and R. T. (2019), which states that firm size has a positive effect on company value. This study suggests that large firms are more attractive to investors than smaller firms.

The Effect of Return on Assets (ROA) on Company Value in the Telecommunications Sector.

The results of the partial hypothesis test indicate that Return on Assets (ROA) has a significance level of 0.000 (< 0.05) with a coefficient value of 1.623. A positive coefficient value indicates that ROA has a positive or direct relationship with Company Value. This means that any increase in ROA will be followed by an increase in Company Value. Thus, it can be concluded that ROA has a positive and significant effect on Company Value in telecommunications sector companies listed on the Indonesia Stock Exchange for the 2019–2024 period. According to Veronica (2024), Return on Assets (ROA) indicates a company's ability to generate profits through the utilization of all its assets. The higher the ROA, the more effectively the company utilizes its assets to generate profits.

The results of this study indicate that profitability is one of the key factors investors consider when evaluating telecommunications companies. Companies capable of generating high profits are viewed more favorably by investors because they are perceived to have strong financial performance and promising business prospects. From the perspective of Signaling Theory, ROA sends a positive signal to the market regarding a company's efficiency and ability to generate profits. These findings align with the research by Nurahma and Budiharjo (2022), which states that profitability influences firm value. This study demonstrates that the higher a company's ability to generate profits, the higher its value in the eyes of investors.

Coefficient of Determination (R^2)

Based on the results of the coefficient of determination test on page 12, an R-squared value of 0.619 was obtained, which means that 61.9% of the variation in Firm Value can be explained by the variables Investment Policy, Company Size, and ROA, while the remaining 38.1% is influenced by other variables outside the research model.

CONCLUSION

Based on the results of a study on the effects of Investment Policy, Company Size, and Return on Assets (ROA) on Company Value in telecommunications companies listed on the Indonesia Stock Exchange for the period 2019–2024, it can be concluded that, taken together, these three variables have a significant effect on firm value. Partially, Investment Policy has a negative and significant effect on Company Value, indicating that increased investment is not necessarily met with a positive response from investors due to the risks and uncertainties associated with the company's investments. Meanwhile, Company Size has a positive and significant effect on Company Value, meaning that the larger the firm, the higher the investors' confidence in that firm. Additionally, Return on Assets (ROA) also has a positive and significant effect on Company Value, indicating that a company's ability to generate profits enhances investors' assessment of the company. The coefficient of determination indicates that 61.9% of the variation in Company Value can be explained by Investment Policy, Company Size, and ROA, while the remainder is influenced by factors outside the scope of this study. This study has limitations because it uses only three independent variables and is restricted to the telecommunications sector for the period 2019–2024; therefore, future research is encouraged to include additional variables such as capital structure, liquidity, and dividend policy in order to obtain more comprehensive results.

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The Effect of Current Ratio and Return on Assets on Stock Returns for Telecommunications Companies Listed on the Indonesian Stock Exchange (IDX) from 2019 To 2024

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ABSTRACT
This study aims to analyze the effect of the Current Ratio (CR) and Return on Assets (ROA) on stock returns in telecommunications sector companies listed on the Indonesia Stock Exchange during the 2019–2024 period. The study uses a quantitative method with secondary data obtained from company financial statements and stock prices. The research sample was determined using purposive sampling techniques and analyzed through multiple linear regression. The results of the study indicate that the Current Ratio has a negative and significant effect on stock returns, while Return on Assets has a positive and significant effect on stock returns. Simultaneously, both variables have a significant effect on stock returns. This study shows that liquidity and profitability are important factors in investor considerations.

Keywords: Current Ratio; Return on Assets; Stock Return; Telecommunications; Indonesia Stock Exchange

ABSTRAK
Penelitian ini bertujuan untuk menganalisis pengaruh Current Ratio (CR) dan Return on Assets (ROA) terhadap return saham pada perusahaan sektor telekomunikasi yang terdaftar di Bursa Efek Indonesia periode 2019–2024. Penelitian menggunakan metode kuantitatif dengan data sekunder yang diperoleh dari laporan keuangan dan harga saham perusahaan. Sampel penelitian ditentukan menggunakan teknik purposive sampling dan dianalisis melalui regresi linear berganda. Hasil penelitian menunjukkan bahwa Current Ratio berpengaruh negatif dan signifikan terhadap return saham, sedangkan Return on Assets berpengaruh positif dan signifikan terhadap return saham. Secara simultan, kedua variabel berpengaruh signifikan terhadap return saham. Penelitian ini menunjukkan bahwa likuiditas dan profitabilitas menjadi faktor penting dalam pertimbangan investor.

Kata kunci: Current Ratio; Return on Assets; Return Saham; Telekomunikasi; Bursa Efek Indonesia

INTRODUCTION

Stock return fluctuations are influenced not only by a company's fundamental performance but also by market sentiment, macroeconomic conditions, and investor expectations (Angraini, 2022). In the telecommunications sector, technological advancements, government policies, and the increasing use of digital services also influence company performance and stock returns. It is crucial to understand the mechanisms that drive or hinder stock growth in this industry, especially given the critical role of telecommunications in driving Indonesia's digital economic growth.

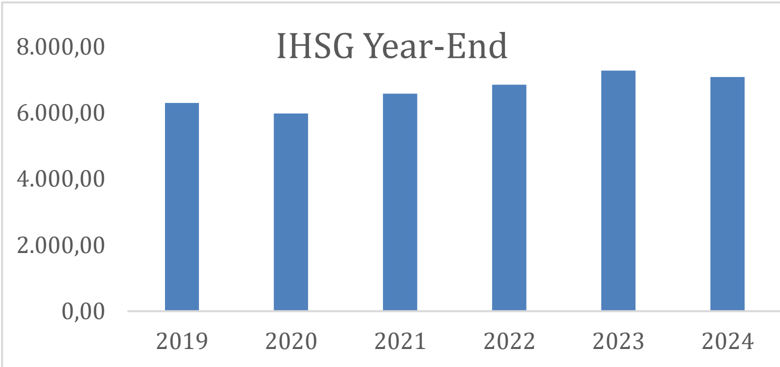

Figure 1. Year-End Stock Price Index

Source: Indonesian Stock Exchange(IDX) processed by the author (2026)

The IHSG fluctuated during the 2019-2024 period but exhibited an upward trend over the long term. A decline occurred in 2020 due to market pressures, followed by a recovery that peaked in 2023, although it weakened slightly in 2024. This reflects the market's recovery process following the crisis.

Table 1. Stock Returns of Telecommunications Companies Listed on the BEI

NO	Code	Stock Return					
		2019	2020	2021	2022	2023	2024
1	BALI	-0,30128	-0,26606	0,09375	-0,03429	-0,02367	1,11515
2	CENT	-0,15116	0,94521	0,63380	-0,51724	-0,50893	-0,18182
3	EXCL	0,26263	0,09200	0,16117	-0,32492	-0,06542	0,12500
4	GHON	0,25000	0,06364	0,36182	-0,19665	-0,00521	-0,17277
5	GOLD	-0,99151	0,03604	0,73913	-0,20000	-0,10625	-0,00699
6	IBST	-0,21386	0,11111	-0,19655	-0,00858	-0,03030	-0,10268
7	ISAT	0,72700	0,73540	0,22772	-0,00403	-0,62040	0,05802
8	JAST	9,00813	-0,89764	-0,12698	-0,61818	447,68500	-0,99817
9	KBLV	-0,60857	0,59124	0,30734	-0,82632	-0,27273	0,25000
10	KETR	0,00000	-0,21667	-0,14894	137,00000	-0,15217	-0,24786
11	LCKM	-0,05755	0,39695	-0,19672	0,05442	-0,07742	-0,02098
12	LINK	-0,19184	-0,39141	0,65975	-0,34500	-0,49427	-0,11698
13	MORA	-0,12955	0,16279	0,13000	-0,00885	-0,19286	0,03982
14	MTEL	0,25000	-0,06667	0,18571	-0,03614	-0,11875	-0,08511
15	OASA	0,18634	-0,12378	1,29617	-0,17748	0,00958	0,02920
16	SUPR	-0,41176	0,02500	-0,99623	1,19709	0,17353	0,09962
17	TBIG	0,70833	0,32520	0,80982	-0,22034	-0,09130	0,00478
18	TLKM	0,05867	-0,16625	0,22054	-0,07178	0,05333	-0,31392
19	TOWR	0,16667	0,19255	0,17188	-0,02222	-0,10000	-0,33838

Source: Indonesian Stock Exchange(IDX) processed by the author (2026)

Stock returns during the 2019-2024 period tended to fluctuate, marked by increases and decreases each year. This indicates that stock returns are unstable and influenced by various factors, including both a company's internal performance and external conditions such as the economic and market situations. In recent years, stock returns in the Indonesian capital market have been quite volatile. This volatility is not unrelated to various global economic conditions that have impacted market performance. One significant event was the COVID-19 pandemic, which caused economic uncertainty and a decline in business activity across various industries. Stock prices fell at the start of the pandemic, but then began to recover as the economy rebounded.

The Indonesian capital market during the 2019-2024 period was marked by turbulence and transformation, primarily due to the global disruption caused by the COVID-19 pandemic, which began spreading in early 2020. This health crisis led to extremely high volatility in the Composite Stock Price Index (IHSG) and had a significant impact on stock returns across many industries. There is an interesting correlation between a company's fundamental performance and stock price movements in the market. Often, companies with stable financial performance face pressure on their stock prices due to pessimistic market sentiment, while companies with strong financial performance continue to attract investors due to expectations of a bright future outlook.

The situation in the telecommunications sector presents a somewhat different picture. On the one hand, the growing need for digital services such as the internet and online communication during the pandemic has driven an increase in industry demand. Conversely, the stock returns of telecommunications companies continue to fluctuate due to financial performance and market sentiment. This suggests that increased demand does not always correlate with higher returns for investors. Stock prices of telecommunications companies on the Indonesia Stock Exchange have shown a significant decline from 2019 to 2024, indicating unstable stock returns in the industry.

Previous research has shown inconsistent results regarding the impact of Return on Assets (ROA) and Current Ratio (CR) on stock returns. Empirically, conflicting results were found regarding the effect of Return on Assets (ROA), where (Khodijah Nurfajria, Endang Purwaningrum, 2025) found a positive and significant effect, while (Hadri et al., 2021) found that ROA did not have a significant effect on stock returns. Similar inconsistencies were also found regarding the Current Ratio (CR) variable, where a study (Hasanudin, 2022) in the telecommunications sector indicated a significant effect, but this was refuted by the findings of (Khodijah Nurfajria, Endang Purwaningrum, 2025), which showed that liquidity is not a primary consideration for investors in predicting stock returns. Furthermore, most studies still focus on sectors other than telecommunications and use periods prior to 2019, resulting in research gaps in terms of empirical, sectoral, and temporal aspects. Based on this, this study aims to examine the effect of the current ratio (CR) and return on assets (ROA) on stock returns in telecommunications companies for the period 2019–2024, both partially and simultaneously. This study is expected to contribute to investors and to the development of the literature in the field of financial management.

THEORETICAL BACKGROUND

Liquidity

According to (Kasmir, 2012, p. 134) as cited in (Dewi, Endiana, and Arizona, 2019), liquidity ratios indicate a company's ability to meet its short-term obligations. One type of liquidity ratio frequently used in practice to measure a company's ability to meet its short-term obligations is the Current Ratio (CR). According to (Auria, Setyaningsih, and Islami, 2025), the Current Ratio is a financial ratio used to assess a company's ability to pay its short-term liabilities using its current assets.
The formula used is:

$$CR = \frac{Total\ Current\ Assets}{Current\ Liabilities} \times 100\% \qquad (1)$$

Profitability

According to Maria Yanita Sanjaya (2023), profitability is a measure used to assess a company's ability to generate profits at a given level of sales, assets, and capital. One type of profitability ratio frequently used in practice to measure a company's ability to generate profit is Return on Assets (ROA). Return on Assets is a financial ratio used to assess the extent to which a company is able to generate profit from its total assets (Simangunsong, Kusmawati, and Karmiyati, 2025).
The formula used is:

$$ROA = \frac{Net\ Income\ for\ the\ Current\ Year}{Total\ Asset} \times 100\% \qquad (2)$$

Stock Returns

According to Putra (2021), stock return is the rate of return an investor earns from a stock investment over a specific period, derived from increases in stock prices (capital gains) and dividends received.
The formula used is:

$$R = \frac{P_t - P_{t-1}}{P_{t-1}} \times 100\% \qquad (3)$$

Conceptual Framework

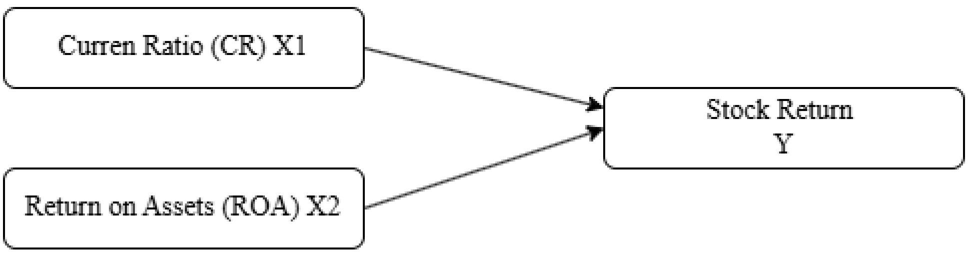

Figure 2. Conceptual Framework
Source : Data Processed by Author (2026)

H1: There is a relationship between the Current Ratio (CR) and stock returns
H2: There is a relationship between the Return on Assets (ROA) and stock returns

RESEARCH METHODS

This study employs a quantitative approach with the aim of testing the influence of the Current Ratio (CR) and Return on Assets (ROA) on stock returns. The data used consists of secondary data in the form of financial statements and stock prices of companies listed on the Indonesia Stock Exchange (IDX) for the period 2019-2024, obtained through the official IDX website. The research sample was determined using purposive sampling based on specific criteria. The analysis began with descriptive statistics to characterize the data, and data analysis was conducted using multiple linear regression. Prior to hypothesis testing, the data was tested using classical assumption tests, including normality, multicollinearity, heteroscedasticity, autocorrelation, and linearity. Subsequently, the hypotheses were tested using the t-test and the coefficient of determination (R^2) to determine the influence of independent variables on stock returns.

RESULT AND DISCUSSION

4.1. Descriptive Statistical Test

Tabel 2. Descriptive Statistical Test

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
Current Ratio	114	17705	-4359	13346	4057.79	348.644	3722.499	13856998.56
Return on Asset	114	12811	-2872	9939	4014.66	243.269	2597.400	6746488.139
Return Saham	114	9274	-4529	4746	-290.87	198.945	2124.149	4512010.237
Valid N (listwise)	114							

Source: Processed SPSS 25 data (2026)

The dataset consists of 114 data points. The Current Ratio has a minimum value of -4,359 and a maximum value of 13,346, with an average of 4,057.79. Return on Assets has a minimum value of -2,872 and a maximum of 9,939, with an average of 4,014.66. Meanwhile, Return on Equity has a minimum value of -4,529 and a maximum of 4,746, with an average of -290.87, indicating a downward trend in return on equity during the study period. The standard deviation for all variables indicates that the data is quite variable.

4.2. Classical Assumption Test

Normality Test

Table 3. Normality Test

One-Sample Kolmogorov-Smirnov Test	
	Unstandardized Residual
N	114

Normal Parameters[a,b]	Mean	0.0000000
	Std. Deviation	1366.91207088
Most Extreme Differences	Absolute	0.046
	Positive	0.046
	Negative	-0.033
Test Statistic		0.046
Asymp. Sig. (2-tailed)		0.200[c,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: Processed SPSS 25 data (2026)

The normality test using the One-Sample Kolmogorov-Smirnov Test yielded an Asymp. Sig. (2-tailed) value of 0.200 was obtained. Since the significance value of 0.200 is greater than 0.05, the residual data in this study are normally distributed. Thus, it can be concluded that the regression model satisfies the normality assumption and the results are valid, making it suitable for further testing.

Multicollinearity Test

Table 4. Multicollinearity Test

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	Current Ratio	0.996	1.004
	Return on Asset	0.996	1.004

a. Dependent Variable: Stock Returns

Source: Processed using SPSS 25 by the author (2026)

The multicollinearity test for the Current Ratio and Return on Assets variables showed a Tolerance value of 0.996 (> 0.10) and a VIF value of 1.004 (< 10). It can therefore be concluded that there is no multicollinearity among the independent variables in the regression model. Thus, the regression model satisfies the multicollinearity assumption and is suitable for further analysis.

Heteroskedasticity Test

Tabel 5. Heteroskedasticity Test

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1082.332	163.165		6.633	0.000
	Current Ratio	0.039	0.020	0.179	1.931	0.056
	Return on Assets	-0.035	0.029	-0.112	-1.201	0.232

a. Dependent Variable: ABS_RES

Source: Processed using SPSS 25 by the author (2026)

The heteroscedasticity test using the Glejser Test was found that the Current Ratio variable had a significance value of 0.056 and the Return on Assets variable had a value of 0.232. Both significance values are greater than 0.05, indicating that neither independent variable has a significant effect on the absolute residual value (ABS_RES). This indicates that the residual variance in the regression model tends to be constant and that there is no evidence of heteroscedasticity. Thus, the regression model satisfies the assumption of homoscedasticity and is suitable for hypothesis testing and further analysis.

Autocorrelation Test

Tabel 6. Autocorrelation Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.765[a]	0.586	0.578	1379.234	1.660

a. Predictors: (Constant), Return on Asset, Current Ratio

b. Dependent Variable: Stock Returns

Source: Processed using SPSS 25 by the author (2026)

The Durbin-Watson statistic is 1.660. This value falls between the DU and (4-DU) values, so it can be concluded that the regression model does not exhibit autocorrelation. Thus, the regression model satisfies the assumption of no autocorrelation and is suitable for further analysis.

Linearity Test

Table 7. Linearity Test

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Return Saham * Return on Asset	Between Groups	(Combined)	487652849.3	109	4473879.351	0.806	0.702
		Linearity	45477493.02	1	45477493.02	8.193	0.046
		Deviation from Linearity	442175356.2	108	4094216.261	0.738	0.746
	Within Groups		22204307.48	4	5551076.870		
	Total		509857156.7	113			

Source: Processed using SPSS 25 by the author (2026)

The linearity test in the ANOVA table showed a significance value for Deviation from Linearity of 0.702 (> 0.05). This indicates that there is no deviation from a linear relationship between the Return on Assets variable and Stock Return. Thus, it can be concluded that the relationship between the independent and dependent variables is linear, thereby satisfying the assumption of linearity.

Multiple Linear Regression Analysis

Table 8. Multiple Linear Regression Analysis

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	513.301	284.305		1.805	0.074
	Current Ratio	-0.403	0.035	-0.706	-11.538	0.000
	Return on Asset	0.207	0.050	0.253	4.136	0.000

a. Dependent Variable: Stock Returns

Source: Processed using SPSS 25 by the author (2026)

The following regression equation was obtained:

$$\mathbf{Y = 513{,}301 - 0{,}403X_1 + 0{,}207X_2 + e} \quad (4)$$

The regression model in this study employs Stock Return (Y) as the dependent variable. The independent variables consist of Current Ratio (X1) and Return on Assets (X2), while accounting for potential error and disturbance terms, denoted as Errors and Interruptions (e).

Conclusions from the multiple linear regression analysis:

1. The constant term of 513.301 indicates that if the Current Ratio and Return on Assets are both 0, the Stock Return is 513.301.
2. The Current Ratio variable has a regression coefficient of -0.403 with a significance level of 0.000 < 0.05. This indicates that the Current Ratio has a negative and significant effect on Stock Return. This means that a 1-unit increase in the Current Ratio will decrease the Stock Return by 0.403, assuming all other variables remain constant.
3. The Return on Assets variable has a regression coefficient of 0.207 with a significance level of 0.000 < 0.05. This indicates that Return on Assets has a positive and significant effect on Stock Return. This means that a 1-unit increase in Return on Assets will increase Stock Return by 0.207, assuming all other variables remain constant.
4. Based on these results, it can be concluded that Current Ratio and Return on Assets have a significant partial effect on Stock Return, with Current Ratio having a negative effect and Return on Assets having a positive effect.

4.3. Hypothesis Testing

T-Test

Table 9. T-Test

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	513.301	284.305		1.805	0.074
	Current Ratio	-0.403	0.035	-0.706	-11.538	0.000
	Return on Asset	0.207	0.050	0.253	4.136	0.000

a. Dependent Variable: Stock Returns

Source: Processed using SPSS 25 by the author (2026)

Based on the results of the t-test in the table above, the Current Ratio variable has a significance value of 0.000 (< 0.05) with a negative coefficient, indicating that the Current Ratio has a negative and significant effect on Stock Return. The Return on Assets (ROA) variable has a significance value of 0.000 (< 0.05) with a positive coefficient, indicating that Return on Assets (ROA) has a positive and significant effect on Stock Return.

F-test (Model Feasibility)

Table 10. F-Test (Model Feasibility)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	298721025.1	2	149360512.5	78.516	0.000[b]
	Residual	211153828.0	111	1902286.738		
	Total	509874853.0	113			

a. Dependent Variable: Stock Returns

b. Predictors: (Constant), Return on Asset, Current Ratio

Source: Processed using SPSS 25 by the author (2026)

The calculated F-value was 78.516 with a significance level of 0.000 < 0.05. This indicates that the Current Ratio and Return on Assets variables simultaneously or collectively have a significant effect on Stock Return. Thus, the multiple linear regression model used in this study is suitable for predicting Stock Return, so the hypothesis stating that Current Ratio and Return on Assets simultaneously influence Stock Return is accepted. In addition, based on the results of the t-test, the following conclusions were drawn:

The current ratio has a negative and significant effect on stock returns, with a coefficient of -0.403 and a significance level of 0.000. Return on assets has a positive and significant effect on stock returns, with a coefficient of 0.207 and a significance level of 0.000.

Coefficient of Determination (R^2)

Table 11. Coefficient of Determination (R^2)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.765[a]	0.586	0.578	1379.172

a. Predictors: (Constant), Return on Asset, Current Ratio

b. Dependent Variable: Return Saham

Source: Processed using SPSS 25 by the author (2026)

The coefficient of determination test in the Model Summary table showed a value of 0.765 was obtained, indicating that there is a strong relationship between the Current Ratio and Return on Assets variables and Stock Return. A coefficient of determination of 0.586 indicates that the Current Ratio and Return on Assets variables explain 58.6% of the Stock Return variable, while the remaining 41.4% is explained by other variables outside this research model.

Meanwhile, the adjusted value of 0.578 indicates that after adjusting for the number of independent variables used, the contribution of the Current Ratio and Return on Assets to Stock Return is 57.8%. Thus, it can be concluded that the Current Ratio and Return on Assets have a fairly strong influence in explaining changes in Stock Return.

The Effect of the Current Ratio (CR) on Stock Returns in Telecommunications Companies

Based on the research results, a significance value of 0.000—which is less than 0.05—was obtained, with a regression coefficient of -0.403. This indicates that the Current Ratio has a negative and significant effect on stock returns for telecommunications companies listed on the Indonesia Stock Exchange during the 2019–2024 period. The higher the Current Ratio, the more stock returns tend to decline. This condition suggests that a company's high ability to meet short-term obligations does not necessarily signal a positive outcome for investors. A high level of current assets held by a company may indicate the presence of idle funds, meaning they are not being optimally utilized to generate corporate profits. Investors are more interested in companies that can effectively utilize their assets rather than those that merely possess high liquidity levels.

In addition, an excessively high current ratio may also indicate that the company is inefficient in managing its working capital. The company tends to hold too much cash or other current assets, thereby limiting opportunities for business expansion and profit growth. In the telecommunications sector, investors generally place greater emphasis on a company's ability to innovate technologically, improve service quality, and generate stable profits rather than focusing solely on the company's liquidity levels.

A study on the effect of the current ratio on stock returns by Hasanudin (2022) shows that the current ratio has a significant effect on stock returns. This suggests that a company's ability to meet its short-term obligations can influence investors' investment decisions. However, this study contradicts the research by (Khodijah Nurfajria, Endang Purwaningrum, 2025), which states that the Current Ratio does not affect Stock Returns because investors prioritize a company's ability to generate profits over its liquidity levels. Thus, the results of this study reinforce the notion that excessively high liquidity levels can have a negative impact on stock returns if not balanced by effective asset management.

The Effect of Return on Assets (ROA) on Stock Returns

Based on the research results, a significance value of 0.000 was obtained, which is smaller than 0.05, with a regression coefficient value of 0.207. This indicates that Return on Assets has a positive and significant effect on Stock Returns in telecommunication sector companies listed on the Indonesia Stock Exchange during the 2019–2024 period. The higher the Return on Assets value, the higher the Stock Returns will be. This condition shows that the company is capable of managing its assets effectively to generate profits, thereby giving investors confidence to invest their capital. The company's high profitability becomes a positive signal for investors because the company is considered to have good prospects in the future.

A high Return on Assets reflects that the company has good financial performance in utilizing all of its assets to generate profits. In the telecommunications sector, a company's ability to earn profits is very important because this industry requires large asset investments, such as building network infrastructure and developing digital technology. Therefore, companies that are able to generate high profits from the assets they own will be more attractive to investors because they are considered capable of providing a better rate of return on investment.
Research related to the effect of Return on Assets on Stock Returns by (Khodijah Nurfajria, Endang Purwaningrum, 2025), shows that Return on Assets has a positive and significant effect on Stock Returns. These results indicate that a company's ability to generate profits is one of the main considerations for investors in making stock investments. However, this study contradicts the research by (Hadri et al., 2021), which states that Return on Assets does not have a significant effect on Stock Returns. Thus, the results of this study prove that company profitability plays an important role in increasing investor interest, thereby impacting the increase in the Company's Stock Returns.

The Influence of Current Ratio (CR) and Return on Assets (ROA) on Stock Returns

Based on the research results, the significance value of the simultaneous test (F-test) obtained was less than 0.05, so it can be concluded that the Current Ratio and Return on Assets simultaneously have a significant effect on Stock Returns in telecommunications sector companies listed on the Indonesia Stock Exchange during the 2019–2024 period. This indicates that the company's level of liquidity and profitability are factors considered by investors in assessing company performance and making investment decisions.The Current Ratio reflects a company's ability to meet its short-term obligations, while Return on Assets indicates the company's ability to generate profit from all the assets it owns. Both ratios can provide an overview of the company's overall financial condition. Investors tend to consider companies that have stable financial conditions and are able to generate profits optimally because they are considered to have good prospects in the future.

In the telecommunications sector, a company's ability to maintain liquidity and improve profitability is very important because this industry requires substantial capital and asset investment for the development of technology and network infrastructure. Companies that are able to manage their assets and liabilities effectively will gain greater investor trust, thereby increasing demand for the company’s shares and ultimately leading to higher stock returns. The results of this study also indicate that the combination of liquidity and profitability levels can influence the level of investor confidence in a company. If a company has good liquidity levels accompanied by a strong ability to generate profits, this condition will serve as a positive signal for investors. On the other hand, if a company only has high liquidity levels but is unable to generate profits optimally, investors tend to be less interested in investing. Thus, the results of this study prove that the Current Ratio and Return on Assets simultaneously influence Stock Returns. Therefore, companies need to maintain a balance between the ability to meet short-term obligations and the ability to generate profits in order to increase investor confidence and provide optimal Stock Returns.

CONCLUSION

This study shows that the Current Ratio (CR) and Return on Assets (ROA) influence stock returns in telecommunication sector companies listed on the Indonesia Stock Exchange during the 2019–2024 period. Partially, the Current Ratio has a negative and significant effect on stock returns, indicating that excessively high liquidity levels may reflect suboptimal utilization of the company’s current assets, making them less attractive to investors. Meanwhile, Return on Assets has a positive and significant effect on stock returns, meaning that the higher the company’s ability to generate profit from its assets, the higher the stock returns obtained by investors. Simultaneously, the Current Ratio and Return on Assets are proven to have a significant effect on stock returns. The results of this study indicate that investors not only pay attention to the company’s ability to meet short-term obligations, but also to the company’s ability to generate profits effectively. Therefore, companies need to maintain a balance between liquidity and profitability in order to increase investor confidence and provide optimal stock returns.

Future research is recommended to include additional variables that may influence stock returns, such as leverage, firm size, dividend policy, inflation, interest rates, or other macroeconomic factors. Future studies may also expand the observation period and include companies from other industrial sectors to provide more comprehensive findings and improve the generalizability of the results.

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The Impact of Service Quality and Employee Performance on Community Satisfaction: A Case Study in Serang Village

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ABSTRACT
In the context of village governance, human resource management plays a crucial role in ensuring that officials provide optimal public services to achieve organizational goals effectively so that this research analyzes the influence of service quality and employee performance on community satisfaction in Serang Village, Salawu District, Tasikmalaya Regency. By implementing a quantitative method, data were obtained from 103 respondents via a purposive sampling technique with structured questionnaires and processed using the SPSS program. The findings indicate that service quality and employee performance partially exert a positive and significant influence on community satisfaction.

Keywords: Community Satisfaction, Employee Performance, Service Quality

ABSTRAK
Dalam konteks pemerintahan desa, manajemen sumber daya manusia memegang peran krusial untuk memastikan aparatur mampu memberikan pelayanan publik secara optimal demi mencapai tujuan organisasi secara efektif sehingga penelitian ini menganalisis pengaruh kualitas pelayanan dan kinerja pegawai terhadap kepuasan masyarakat di Desa Serang, Kecamatan Salawu, Kabupaten Tasikmalaya. Dengan menerapkan metode kuantitatif, data diperoleh dari 103 responden melalui teknik purposive sampling menggunakan kuesioner terstruktur dan diolah menggunakan program SPSS. Hasil pengujian menunjukkan bahwa kualitas pelayanan dan kinerja pegawai secara parsial berpengaruh positif dan signifikan terhadap kepuasan masyarakat.

Kata kunci: Kualitas Pelayanan, Kinerja Pegawai, Kepuasan Masyarakat

INTRODUCTION

High-quality public services are a fundamental instrument for village governments in carrying out their functions as the frontline of (Handayani et al., 2025). The quality of service provided reflects the performance of the apparatus in fulfilling the basic rights of the community, where the success of an autonomous region is often measured by the extent to which the community feels well-served (Darmayadi et al., 2023). This makes community satisfaction a vital indicator for evaluating the effectiveness of policies and the implementation of work programs at the village level.

The main task of the village government is to build a democratic life, provide optimal social services, and create a prosperous, harmonious, and just society (Saidin et al., 2024). The urgency of the research in Serang Village, Tasikmalaya, is based on the dynamic needs of the community, which now evaluates services and employee performance holistically. Community satisfaction greatly depends on the quality of the available service system and the performance of individual employees in carrying out their duties (Hidayat, 2025). The conditions on the ground, particularly in Serang Village, show that the community pays great attention to how the village officials behave while serving. Based on initial observations, community satisfaction is not only influenced by the completion of administrative matters but also by the quality of service and overall performance of village staff. This shows that the actual behavior of officials in the field is one of the main determining factors that shape the trust and satisfaction of residents toward the village government.

The urgency of this research is not only driven by field phenomena but also based on the inconsistency of results (research gap), where according to Mastuti et al. (2025) and Sukmarini et al. (2023), service quality has a positive and significant effect on community satisfaction, while according to Darmayadi et al. (2023), service quality does not have a positive and significant effect. Furthermore, Jonh et al. (2023) and Romadhona & Sumardjo (2022) state that employee performance has a significant effect, while Arsuni (2025) and Mastuti et al. (2025) found insignificant results. To maximize organizational goals, employees must successfully execute their duties. Employee performance is considered successful when the organization they work for shows continuous development (Sutrisno et al., 2022). These dynamics provide an opportunity to re-analyze the contributions of service quality and employee performance within the context of village governance. Furthermore, while previous studies have predominantly focused on the limited scope of village office administration, this research takes a more holistic approach by examining the overall impact of each variable at the community level. Therefore, there is clear room to explore in more depth how service quality and individual employee performance contribute to strengthening that satisfaction when evaluated from a broader and more holistic perspective. This provides a novel space for this research to fill the gap in the literature regarding the extent of the influence of human resource management on determining community satisfaction in rural areas. The primary objective of this study is to analyze and empirically demonstrate the partial effects of service quality and employee performance on community satisfaction in Serang Village. The findings are expected to offer theoretical contributions to the Human Resource Management (HRM) literature in the public sector, as well as serve as practical recommendations for village officials to enhance the quality of public services.

THEORETICAL BACKGROUND

Human Resource Management (HRM) is a field that studies the roles and relationships of people within organizations to achieve goals effectively (Hasibuan, 2019). In the context of village governance, Human Resource Management (HRM) plays an important role in ensuring that officials can provide public services optimally. Therefore, HRM serves as the foundation for analyzing the relationship between service quality, employee performance, and community satisfaction.

2.1. Service Quality

Service quality is the activity of helping or providing the needs of others through direct interaction (Putra et al., 2025). According to Budiman (2022), service quality is achieved when the expectations of the community are met through the provision of appropriate services. If applied at the village level, this quality is reflected in the ability of the village government to provide services that meet the expectations of the community. The service quality variable is measured through indicators of physical evidence, reliability, responsiveness, assurance, and empathy.

2.2. Employee Performance

Performance is the result or achievement of someone's work measured through aspects of quantity and quality according to the responsibilities given (Anjasmari & Nor'aini, 2023). More specifically, performance is defined as a record of results obtained from a job function or specific activity within a set period (Ningrum & Ningsih, 2021) Employee performance variables are measured through indicators of work quality, work quantity, timeliness, cost-effectiveness, need for supervision, and interpersonal impact (Ningrum & Ningsih, 2021).

2.3 Community Satisfaction

Community satisfaction is the level of feeling that arises after someone compares expectations with the reality of the services received directly (Karim et al., 2020). Community satisfaction is measured through indicators such as procedural systems, service duration, cost transparency, output quality, officer professionalism, and facility adequacy (Karim et al., 2020). In the public sector, these indicators cannot be evaluated partially within the confines of administrative desks; rather, they must be assessed based on the community's broader everyday experience. When village officials consistently practice professionalism and provide adequate facilities throughout the neighborhood, public trust strengthens, ultimately maximizing overall community satisfaction.

2.4 Conceptual Framework and Hypothesis

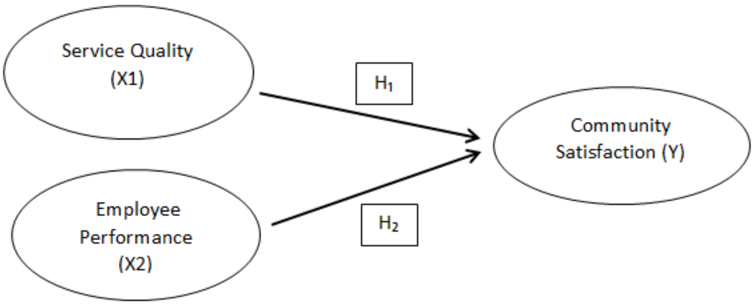

Figure 1. Conceptual Framework
Source : Processed Data (2026)

This framework illustrates that Service Quality (X1) and Employee Performance (X2) are key factors that influence Community Satisfaction (Y). High-quality service and optimal work performance from village officials are expected to meet public expectations, thereby increasing overall satisfaction. Based on this logic, the hypotheses proposed are:
H_1: Service Quality affects Community Satisfaction in Serang Village.
H_2: Employee Performance affects Community Satisfaction in Serang Village.

RESEARCH METHODS

This research applies a quantitative approach to analyze the extent to which service quality and employee performance impact community satisfaction in Serang Village. The use of this method aims to produce an objective evaluation through statistical testing of the relationships between variables (Sugiyono, 2021). The research population includes all residents of Serang Village, Tasikmalaya Regency, totaling 4,005 people based on the latest data obtained from the official profile of Serang Village. The sampling technique used was purposive sampling, focused on residents aged over 17 years, who are users of village services and willing to be respondents. In this study, the initial sample target was 100 people. However, the researchers successfully gathered valid data from 103 respondents to strengthen the accuracy of the research results.

The process of collecting primary data is carried out through a combination of online and offline methods to reach respondents more broadly and representatively. Online, the questionnaire was distributed via Google Forms, while offline, the researchers conducted door-to-door visits. Primary data in the research were collected from April to May 2026. All data were collected using a five-point Likert Scale (Sugiyono, 2021).

To process all the gathered data, the researcher utilized the SPSS statistical software package. Validation of the research instrument was conducted at the initial stage through validity and reliability testing. To ensure that the regression model satisfied all required mathematical criteria, classical assumption evaluations including heteroscedasticity, multicollinearity, and normality tests were subsequently applied. Furthermore, multiple linear regression analysis was deployed to map the specific effects of the independent variables. The researcher used the F-test as a measure of model fitness to validate the technical suitability of the resulting regression framework for this study. To determine how much employee performance and service quality contribute to fluctuations in community satisfaction levels, the coefficient of determination was also calculated. Ultimately, hypothesis testing was executed via partial t-tests at a 0.05 significance threshold to measure the individual significance of each variable independently (Ghozali, 2018).

RESULT AND DISCUSSION

41. Respondent characteristics

Table 1. Characteristics of Respondents

No	Characteristics		Amount
1	Gender	Male	32
		Female	71
2	Age	17-30	51
		31-40	19
		>40	33
3	Work	Formal Sector	22
		Informal Sector	21
		Other	60
4	Educational Background	Elementary School- Middle School	33
		High School	54
		Bachelors's Degree	13
		Other	3

Source: Primary Data (2026)

Referring to the detailed metrics in Table 1, the profile of the 103 respondents in this study represents a heterogeneous composition of backgrounds. The majority of the respondents were women, totaling 71 individuals, while men numbered 32, indicating that women dominated this research. In terms of age, the group of respondents is dominated by the productive age group between 17 and 30 years old, with 51 people, followed by the age group above 40 years old with 33 people, and the age group between 31 and 40 years old with 19 people. This dominance of the younger age group reflects that the assessment of service quality is largely provided by a generation that is more critical of public service standards.

In terms of job type, the majority of respondents fall into the "Others" category, totaling 60 people, which includes backgrounds such as housewives and students, while the formal sector contributes 22 people and the informal sector 21 people. In terms of educational background, the sample is heavily dominated by high school graduates, accounting for 54 individuals.

Meanwhile, those with an elementary to middle school education constitute the second-largest group with 33 people, followed by bachelor's degree holders totaling 13 people.
The education level, predominantly held by upper secondary graduates, indicates that the respondents possess adequate literacy capacity to provide an objective and rational assessment of the research variables being tested.

4.2 Validity Test

Table 2. Validity Test

Variable	R-calculate	R-table	Status
Service Quality (X1)	0.630 – 0.910	0.193	Valid
Employee Performance (X2)	0.716 – 0.879	0.193	Valid
Community Satisfaction (Y)	0.521 – 0.854	0.193	Valid

Source: Processed Data (2026

A validity test is a critical statistical procedure used to evaluate the accuracy and quality of a research instrument. It determines whether the developed questionnaire statements successfully measure the specific variables they are intended to investigate. In quantitative research, an instrument is considered valid if the statements can precisely capture the empirical facts of the measured concepts, ensuring that the collected data is robust and free from systematic bias. Based on the validity test conducted on 103 respondents with an R-table value of 0.193, all questionnaire items in this study are declared valid. The Service Quality X1 variable shows an R-calculate value ranging from 0.630 to 0.910, the Employee Performance X2 variable ranges from 0.716 to 0.879, and the Community Satisfaction Y variable ranges from 0.521 to 0.854. Since all R-calculate values for each variable are strictly greater than the R-table threshold (0.193), the research instrument is proven to be accurate and highly suitable for further data analysis.

4.3 Reliability Test

Table 3. Reliability Test

Variable	Cronbach's Alpha	Critical Value	Status
Service Quality (X1)	0.936	0.70	Highly Reliable
Employee Performance (X2)	0.952	0.70	Highly Reliable
Community Satisfaction (Y)	0.935	0.70	Highly Reliable

Source: Processed Data (2026)

A reliability test is an essential statistical measure used to evaluate the internal consistency and stability of a research instrument. It gauges the degree to which the questionnaire statements yield consistent and dependable results when administered repeatedly under similar conditions. In quantitative analysis, a high level of reliability ensures that the research instrument is free from random error, thereby guarantees that the collected data can be trusted for drawing scientific conclusions. As presented in Table 3, the reliability test results demonstrate that the research instrument possesses excellent internal consistency. The Cronbach's Alpha values for Service Quality X1, Employee Performance X2, and Community Satisfaction Y are 0.936, 0.952, and 0.935, respectively. Since all calculated Cronbach's Alpha coefficients strictly exceed the critical value threshold of 0.70, all variables are declared highly reliable. This indicates that the questionnaire is stable and consistent for further statistical evaluation.

4.4 Classical Assumption Test

Normality Test

Table 4. Normality Test

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			103
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		3.31934512
Most Extreme Differences	Absolute		.059
	Positive		.049
	Negative		-.059
Test Statistic			.059
Asymp. Sig. (2-tailed)[c]			.200[d]
Monte Carlo Sig. (2-tailed)[e]	Sig.		.496
	99% Confidence Interval	Lower Bound	.483
		Upper Bound	.508

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.
e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000.

Source: SPSS Data Processing Results (2026)

The normality test in this research was conducted to verify if the residual values within the regression model followed a normal distribution. Based on the empirical results of the One-Sample Kolmogorov-Smirnov test, the Sig. (2-tailed) value reached 0.200. Given that this statistical metric exceeds the 0.05 threshold (0.200 > 0.05), it is established that the residual data are normally distributed. This indicates that the empirical data collected from the respondents mirrors a balanced and normal distribution, making it viable for regression testing

Multicollinearity Test

Tabel 5. Multicollinearity Test

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	2.123	1.653		1.284	.202		
	X1	.259	.097	.225	2.666	.009	.209	4.779
	X2	.675	.080	.717	8.492	<,001	.209	4.779

a. Dependent Variable: Y

Source: SPSS Data Processing Results (2026)

As presented in the table above, the multicollinearity evaluation in this study demonstrated a Tolerance value of 0.209 and a VIF value of 4.779 for both Service Quality (X1) and Employee Performance (X2). These empirical results confirm the absence of multicollinearity issues among the independent variables, given that the calculated Tolerance exceeds the 0.10 threshold and the corresponding VIF remains well below the standard limit of 10.

Heteroscedasticity Test

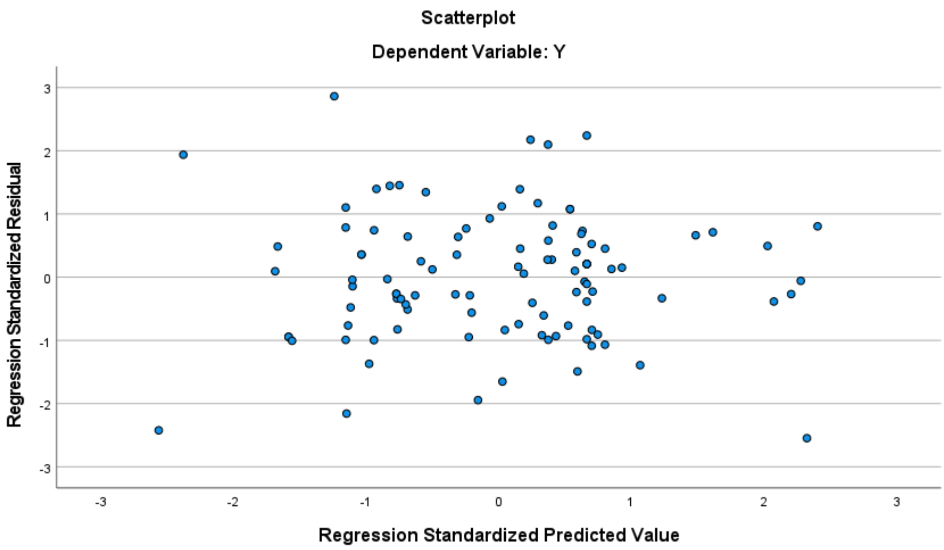

Figure 2. Heteroscedastiticity Test (Scatterplot)
Source: SPSS Data Processing Results (2026)

As illustrated in the figure above, the heteroscedasticity evaluation utilizing scatterplot analysis demonstrates that the data points are randomly scattered both above and below the zero mark on the Y-axis. Furthermore, the distribution does not exhibit any distinct or structured geometric patterns. These empirical findings confirm that the regression model successfully satisfies the homoscedasticity assumption and is entirely free from heteroscedasticity.

4.5 Multiple Linier Regression Equation

Table 6. Multiple Linier Regression Equation

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.123	1.653		1.284	.202
	X1	.259	.097	.225	2.666	.009
	X2	.675	.080	.717	8.492	<,001

a. Dependent Variable: Y

Source: SPSS Data Processing Results (2026)

The multiple linear regression equation is defined as Y = 2.123 + 0.259X1 + 0.675X2. Both independent variables show positive regression coefficients, indicating a direct relationship where improvements in Service Quality and Employee Performance lead to increased Community Satisfaction. Notably, Employee Performance (X2) exerts a stronger influence on the outcome compared to Service Quality (X1), as evidenced by its higher coefficient value.

4.6 F-test

Table 7. F-Test

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6418.262	2	3209.131	285.550	<,001[b]
	Residual	1123.841	100	11.238		
	Total	7542.104	102			

a. Dependent Variable: Y

b. Predictors: (Constant), X2, X1

Source: SPSS Data Processing Results (2026)

The F-test results show an F-value of 285.550 with a significance level of < 0.001. As the significance value is below 0.05, it is confirmed that Service Quality (X1) and Employee Performance (X2) collectively have a significant impact on Community Satisfaction (Y)

4.7 Coefficient of Determination test

Table 8. Coefficient of Determination test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.922[a]	.851	.848	3.3523742

a. Predictors: (Constant), X2, X1

Source: SPSS Data Processing Results (2026)

The analysis of the coefficient of determination revealed an R Square value of 0.851. This statistical outcome demonstrates that Service Quality (X1) and Employee Performance (X2) accounts for 85.1% of the variance in Community Satisfaction (Y). The minor balance of 14.9% is attributable to alternative variables that were not integrated into the current empirical model.

4.8 T-test (hypothesis test)

According to the partial statistical analysis, Service Quality (X1) registered a t-value of 2.666 with a significance level of 0.009, while Employee Performance (X2) exhibited a t-value of 8.492 with a significance of < 0.001. Because the significance metrics for both predictors fall below the 0.05 threshold, the evaluation demonstrates that each variable exerts a positive and significant partial effect on Community Satisfaction.

The results of the t-test in this study prove that Service Quality (X1) partially has a positive and significant effect on Community Satisfaction, with a t-value of 2.666 and a significance value of 0.009 (< 0.05). These findings are in line with the research of Mastuti et al. (2025) and Sukmarini et al. (2023), while also providing empirical evidence that differs from the findings of (Darmayadi et al., 2023). Based on these results, the overall optimization of public service delivery and genuine civic attentiveness demonstrated by the village apparatus have proven capable of successfully meeting the expectations of the residents in Serang Village.

In the context of village governance, the significant impact of service quality indicates that public service fulfillment is evaluated holistically by the community, extending far beyond the physical confines of the village office. While basic administrative availability forms the foundation, the residents of Serang Village place a much higher valuation on the continuous responsiveness and empathy demonstrated by the apparatus in their daily lives. When village officials display active responsiveness in addressing community needs and show genuine empathy toward community challenges out in the field, it successfully bridges the gap between public expectations and actual service quality.
H_1: Service Quality affects Community Satisfaction in Serang Village : H_1 accepted

Meanwhile, Employee Performance (X2) has been proven to have a very strong positive and significant partial effect on Community satisfaction, as evidenced by a t-value of 8.492 and a significance value of < 0.001. These findings reinforce the results of Jonh et al. (2023) and Romadhona & Sumardjo (2022), but contradict the results of Arsuni (2025) and Mastuti et al., (2025). This statistical confirmation emphasizes that the comprehensive service execution and functional dedication demonstrated by the village apparatus in the field act as the primary catalysts driving public contentment in Serang Village.

Furthermore, the exceptionally high t-value for employee performance underlines that the holistic capability of the apparatus is the ultimate core determinant of community satisfaction in rural areas. In Serang Village, the community evaluates employee performance not merely through office-bound duties, but through their overall conduct and execution of responsibilities

in the field. High professionalism, paired with an ethical interpersonal attitude in daily social interactions, effectively minimizes public complaints and delays. Consequently, the superior and holistic performance of individual employees acts as the primary catalyst that powerfully elevates community satisfaction within the village.
H_2: Employee Performance affects Community Satisfaction in Serang Village : H_2 accepted

Theoretically, these findings contribute to the Human Resource Management (HRM) literature by confirming that holistic public sector studies must evaluate both service and employee outputs. This research reinforces the concept that community satisfaction in rural governance is dynamically shaped by the balanced combination of all service quality indicators and the comprehensive work performance of the village apparatus. Therefore, this study successfully bridges the empirical gap and provides a stronger, integrated reference for future public sector performance evaluations in rural areas.

CONCLUSION

In structural terms, this study draws two primary conclusions based on the partial hypothesis testing. First, Service Quality is empirically proven to exert a positive and significant impact on Community Satisfaction in Serang Village, implying that systematic improvements in public service delivery directly elevate civic contentment. Second, Employee Performance is concurrently found to have a robust, positive, and significant impact on Community Satisfaction. These outcomes demonstrate that instead of focusing on isolated traits, fulfilling overall operational capabilities and workplace responsiveness among village apparatus serves as the ultimate determinant in meeting public expectations.

However, this research has limitations because the observation focus was only conducted in one location with a sample size of 103 respondents, so the results may not be widely generalizable to other areas. Therefore, the village government is advised to continue maintaining service quality standards and to periodically optimize the performance of village officials. For future researchers, it is recommended to expand the research locus, increase the sample size, or include other relevant variables, such as bureaucratic accountability, budget transparency, and the utilization of e-goverentment systems, to provide a more comprehensive picture of public service development at the rural level.

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The Influence of Individual Factors on Implementation of Green Human Resource Management in The Textile and Apparel Industry

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ABSTRACT
The purpose of this research is to examine the influence of employee environmental awareness, green competencies, personality and motivation on the implementation of green human resource management in the textile and apparel industry in Daerah Istimewa Yogyakarta. This research method used a quantitative approach with 95 respondents, which were analysed using logistic regression. The results of the study indicate that all variables simultaneously influence the implementation of GHRM. Partially, employee environmental awareness, green competencies and motivation have a positive and significant effect on the implementation of GHRM, while personality has a negative and significant effect on the implementation of GHRM. This study can be a basis for companies in considering individual factors in the implementation of GHRM. This study is limited to the textile and apparel industry in DIY, therefore, the findings cannot be broadly generalized.

Keywords: Employee Environmental Awareness, Green Competencies, Personality, Motivation, Implementation Green Human Resource Management

ABSTRAK
Tujuan penelitian ini mengkaji pengaruh employee environmental awareness, green competencies, personality dan motivasi terhadap penerapan green human resource management (GHRM) pada industri tekstil dan pakaian jadi di Daerah Istimewa Yogyakarta. Metode penelitian ini menggunakan pendekatan kuantitatif dengan 95 responden, yang dianalisis menggunakan regresi logistik. Hasil penelitian ini menunjukkan seluruh variabel secara simultan berpengaruh terhadap penerapan GHRM. Secara parsial, employee environmental awareness, green competencies, dan motivasi berpengaruh positif dan signifikan terhadap penerapan GHRM, sedangkan personality berpengaruh negatif dan signifikan terhadap penerapan GHRM. Penelitian ini dapat menjadi dasar bagi perusahaan dalam mempertimbangkan faktor individu dalam penerapan GHRM. Penelitian ini terbatas pada industri tekstil dan pakaian jadi di DIY sehingga hasilnya belum dapat digeneralisasikan secara luas.

Kata kunci: Employee Environmental Awareness, Green Competencies, Personality, Motivasi, Green Human Resource Managemen

INTRODUCTION

Environmental issues remain a major global concern, attracting significant attention from stakeholders, particularly in the industrial sector. One of the most pressing issues is the increasing level of greenhouse gas (GHG) emissions. According to recent data, global GHG emissions rose from 52.54 Gt CO2eq in 2023 to 53.21 Gt CO2eq in 2024 (Ahdiat, 2025). This increase has contributed to various adverse environmental impacts. The growth in GHG emissions is largely driven by the expansion of economic and industrial activities (Makhsudova & Usmonova, 2025).

The increasing environmental impacts resulting from industrial activities have heightened global attention to the importance of adopting environmental and sustainability principles. This growing concern has led to the emergence of Green Human Resource Management (GHRM) as a business strategy that supports environmental sustainability. GHRM refers to human resource management policies, practices, and processes that promote environmentally friendly initiatives and generate benefits for individuals, society, the environment, and businesses (Faisal, 2023). The implementation of GHRM is particularly important in the manufacturing sector, a major contributor to pollution and waste, as it can help mitigate the environmental impacts of production processes (Mansyur et al., 2023).

Conversely, the textile and apparel manufacturing industry in Daerah Istimewa Yogyakarta (DIY) represents an important manufacturing sector that contributes significantly to regional economic growth. According to the Badan Pusat Statistik DIY (2025) the industry generated a gross value added of IDR 2.81 trillion. Despite its economic contribution, the sector also presents environmental challenges. According to a report published by Harian Jogja, textile and apparel waste accounts for 11.50% of the total waste generated in DIY (https://harianjogja.com). This condition suggests that waste management and the implementation of GHRM practices within production processes have not received adequate attention (Purnomo, 2021).

However, the implementation of GHRM continues to face several challenges, particularly the limited understanding of GHRM concepts among managers and employees. As a result, GHRM practices are often difficult to implement consistently. GHRM emphasizes that employees are the primary actors influencing environmentally responsible organizational actions, implying that achieving sustainability requires strong commitment from organizational members (Kurniawan et al., 2025).

This indicates that individual factors play crucial roles in the implementation of GHRM. In this study, these factors include employee environmental awareness, green competencies, personality and motivation. According Goranczewski (2020) employee environmental awareness refers to employee’s understanding and knowledge of the environmental impacts of organizational activities. Employees with higher environmental awareness are more willing to support and adopt environmentally responsible practices. In addition, green competencies are considered another important factor. Sulich & Kozar (2024) define green competencies as the knowledge, skills, abilities, attitudes, awareness, and behaviors related to environmental responsibility. Individuals processing these competencies are more likely to engage in environmentally responsible behavior. Without adequate green competencies, the implementation of GHRM may not be effective.

The third factor is personality, which refers to individual characteristics that shape the way people think, feel, and act toward environmental issues. Individuals who are organized, responsible, dependable, open-minded, and creative are generally more inclined to adopt environmentally friendly practice. The final factor is motivation, motivation encourages individuals to engage in pro-environmental behaviors and increases their willingness to support sustainability-oriented practices.

This study focuses on individual factors as determinants of GHRM implementation, in contrast to most previous studies, which primarily emphasize organizational factors such as corporate policies, organizational structures, and management systems. Specifically, this study investigates GHRM implementation in the textile and apparel industry in DIY. This industry is particularly relevant due to its significant contribution to waste generation and environmental emissions in the region. The research advances GHRM theory by demonstrating that successful implementation depends not only on organizational systems and policies but also on employee psychological readiness, cognitive awareness, and environmental competencies.

THEORETICAL BACKGROUND

2.1. Green Human Resource Management

Green human resource management (GHRM) is defined as the management of human resources by integrating environmental considerations into organizational policies and practices to promote employee environmentally responsible behaviors and support environmental sustainability. GHRM is also regarded as an important strategy, particularly in the manufacturing sector, for mitigating the environmental impacts of production activities (Mansyur et al., 2023).

2.2. Employee Environmental Awareness

Employee environmental awareness is a multidimensional concept encompassing attitudes, knowledge, information, behaviour, and individuals actions toward environmental issues (Sampene et al., 2024). Employees with greater environmental awareness tend to prioritize environmentally responsible behaviour, thereby supporting the implementation of GHRM. Previous studies by (Ichdan & Maryani, 2024; Madan & Sharma, 2025) found that employee environmental awareness has a positive and significant effect on GHRM implementation.

2.3. Green Competencies

Green competencies are defined as ecological knowledge and an individual’s capacity to act appropriately and responsibly in maintaining and improving environmental well-being (Subramanian et al., 2020). Individuals prossessing strong green competencies tend to participate in environmentally responsible activities, thereby facilitating the implementation of GHRM practices. Previous studies by (Irawan et al., 2025; Nugroho et al., 2023) demonstrated that green competencies have a positive and significant effect on pro-environmental behaviors, thereby supporting GHRM implementation.

2.4. Personality

Personality represents enduring individual differences in thoughts, emotions, and behaviors that tend to remain consistent throughout time and across various contexts (Roberts & Yoon, 2022). Individuals with strong personality traits, environmental value, and environmental concern tend to support the implementation of GHRM practices. Previous research by (Finthariasari et al., 2023; Lau & Jamaludin, 2024) found that personality has a positive and significant effect on GHRM implementation.

2.5. Motivation

Motivation represents the impetus that stimulates individuals to engage in particular actions, whether arising from internal factors (intrinsic) or external influences and pressure (extrinsic) (Ryan & Deci, 2020). Individuals with strong motivation to engage in environmentally responsible activities tend to encourage and support the implementation of GHRM practices. Previous research by (Ardiansyah, 2023; Ojo, 2021) found that motivation has a positive and significant effect on GHRM.

Based on the theoretical framework discussed above, the following hypotheses are proposed:
H1: Employee Environmental Awareness has a positive effect on GHRM implementation
H2: Green Competencies have a positive effect on GHRM implementation
H3: Personality has a positive effect on GHRM implementation
H4: Motivation has a positive effect on GHRM implementation
H5: Employee environmental awareness, green competencies, personality and motivation have a simultaneous effect on GHRM implementation

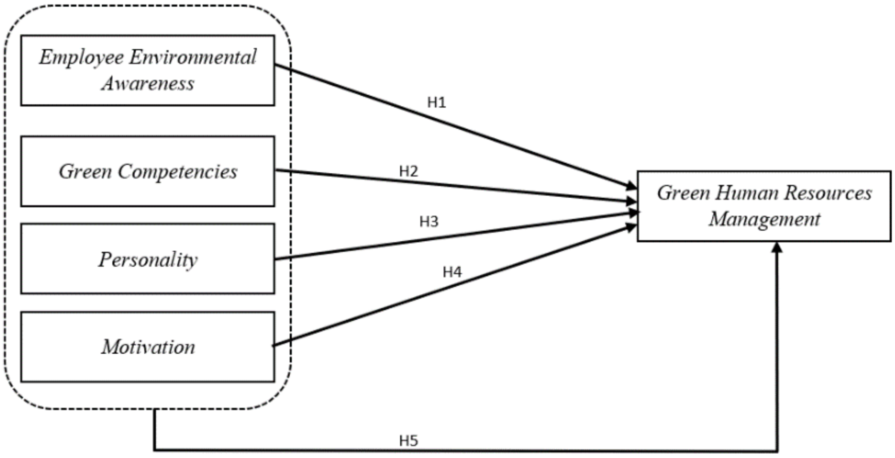

Figure 1 Conceptual Framework
Source: Primary Data (2026)

RESEARCH METHODS

A quantitative research approach was employed in the study to investigate the individual determinants of Green Human Resource Management (GHRM) implementation in the textile and apparel industry in the Daerah Istimewa Yogyakarta. The population consisted of 113 employees working in the textile and apparel industry. A saturated sampling (census) was employed because the population was fully accessible, enabling all population members to be included in the research.

Data were collected through questionnaires distribution. A five-point Likert scale, with ranging from "strongly disagree" to "strongly agree" to meansure independent variables of employee environmental awareness, green competencies, personality and motivation. In addition, a Guttman scale with dichotomous response option ("yes" or "no") was utilized to obtain definitive responses regarding the the dependent variable, namely GHRM implementation.

The collected data were subsequently analyzed through logistic regression. According to (Ghozali, 2021) logistic regression is employed to examine the probability of occurrence of a dichotomous or categorical dependent variable based on a set of independent variables. In this study, the dependent variable, GHRM implementation, was classified into two categories: "implementing" and "not implementing". This classification was based on respondents' answers to the guttman-scale items. A "yes" response indicated that the respondent had implemented GHRM and was coded as 1, whereas a "no" response indicated that the respondent had not implemented GHRM and was coded as 0.

The logistic regression analysis was conducted in four stages: overall model fit, goodness–of–fit tests, coefficient of determination (Nagelkerke R Square), and prediction accuracy testing. To test the hypotheses in this study, the Wald test was used to examine partial hypotheses, while the Omnibus Test of Model Coefficients was employed to test simultaneous hypotheses. The software used in this study was IBM SPSS version 25. The logistic regression model employed in this study as follows:

$$Ln\left(\frac{p}{1-2}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$$

Description:
β_0 = Constant
β_1 = Regression coefficient of employee environmental awareness
β_2 = Regression coefficient of green competencies
β_3 = Regression coefficient of personality
β_4 = Regression coefficient of motivation

RESULT AND DISCUSSION

The analysis began with a descriptive examination of respondents characteristics. Although the study employed a saturated sampling (census) technique involving a population of 113 respondents, only 95 completed the questionnaire and were included in the analysis, as some individuals declined to participate.

Respondent Character

Table 1. Respondent Characteristics

No	Remarks	Categories	Quantity	Percentage
1.	Gender	Man	45	47,4%
		Woman	50	52,6%
2.	Age	>20 – ≤30 Years	45	47,4
		>30 – ≤40 Years	20	21,1%
		>40 – ≤50 Years	19	20,0%
		>50 Years	11	11,6%
3.	Final Education	SMK/SMA/Equivalent	31	32,6%
		Diploma (D1/D2/D3/D4)	9	9,5%
		Bachelor (S1)	49	51,6%
		Master (S2)	6	6,3%
		Doctor (S3)	0	0%
4.	City/Regency Domicile	Sleman Regency	50	52,6%
		Kulon Progo Regency	4	4,2%
		Bantul Regency	26	27,4%
		Gunung Kidul Regency	2	2,1%
		Yogyakarta City	13	13,7%
5.	Industry Type	Textile	39	40,0%
		Apparel	56	7,4%
6.	Length of Employment	≤3 Years	36	14,7%
		>3Years–6Years	38	40,0%
		>6Years–9Years	7	7,4%
		≥9 Years	14	14,7%
7.	Position	Top Managers	17	17,9%
		Middle Managers	6	6,3%
		Lower Managers	72	75,8%

Source: Data Processing Results (2026)

Based on Table 1, respondents are dominated by women, aged >20 - ≤30 years, with a S1 education, domiciled in Sleman Regency, working in the apparel industry, having a working period of >3 – 6 years, and occupying the position of a lower manager.

Logistic Regression Analysis

Overall Model Fit

Following the descriptive analysis of respondents, the next step was logistic regression analysis. The overall model fit was assessed as the initial stage of the logistic regression analysis. This assessment involved comparing the initial -2LogL value with the final -2LogL value. A lower -2LogL in block number 1 compared with block number 0 indicates an improvement in the regression model.

Table 2. Overall Model Fit Test Results

Iteration	-2 Loglikehood	Coefficients Constant
Step 0	111,604	0,905
Step 1	63,265	-8,982

Source: Data Processing Results (2026)

As shown in Table 2, the initial -2LogL value was 111,604. Following the four independent variables were incorporated into the model, the final -2LogL value decreased to 63,265, representing a reduction of 48,339. This decrease indicates an improvement in the model fit. Therefore, the results indicate that the proposed model adequately represents the data, and H0 is accepted, suggesting that the regression model becomes more robust with the inclusion of the independent variables.

Goodness of Fit Test

The next step, the goodness of fit of the regression model was evaluated using the Hosmer and Lemeshow Goodness-of-Fit-Test. The model is considered fit when there is no significant difference between the observed and predicted values, as indicated by a significance value of ≥0,05.

Table 3. Goodness of Fit Test Results

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	8,389	8	0,396

Source: Data Processing Results (2026)

As shown in Table 3, the Hosmer and Lemeshow test yielded a chi-square value of 8,389 with a significance value 0,396 (≥ 0,05). Therefore, the null hypothesis (H0) accepted, indicating that the model adequately fits the data and is suitable for predicting the observed outcomes.

Coefficient of Determination (Nagelkerke R Square)

The next step involved testing the coefficient of determination. The coefficient of determination was assessed using the Nagelkerke R Square value to measure the contribution of the independent variables in explaining the variability of the dependent variable.

Table 4. Coefficient of Determinant Results

Model Summary			
Step	-2 Log likehood	Cox & Snell R Square	Nagelkerke R Square
1	63,265	0,398	0,576

Source: Data Processing Results (2026)

As shown in Table 4, the coefficients of determinant (Nagelkerke R Square) value is 0,576 (57,6%), indicating that the four independent variables explain 57,6% of the variation in GHRM implementation, while the remaining 42,4% is explained by other variables outside the model.

Prediction Accuracy Test

The final stage of the logistic regression analysis involved assessing prediction accuracy, which evaluates the models ability to correctly classify observations.

Table 5. Prediction Accuracy Test Results

Classification Table [a, b, c, d]					
Observed			Predicted		
			GHRM Implementation (Y)		Percentage Correct
			Ya	Tidak	
Step 1	GHRM implementation(Y)	Tidak	19	7	73,1
		Ya	2	67	97,1
	Overall Percentage				90,5

Source: Data Processing Results (2026)

As shown in Table 5, the model achieved an overall prediction accuracy of 90,5%, indicating excellent classification performance. The remaining 9,5% represents classification errors.

Wald Test

The partial effects of each independent variable employee environmental awareness, green competencies, personality, and motivation on GHRM implementation were examined using the Wald test. An independent variable was considered to have a significant effect if its significance value was <0,05.

Table 6. Wald Test Results

Variables in the Equation									
		B	S.E	Wald	df	Sig.	Exp(B)	95% C.I for EXP (B)	
								Lower	Upper
Step 1[a]	X1	0,159	0,071	5,038	1	0,025	1,172	1,020	1,347
	X2	0,156	0,064	5,955	1	0,015	1,169	1,031	1,324
	X3	-0,188	0,090	4,387	1	0,035	0,828	0,695	0,988

X4	0,360	0,127	8,027	1	0,005	1,433	1,117	1,837
Constant	-8,982	-2,50	13,953	1	0,000	0,000		

Source: Data Processing Results (2026)

The logistic regression model employed in this study as follows:

$$Ln\left(\frac{p}{1-p}\right) = -8{,}982 + 0{,}159X1 + 0{,}156X2 - 0{,}188X3 + 0{,}360X4 \quad (1)$$

Based on Table 6, the constant value is -8,982. This indicates that when the company does not possess employee environmental awareness, green competencies, personality and motivation, it is unlikely to implement GHRM practices. Furthermore, employee environmental awareness (X1), green competencies (X3), and motivation (X4) have positive effects on GHRM implementation. In contrast personality (X3) has a negative effect on GHRM implementation.

Omnibus Test of Model Coefficients

The simultaneous effects of employee environmental awareness, green competencies, personality and motivation on GHRM implementation were assessed using the omnibus test of model coefficients. The decision is determined based on the significance level, when the significance level is (<0,05), the null hypothesis (H0) was rejected and the alternative hypothesis (H1) was accepted. This results suggests that the independent variables collectively influence the dependent variable.

Table 7. Omnibust Test of Model Coefficients

Omnibus Tests of Model Coefficients				
		Chi-square	df	Sig
Step 1	Step	48,243	4	0,000
	Block	48,243	4	0,000
	Model	48,243	4	0,000

Source: Data Processing Results (2026)

As shown in Table 7, the omnibus test produced a chi-square value of 48,243 (df = 4) and a significance value of 0,000 (<0,05). This finding indicates that all independent variables simultaneously have a significant influence on GHRM implementation.

Discussion

Based on the results of the partial and simultaneous hypothesis testing, the findings of this study are discussed as follows:

H1: Employee Environmental Awareness has a positive effect on GHRM implementation

The analysis results indicate that employee environmental awareness has a positive regression coefficient of 0,159 and a significant value of 0,025 (<0,05). This finding demonstrates that employee environmental awareness has positive and significant effect on GHRM implementation, implying that greater environmental awareness among employees supports stronger GHRM implementation within organizations. Therefore, the first hypothesis (H1) is accepted. This finding is consistent with previous studies by (Ichdan & Maryani, 2024; Lathifa, 2025; Madan & Sharma, 2025) which found that employee environmental awareness has a positive and significant effect on GHRM implementation. The result reinforces the view that individual factors, particularly environmental awareness, are important determinants of GHRM implementation.

H2: Green Competencies have a positive effect on GHRM implementation

The analysis results show that green competencies have a positive regression coefficient of 0,156 with a significance value of 0,015 (<0,05). This indicates that green competencies have a positive and significant effect on GHRM implementation, suggesting that greater green competencies among employees lead to stronger implementation on GHRM practices. Therefore, the second hypothesis (H2) was accepted. This finding is consistent with previous studies by (Irawan et al., 2025; Nugroho et al., 2023) which found that green competencies positively and significantly influence pro-environmental behaviour that support GHRM implementation. These results strengthen the GHRM literature by highlighting green competencies as a critical factor in promoting GHRM implementation, indicating that GHRM depends not only on organizational factors but also on individual competencies.

H3: Personality has a positive effect on GHRM implementation

The analysis results reveal that personality significantly affects GHRM, however the relationship is negative. The findings show a significance value 0,035 (<0,05) and a regression coefficient of (-0,188), indicating that greater personality are associated with lower levels of GHRM implementation. Therefore, the third hypothesis (H3) is rejected. This finding suggests that personality does not always contribute positively to GHRM implementation, contrary to common assumptions in the literature. The result is inconsistent with the findings of (Finthariasari et al., 2023) who found that personality positively influences GHRM implementation in the banking sector. This discrepancy may be attributed to differences in industry characteristics. The banking sector primarily focuses on service and administrative activities, making it easier to integrate GHRM practices into organizational operations. In contrast, the textile and apparel industry is characterized by higher operational pressures, strict production targets, and a strong emphasis on production efficiency. Consequently, spesific personality traits may be more strongly associated with productivity-oriented behaviour than with environmentally responsible behaviour, thereby reducing support for GHRM implementation.

H4: Motivation has a positive effect on GHRM implementation

The analysis results indicate that motivation has a positive regression coefficient of 0,360 with a significance value 0,005 (<0,05), demonstrating a positive and significant effect on GHRM implementation. This finding suggests that greater motivation lead to stronger support for GHRM implementation within organizations. Therefore, the fourth hypothesis (H4) is accepted.

This result is consistent with the findings of (Ardiansyah, 2023; Ojo, 2021) which identified motivation as an important factor influencing GHRM implementation. The finding strengthens the understanding that successful GHRM implementation is influenced not only by organizational policies but also by employees' psychological motivation to support the organization sustainability values.

H5: Employee Environmental Awareness, Green Competencies, Personality and Motivation have simultaneous

Based on the results, a chi-square value of 48,243 was obtained and a significance level of 0,000 (<0,05). This suggests that employee environmental awareness, green competencies, personality and motivation simultaneously influence GHRM implementation. The finding suggests that the successful implementation of GHRM within organizations is influenced by a combination of individual factors. Furthermore, the result confirms that a combination of individual factors, employee environmental awareness, green competencies, personality and motivation influences GHRM implementation. These findings support the perspective that GHRM implementation is determined not only by organizational factors but also by the integration of employees cognitive, competency-based, and psychological factors.

CONCLUSION

This study demonstrates that individual factors play crucial roles in supporting organizational transitions toward green human resource management (GHRM) practices in the textile and apparel industry in the Daerah Istimewa Yogyakarta (DIY). Specifically, employee environmental awareness, green competencies, and motivation were found to have positive and significant effects on the effectiveness of environmentally friendly practices within organizations. However, a contradictory finding emerged regarding personality, which was found to have a negative effect on GHRM implementation, indicating that certain psychological characteristics may be less supportive of environmentally oriented workplace practices.

For future studies, researchers are encouraged to expand the geographical coverage and increase the sample size to obtain more accurate and generalizable findings. Future studies may also investigate other industrial sectors, such as the food, beverage, and chemical industries. In addition, incorporating new variables that may strengthen the research model, such as green organizational culture, green behaviour, and personal norms, is recommended to provide deeper insights into the factors that drive corporate sustainability.

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The Effect of Emotional Intelligence and Workload on Employee Work Productivity at Pt Astra International Tbk – Daihatsu Sales Operation in Sleman

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ABSTRACT
This study examines the effects of workload and emotional intelligence on employee productivity at PT Astra International Tbk - Daihatsu Sales Operation. A quantitative approach with saturation sampling yielded 57 respondents. Multiple linear regression analysis using IBM SPSS revealed that workload has a positive and significant impact on productivity, while emotional intelligence shows a positive but statistically insignificant effect. The simultaneous F-test confirms that both variables jointly exert a significant influence on productivity. These findings underscore the need for organizations to balance effective workload management and emotional competence to achieve optimal employee performance.

Keywords: Emotional Intelligence, Workload, Employee Productivity.

ABSTRAK
Penelitian ini menguji pengaruh beban kerja dan kecerdasan emosional terhadap produktivitas karyawan PT Astra International Tbk – Daihatsu Sales Operation. Pendekatan kuantitatif dengan teknik sampling jenuh melibatkan 57 responden. Analisis regresi linear berganda menggunakan IBM SPSS menunjukkan bahwa beban kerja berpengaruh positif dan signifikan terhadap produktivitas, sedangkan kecerdasan emosional memberikan pengaruh positif namun tidak signifikan secara statistik. Uji simultan (F-test) membuktikan kedua variabel secara bersama-sama berpengaruh signifikan terhadap produktivitas. Temuan ini menegaskan pentingnya keseimbangan antara manajemen beban kerja yang efektif dan kemampuan mengelola emosi guna mencapai produktivitas karyawan yang optimal.

Kata kunci: Emotional Intelligence, Beban Kerja, Produktivitas Kerja

INTRODUCTION

In today's fast-paced Industry 4.0 era, organizations are required to maintain a high level of competitiveness in order to survive amid increasingly intense business competition. Work productivity is no longer determined solely by advanced technology but also by the competence and quality of an organization's human resources. Human resources represent among the most valuable assets of an organization. According to the concept of human resource management, human resources involve the science and art of managing employment relationships and workforce roles effectively and efficiently to achieve organizational, employee, and societal objectives. Competent and high-quality human resources enable organizations to continuously generate innovations that enhance organizational productivity. Therefore, human resources are regarded as one of the key determinants of organizational success.

In the automotive industry, employees are frequently confronted with demanding job responsibilities, particularly in achieving sales targets established by the company. A similar issue was identified at PT Astra International Tbk – Daihatsu Sales Operation in Sleman, where every employee is required to accomplish predetermined performance targets.

The company's sales targets were not achieved during March, April, and May 2026. In March, the sales target was 30 units, while the actual sales reached 29 units. In April, the target was 46 units, whereas only 31 units were achieved. Likewise, in May, the target was 47 units, but the actual sales amounted to 32 units. These findings indicate that employees' performance targets have not yet been achieved optimally. Consequently, employees are required to work harder and complete their responsibilities within limited time constraints in order to meet the company's performance expectations.

Previous studies have reported inconsistent findings regarding the relationship between workload, emotional intelligence, and employee productivity. Riswanto et al. (2023), in their study entitled "The Effect of Competence and Workload on Employee Productivity with Affective Commitment as a Mediating Variable," found that workload has a positive effect on employee productivity. This indicates that effective workload management can improve employee productivity. Similarly, Kultsum (2024), in the study "The Effect of Emotional Intelligence and Work Spirit on Employee Productivity at Baik Institute," concluded that emotional intelligence has a positive effect on employee productivity. These findings suggest that employees with higher emotional intelligence are more capable of maintaining and improving their productivity. However, different results were reported by Nopitasari et al. (2025) in the study "The Effect of Work Environment, Workload, and Motivation on Employee Productivity at PT Padasa Enam Utama." Their findings revealed that workload does not have a significant effect on employee productivity. This suggests that the company has assigned workloads that are appropriate to employees' capabilities, so employees do not perceive their workload as excessive. As a result, workload does not produce a significant change in employee productivity. These inconsistent findings indicate the need for further research to examine the influence of emotional intelligence and workload on employee productivity in different organizational contexts.

The inconsistent findings reported in previous studies concerning the influence of emotional intelligence and workload on employee work productivity highlight the need for further empirical investigation. In addition, the company's failure to consistently achieve its sales targets at PT Astra International Tbk – Daihatsu Sales Operation in Sleman indicates a productivity-related issue that requires further analysis to identify the factors affecting employee work productivity. Therefore, this study seeks to examine the extent to which emotional intelligence and workload influence employee work productivity. The results of this research are expected to provide useful insights for the company in formulating effective human resource management strategies to enhance employee productivity and facilitate the achievement of organizational goals.

Based on the issues discussed above, the researcher intends to analyze the effects of emotional intelligence and workload on employee work productivity within the automotive industry, specifically at PT Astra International Tbk – Daihatsu Sales Operation Sleman. Accordingly, the study is titled "The influence of Emotional Intelligence and Workload on Employee Work Productivity at PT Astra International Tbk – Daihatsu Sales Operation Sleman."
In today's fast-paced Industry 4.0 era, organizations are required to maintain a high level of competitiveness in order to survive amid increasingly intense business competition. Work productivity is no longer determined solely by advanced technology but also by the competence and quality of an organization's human resources. Human resources represent among the most valuable assets of an organization. According to the concept of human resource management, human resources involve the science and art of managing employment relationships and workforce roles effectively and efficiently to achieve organizational, employee, and societal objectives. Competent and high-quality human resources enable organizations to continuously generate innovations that enhance organizational productivity. Therefore, human resources are regarded as one of the key determinants of organizational success.

In the automotive industry, employees are frequently confronted with demanding job responsibilities, particularly in achieving sales targets established by the company. A similar issue was identified at PT Astra International Tbk – Daihatsu Sales Operation in Sleman, where every employee is required to accomplish predetermined performance targets.

The company's sales targets were not achieved during March, April, and May 2026. In March, the sales target was 30 units, while the actual sales reached 29 units. In April, the target was 46 units, whereas only 31 units were achieved. Likewise, in May, the target was 47 units, but the actual sales amounted to 32 units. These findings indicate that employees' performance targets have not yet been achieved optimally. Consequently, employees are required to work harder and complete their responsibilities within limited time constraints in order to meet the company's performance expectations.

Previous studies have reported inconsistent findings regarding the relationship between workload, emotional intelligence, and employee productivity. Riswanto et al. (2023), in their study entitled "The Effect of Competence and Workload on Employee Productivity with Affective Commitment as a Mediating Variable," found that workload has a positive effect on employee productivity. This indicates that effective workload management can improve employee productivity. Similarly, Kultsum (2024), in the study "The Effect of Emotional Intelligence and Work Spirit on Employee Productivity at Baik Institute," concluded that emotional intelligence has a positive effect on employee productivity. These findings suggest that employees with higher emotional intelligence are more capable of maintaining and improving their productivity. However, different results were reported by Nopitasari et al. (2025) in the study "The Effect of Work Environment, Workload, and Motivation on Employee Productivity at PT Padasa Enam Utama." Their findings revealed that workload does not have a significant effect on employee productivity. This suggests that the company has assigned workloads that are appropriate to employees' capabilities, so employees do not perceive their workload as excessive. As a result, workload does not produce a significant change in employee productivity. These inconsistent findings indicate the need for further research to examine the influence of emotional intelligence and workload on employee productivity in different organizational contexts.

The inconsistent findings reported in previous studies concerning the influence of emotional intelligence and workload on employee work productivity highlight the need for further empirical investigation. In addition, the company's failure to consistently achieve its sales targets at PT Astra International Tbk – Daihatsu Sales Operation in Sleman indicates a productivity-related issue that requires further analysis to identify the factors affecting employee work productivity. Therefore, this study seeks to examine the extent to which emotional intelligence and workload influence employee work productivity. The results of this research are expected to provide useful insights for the company in formulating effective human resource management strategies to enhance employee productivity and facilitate the achievement of organizational goals.

Based on the issues discussed above, the researcher intends to analyze the effects of emotional intelligence and workload on employee work productivity within the automotive industry, specifically at PT Astra International Tbk – Daihatsu Sales Operation Sleman. Accordingly, the study is titled "The influence of Emotional Intelligence and Workload on Employee Work Productivity at PT Astra International Tbk – Daihatsu Sales Operation Sleman."

THEORETICAL BACKGROUND

2.1.Human Resource Management

According to Supomo (2018), is a strategic management approach that incorporates the core functions of planning, organizing, leading, and controlling in managing all human resource activities. These activities cover recruitment and selection, employee training and development, job placement, promotion, demotion, transfer, performance evaluation, compensation, industrial relations, and employment termination. The main purpose of HRM is to maximize the contribution of human resources so that organizational objectives can be achieved efficiently and effectively. Human resource management plays an essential role in enhancing employee performance as well as organizational productivity. Well-implemented HRM practices help organizations strengthen employees' competencies, improve their job performance, and sustain organizational competitiveness over the long term.

2.2. Emotional Intelligence

According to Goleman (2016) defines an emotional intelligence as the capacity to recognise and comprehend one's own emotions, control emotional reactions, sustain self-motivation, identify others' feelings through empathy, and cultivate meaningful interpersonal interactions. Employees with emotional intelligence are able to maintain positive connections with managers and coworkers while effectively responding to demands at work. High emotional intelligence people are typically better at managing stress at work, speaking clearly, and creating a happy work environment, all of which eventually lead to increased productivity.

2.3. Workload

According to Koesomowidjojo (2017) workload refers to a set of tasks that must be completed by employees within a specified period. Workload is one of the essential aspects that organizations should carefully manage. Excessive workload that exceeds employees' physical or mental capacity may lead to fatigue, occupational stress, and reduced work productivity. Therefore, organizations should allocate workload proportionally according to employees' competencies and capacities to ensure optimal job performance. According to Koesomowidjojo (2017), workload is measured using the following indicators, working conditions, use of working time, work targets, and standard work.

2.4. Work Productivity

According to Sutrisno (2016), work productivity reflects employees' mental attitudes toward continuously improving work performance. Productive employees believe that today's performance should be better than yesterday's and that future performance should continuously improve. Such an attitude requires awareness of quality improvement, appreciation for others, and strong teamwork to enhance organizational performance. According to Sutrisno (2016), work productivity is measured using the following indicators, ability, improvement of work results, work spirit, self-development, quality and efficiency.

2.5. Research Framework

Employee job efficiency is positively impacted by emotional intelligence, according to a study by Nasution et al. (2020). The findings imply that workers who possess greater emotional intelligence—that is, the capacity to identify and control their own emotions, sustain self-motivation, and cultivate positive interpersonal relationships—are more likely to be productive at work. Additionally, workers who are able to control their emotions are typically better able to focus, carry out their responsibilities, and complete jobs more successfully.

Similarly, the findings of Suleman and Fitriyanti (2020) indicated that workload has a positive influence on employee work productivity. When the workload is appropriately matched with employees' abilities and capacities, it can enhance work efficiency and contribute to improved productivity.

Likewise, research by Syarifah et al. (2023) found that emotional intelligence and workload jointly exert a significant influence on employee work productivity. These findings imply that the effective management of both emotional intelligence and workload is essential for improving employees' overall productivity.

2.6. Theoretical Framework

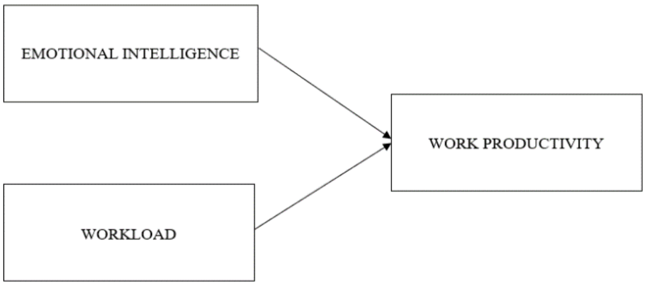

Figure 1. Theoretical Framework
Source: Data processed by the researcher (2026)

Description:
H_1: Emotional intelligence has a positive and significant effect on employee work productivity.
H_2: Workload has a positive and significant effect on employee work productivity.
H_3: Emotional intelligence and workload simultaneously have a significant effect on employee work productivity.

RESEARCH METHODS

3.1. Research Approach

This study employed a quantitative research approach. Quantitative data refer to numerical information related to quantities, levels, comparisons, and volumes, which are expressed in the form of numbers.

3.2. Population, Sample, and Sampling Method

The study's subject included of 57 employees of PT Astra International Tbk – Daihatsu Sales Operation, Sleman. Considering that the population was relatively small and well-defined, comprising only 57 employees, this study employed a non-probability sampling technique using the saturated sampling (census) method. Consequently, all 57 employees were included as the research sample.

3.3. Types and Sources of Data

This study utilized both primary and secondary data. Primary data were collected through the distribution of questionnaires, whereas secondary data were obtained from literature, journal articles, and company documents provided by PT Astra International Tbk – Daihatsu Sales Operation.

3.4. Data Collection Method

In this study, the social phenomenon was specifically defined by the researcher as the research variables. These variables were further operationalized into measurable indicators using a modified four-point Likert scale. Data were collected through a questionnaire in which the conventional five-point Likert scale was modified into a four-point scale by eliminating the neutral response category. This modification was intended to encourage respondents to express a clear opinion regarding each statement.

Table 1. Modified likert scale

Symbol	Description	Score
SD	Strongly Disagree	1
D	Disagree	2
A	Agree	3
SA	Strongly Agree	4

Source: Sugiyono (2020)

RESULT AND DISCUSSION

A total of 57 respondents participated in this study by completing the research questionnaire. The number of respondents was consistent with the total number of questionnaires distributed.

4.1. Respond Characteristics

The respondent characteristics provide a general description of the participants involved in this study. A total of 57 employees of PT Astra International Tbk – Daihatsu Sales Operation, Sleman, participated as respondents by completing the questionnaire. The respondents were classified based on four demographic characteristics: gender, age, division, and length of employment.

Table 2. Respondent Characteristics by Gender

Gender	Frequency	Presentase
Female	24	42.1%
Male	33	57.9%
Total	57	100%

Source:Processed Primary Data (2026)

The respondents consisted of 33 males (57.9%) and 24 females (42.1%), indicating that the majority of respondents in this study were male employees.

Table 3. Respondent Characteristics by Age

Age	Frequency	Presentase
18-25 years	14	24,6%
26 - 35 years	28	49,1%
36 - 45 years	12	21,1%
46 - 50 years	2	3,5%
> 50	1	1,8%
Total	57	100%

Source: Processed Primary Data (2026)

Based on the respondents' age distribution, the majority belonged to the 26–35 years age group, accounting for 28 respondents (49.1%). Respondents aged 18–25 years, with 14 respondents (24.6%), and those aged 36–45 years, comprising 12 respondents (21.1%).

Respondents aged 46–50 years accounted for 2 individuals (3.5%), while only 1 respondent (1.8%) was over 50 years of age. These findings indicate that the workforce was predominantly composed of employees in the productive working-age group.

Table 4. Respondent Characteristics by Divison

Division	Frequency	Presentase
Marketing	18	31,6%
Administration	25	43,9%
Service	9	15,8%
Sparepart	5	8,8%
Total	57	100%

Source: Processed Primary Data (2026)

As presented in Table 3, the largest proportion of respondents worked in the Administration Division, comprising 25 employees (43.9%). This was followed by the Marketing Division, with 18 respondents (31.6%), the Service/Mechanic Division, with 9 respondents (15.8%), and the Spare Parts Division, with 5 respondents (8.8%). These results indicate that the respondents in this study were predominantly employees from the Administration Division.

Table 5. Respondent Characteristics by Length of Employment

Lenghth of Employment	Frequency	Presentase
<1 years	13	22,8%
1 - 5 years	33	57,9%
> 5 years	11	19,3%
Total	57	100%

Source: Processed Primary Data, 2026

Based on the distribution of respondents' length of employment, the majority of respondents, 33 employees (57.9%), had worked for 1–5 years. Meanwhile, 13 respondents (22.8%) had less than one year of work experience, whereas 11 respondents (19.3%) had been employed for more than five years. These findings suggest that most respondents had sufficient work experience to understand their job responsibilities and organizational practices.

4.2. Validity Test

According to Ghozali (2018) the validity test is used to assess the extent to which the data obtained by the researcher accurately represent the actual conditions of the research object. A research instrument is regarded as valid when the calculated correlation coefficient (r-value) is greater than the corresponding critical value (r-table); otherwise, it is considered invalid. In this study, the r-table value was 0.2201. The findings showed that every questionnaire item for each research variable met the validity criteria, as all calculated r-values were higher than the required r-table value.

4.3. Reliability Test

The reliability test was performed to evaluate whether the research instrument was capable of providing consistent results when administered repeatedly to the same group of respondents. According to Ghozali (2018), a research instrument is considered reliable if it consistently produces stable measurement results across repeated administrations. In this study, the reliability of each research variable was evaluated using Cronbach's Alpha. An instrument was considered reliable when its Cronbach's Alpha coefficient exceeded the minimum threshold of 0.60.

Table 6. Reliability Test

Variable	*Cronbach`s Alpha*	*N of Items*	Description
X1	0,634	10	Reliable
X2	0,630	8	Reliable
Y	0,646	12	Reliable

Source: Processed Primary Data, 2026

4.4. Classical Assumption Test

Normality Test

To ascertain if the study data were regularly distributed, the normality test was used. The Kolmogorov-Smirnov test was used in this work to evaluate the normality of the data. The significant value of 0.200 obtained from the test findings is higher than the significance level of 0.05. Consequently, it may be said that the normalcy assumption has been met since the data are regularly distributed.

Multicollinearity Test

The test for multicollinearity was run to examine whether there was a substantial correlation among the independent variables in the regression model. If the Variance Inflation Factor (VIF) is less than 10 and the Tolerance value is larger than 0.10, the model is deemed free of multicollinearity. The findings showed a VIF value of 1.850, which is below the threshold of 10, and a Tolerance value of 0.540 (54%), which exceeds the minimal requirement of 0.10. Consequently, it may be said that multicollinearity does not exist in the regression model.

Heteroscedasticity Test

The heteroscedasticity test was conducted to determine whether the variance of the residuals remained constant across observations. Heteroscedasticity is considered absent when the significance value exceeds 0.05. The results indicated significance values of 0.412 for Emotional Intelligence (X_1) and 0.107 for Workload (X_2), both of which are greater than 0.05. Therefore, it can be concluded that the regression model does not exhibit heteroscedasticity.

Linearity Test

A linearity test was carried out to examine whether the independent variables had a linear relationship with the dependent variable. A significance value greater than 0.05 indicates that the variables satisfy the linearity assumption. The analysis produced significance values of 0.095 for the relationship between emotional intelligence and work productivity and 0.140 for the relationship between workload and work productivity. As both values are above the 0.05 threshold, it can be concluded that emotional intelligence and workload have linear relationships with work productivity. Therefore, both independent variables satisfy the linearity assumption and are appropriate for subsequent multiple regression analysis.

The Multiple Linear Regresion

The multiple linear regression model developed in this study is:

$$\mathbf{Y = 12.864 + 0.152X_1 + 0.862X_2 + e} \tag{1}$$

The regression model shows a constant value of 12.864, indicating the estimated level of employee work productivity (Y) when both Emotional Intelligence (X_1) and Workload (X_2) are assumed to have values of zero. The coefficient for Emotional Intelligence (X_1) is 0.152, demonstrating a positive association between emotional intelligence and employee work productivity. This indicates that higher levels of emotional intelligence are expected to contribute to higher employee productivity, provided that the other independent variable remains unchanged. Meanwhile, the regression coefficient for Workload (X_2) is 0.862, which also reflects a positive relationship with employee work productivity. This result suggests that, with all other variables held constant, a one-unit increase in workload is predicted to increase employee work productivity by 0.862 units.

4.5. Hypothesis Test Result

t-Test (Partial)

The summarized as follows:

1. The Emotional Intelligence (X_1) variable obtained a t-value of 1.265 with a significance value of 0.211. Since 0.211 > 0.05 and 1.265 < 2.004 (t-table), H_1 is rejected.
2. The Workload (X_2) variable obtained a t-value of 6.422 with a significance value of 0.000. Since 0.000 < 0.05 and 6.422 > 2.004 (t-table), H_2 is accepted.

f-Test (Simultaneous)

The simultaneous test produced a significance value of 0.000, which is lower than 0.05, and an F-value of 49.821, which is greater than the F-table value of 3.17. Therefore, H_3 is accepted, indicating that Emotional Intelligence and Workload simultaneously have a significant effect on Employee Work Productivity.

Coefficient of Determination

The Adjusted R^2 value obtained from the coefficient of determination analysis was 0.636. This result indicates that emotional intelligence and workload collectively explain 63.6% of the variance in employee work productivity at PT Astra International Tbk – Daihatsu Sales Operation Sleman. The remaining 36.4% is explained by other variables beyond the scope of this study.

Discussion

The Effect of Emotional Intelligence on Employee Work Productivity

The partial t-test results indicate that at PT Astra International Tbk – Daihatsu Sales Operation Sleman, Employee Work Productivity (Y) is positively but not statistically significantly impacted by Emotional Intelligence (X_1). A positive regression coefficient of 0.152, a significance level of 0.211, and a t-value of 1.265 all support this result. The relationship does not approach statistical significance, despite the regression coefficient indicating that a rise in employees' emotional intelligence is linked to increased job productivity.

In addition, the coefficient of determination analysis produced an adjusted R^2 value of 0.369, indicating that 36.9% of the variation in employee work productivity can be explained by emotional intelligence, while the remaining 63.1% is influenced by other variables that were not included in this research. Consequently, H_1 is rejected.

These findings are in line with the study conducted by Cahya et al. (2019), which concluded that emotional intelligence does not significantly affect employee work productivity. This implies that, despite employees having strong emotional regulation abilities, their productivity is also shaped by various other factors, such as work motivation, the work environment, workload, compensation, and the organizational work system.

The Effect of Workload on Employee Work Productivity

The findings the partial t-test results show that employee work productivity (Y) is positively and statistically significantly impacted by workload (X_2). A t-value of 6.422, which is greater than the essential t-table value of 2.004, and a significance value of 0.000, which is below the 0.05 significance level, demonstrate that workload significantly influences employee job productivity. In addition, the positive regression value of 0.862 demonstrates that an adequate and well-managed workload correlates positively to employee productivity.

Accordingly, H_2 is accepted, indicating that workload significantly enhances employee work productivity. These findings are consistent with the study conducted by Suleman and Fitriyanti (2020), which concluded that workload has a positive effect on employee productivity. A workload that is aligned with employees' capabilities and job capacities enables employees to perform more effectively, thereby improving their productivity.

The Simultaneous Effect of Emotional Intelligence and Workload on Employee Work Productivity.

The results of the F-test demonstrate that Emotional Intelligence (X_1) and Workload (X_2) simultaneously have a significant effect on Employee Work Productivity (Y). This conclusion is supported by an F-value of 49.821, which exceeds the F-table value of 3.17, and a significance value of 0.000, which is well below the 0.05 significance level. Therefore, H_3 is accepted.

These findings indicate that the combined influence of emotional intelligence and workload contributes significantly to improving employee productivity. This result is consistent with the study conducted by Syarifah et al. (2023), which found that emotional intelligence and workload simultaneously influence employee work productivity. Employees who are capable of managing their emotions effectively are better able to cope with job demands and workplace pressure, allowing them to maintain high levels of productivity even under relatively heavy workloads.

CONCLUSION

The findings of this study indicate that emotional intelligence has a positive effect on employee work productivity, although the effect is not statistically significant. Therefore, organizations should not rely solely on employees' emotional intelligence to enhance productivity. Instead, companies should also consider other contributing factors, such as compensation, the work environment, work experience, and other organizational factors that may exert a stronger influence on employee work productivity.

With regard to workload, the results demonstrate that workload has a positive and significant effect on employee work productivity. This finding suggests that organizational support, including the provision of work motivation, regular performance evaluations, and adequate work facilities, can help employees cope with job demands effectively. As a result, workload should not be perceived as an obstacle but rather as a motivating factor that encourages employees to improve their performance and productivity.

Furthermore, although emotional intelligence did not demonstrate a statistically significant effect individually, both emotional intelligence and effective workload management were found to simultaneously contribute to employee work productivity. Therefore, organizations should foster a supportive work environment that promotes the development of employees' emotional competencies while ensuring that workload is assigned in accordance with employees' capacities and competencies. By implementing these strategies, organizations can enhance employee work productivity in a more optimal and sustainable manner.

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The Influence of Live Streaming Shopping and Online Customer Reviews on Purchase Decisions with Trust as an Intervening Variable

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ABSTRACT
This study examines the impact of Live Streaming Shopping and Online Customer Reviews on purchase decisions, with trust as a mediator, among TikTok Shop users. Data from 120 student respondents (FEB Universitas PGRI Semarang, 2022 cohort) were analyzed using PLS-SEM. Results indicate that both Live Streaming Shopping and Online Customer Reviews positively and significantly affect trust, and trust significantly affects purchase decisions. While the direct effects of both variables on purchase decisions are insignificant, trust significantly mediates their relationships with purchase decisions, underscoring its essential role in consumer purchase behavior on TikTok Shop.

Keywords: Live Streaming Shopping ; Online Customer Review; Trust ; Purchase Decision ; TikTok Shop

ABSTRAK
Penelitian ini menganalisis pengaruh Live Streaming Shopping dan Ulasan Pelanggan Online terhadap keputusan pembelian dengan kepercayaan sebagai variabel perantara pada pengguna TikTok Shop. Melalui pendekatan kuantitatif, data dikumpulkan dari 120 mahasiswa FEB Universitas PGRI Semarang Angkatan 2022 pengguna TikTok Shop menggunakan kuesioner Google Forms dengan purposive sampling, lalu dianalisis dengan PLS-SEM berbantuan SmartPLS 4. Hasilnya, kedua variabel tersebut berpengaruh positif dan signifikan terhadap kepercayaan, dan kepercayaan juga berpengaruh positif dan signifikan terhadap keputusan pembelian. Namun, pengaruh langsung kedua variabel terhadap keputusan pembelian tidak signifikan. Kepercayaan terbukti memediasi secara signifikan hubungan kedua variabel dengan keputusan pembelian, yang menegaskan peran krusialnya dalam memperkuat keputusan pembelian konsumen di TikTok Shop.

Kata Kunci: Live Streaming Shopping; Ulasan Pelanggan Online; Kepercayaan; Keputusan Pembelian; TikTok Shop

INTRODUCTION

The rapid development of information technology has accelerated the growth of e-commerce, fundamentally transforming the way consumers search for information, conduct transactions, and purchase products. The emergence of e-commerce has enhanced transaction efficiency, expanded market access, and created broader business opportunities within the digital economy. In Indonesia, e-commerce has continued to experience substantial growth, as reflected in the increasing transaction value and the growing number of users each year. This trend indicates that e-commerce has become an integral part of the country's digital economic activities (Yusuf et al., 2024).

Along with the rapid growth of e-commerce, consumer purchasing behavior has shifted from conventional shopping to digital-based transactions. One of the fastest-growing social commerce platforms in Indonesia is TikTok Shop, which integrates social media and e-commerce into a single platform. Through features such as Live Streaming Shopping and Online Customer Reviews, TikTok Shop provides consumers with interactive product information, real-time communication with sellers, and access to previous consumers' experiences before making purchase decisions. The widespread adoption of TikTok Shop in Indonesia indicates that these features play an important role in shaping consumer purchasing behavior (Wibowo & Wijiastut, 2022).

Despite offering convenience and an engaging shopping experience, consumers still encounter various challenges when purchasing products through TikTok Shop. Since products cannot be physically inspected before purchase, consumers often face uncertainty regarding product quality, seller credibility, and the accuracy of product information. During live streaming sessions, prospective buyers frequently seek additional information about product specifications, quality, and suitability, while Online Customer Reviews often reveal inconsistent purchasing experiences, including product mismatches, unsatisfactory quality, and poor service. These conditions indicate that consumers continue to perceive risks in online shopping, making trust a critical factor in the purchase decision-making process (Gunawan, 2022).

In this context, Live Streaming Shopping and Online Customer Reviews are considered important sources of information that influence consumers' purchase decisions. Live Streaming Shopping enables sellers to demonstrate products and interact directly with consumers through real-time communication, whereas Online Customer Reviews provide information based on previous consumers' experiences regarding product quality and seller credibility. However, the information obtained through these features does not always directly encourage consumers to make purchases. Instead, consumers tend to establish trust in both the product and the seller before making purchase decisions. Therefore, trust is expected to serve as an intervening variable in explaining the relationship between Live Streaming Shopping, Online Customer Reviews, and purchase decisions.

Previous studies have generally reported that Live Streaming Shopping and Online Customer Reviews positively influence purchase decisions. Azizah (2024), Hadi (2025), and Sholikah & Ahmadi (2024), found that both variables have positive and significant effects on purchase decisions. Furthermore, Hadi (2025) and Adam (2025) demonstrated that trust mediates the relationship between Live Streaming Shopping, Online Customer Reviews, and purchase decisions.

Nevertheless, previous findings remain inconsistent, indicating the existence of a research gap. Agustin Nur Afifa dan Amma Fazizah (2023) reported that Live Streaming Shopping and Online Customer Reviews had positive but insignificant effects on purchase decisions. Moreover, Hermawan (2024) found that although Online Customer Reviews positively affected purchase intention, trust failed to mediate the relationship between Online Customer Reviews and purchase intention. These inconsistent findings suggest that both the direct effects of Live Streaming Shopping and Online Customer Reviews on purchase decisions and the mediating role of trust remain inconclusive and require further empirical investigation.

Therefore, this study aims to examine the influence of Live Streaming Shopping and Online Customer Reviews on purchase decisions through trust as an intervening variable among TikTok Shop users, particularly students of the Faculty of Economics and Business, Universitas PGRI Semarang.

THEORETICAL BACKGROUND

2.1. Live Streaming Shopping

According to Suhyar and Pratminingsih (2023), live streaming is a form of media development that involves direct interaction with audiences in real time. This feature is used as a tool to increase sales while also building product image and branding. Through the direct interaction it offers, live streaming creates a more engaging and informative shopping experience for consumers.

2.2. Online Customer Review

Sulanjari and Tjahjaningsih (2023) explain that an Online Customer Review is a form of electronic word of mouth (e-WOM) that includes comments, evaluations, and recommendations published on the internet. These reviews serve as a source of information that consumers consider credible before making a purchase, thereby influencing their purchase decisions. In addition, reviews provide valuable feedback for companies to improve their products and customer services. Therefore, Online Customer Reviews are an important source of information for consumers when evaluating a product. Through these reviews, consumers can assess the quality and benefits of a product based on the experiences of others, helping them make informed purchasing decisions.

2.3. Trust

Wijaya (2022) defines trust as an attitude related to an individual's beliefs, expectations, feelings, and perceptions of credibility that are formed through relationships with other individuals, objects, or entities. In the context of this study, trust refers to consumers' confidence in the products offered by sellers or producers. Trust is a crucial factor because it strengthens consumers' willingness to be interested in, believe in, and ultimately use a product. Once trust has been established between customers and a company, maintaining that relationship becomes easier. The quality of the relationship between a company and its customers can be reflected in the level of trust that customers have in the company.

2.4. Purchase Decision

Kotler et al. (2022) define a purchase decision as the final stage in the consumer decision-making process, in which individuals evaluate several product alternatives and then select the product that best matches their needs and preferences. This process describes how consumers respond to their desire for a product after receiving stimuli that encourage them to make a purchase.

RESEARCH METHODS

This study employed a quantitative approach to analyze the influence of Live Streaming Shopping and Online Customer Reviews on purchase decisions through trust as an intervening variable among students of the Faculty of Economics and Business, Universitas PGRI Semarang, Class of 2022. The research data were collected through questionnaires developed based on the indicators of each variable and measured using a five-point Likert scale. The questionnaires were distributed online through Google Forms and shared via social media platforms such as WhatsApp and Instagram.

The population of this study consisted of all active students of the Faculty of Economics and Business, Universitas PGRI Semarang, Class of 2022, totaling 368 students. The sample size was determined based on Hair's (2021) recommendation of 5–10 times the number of research indicators. By using 20 indicators and a multiplier of 6, a total sample of 120 respondents was obtained. The sampling technique used was non-probability sampling with a purposive sampling method, in which respondents were selected based on specific criteria, namely active FEB students from the Class of 2022 who had previously made purchases through TikTok Shop.

Data were collected using a questionnaire based on a five-point Likert scale, ranging from strongly disagree to strongly agree. The collected data were analyzed using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) method with the assistance of SmartPLS 4.0 software. The analysis consisted of evaluating the measurement model (outer model), including validity, reliability, and discriminant validity tests, as well as evaluating the structural model (inner model), including R-Square, F-Square, and Path Coefficients tests to examine the relationships among variables and the role of trust as an intervening variable.

RESULT AND DISCUSSION

4.1. R-Square Results

Table 1. R square

Variable	R-Square Value
Purchase Decision	0,502
Trust	0,497

Source : SmartPLS 4 (2026)

Based on Table 1, the R-Square value for the Purchase Decision variable is 0.502, which falls into the moderate category. This indicates that the ability of the independent variables to explain the variation in Purchase Decisions is moderate. In other words, 50.2% of the variation in Purchase Decisions can be explained by the variables included in this study, while the remaining 49.8% is influenced by other factors not examined in the research model. Meanwhile, the R-Square value for the Trust variable is 0.497, which also falls into the moderate category. This result indicates that the independent variables have a moderate ability to explain the variation in Trust. Specifically, 49.7% of the variation in Trust can be explained by the variables included in the research model, while the remaining 50.3% is explained by factors outside the model. Therefore, the research model demonstrates a moderate explanatory capability in explaining both the Purchase Decision and Trust variables.

4.2. Direct Effect Test Results

Table 2. Direct Effect Test Results

Variable	*Koefisien (o)*	*T-Statistic*	*P-Value*	Result
Live Streaming Shopping → Trust	0,469	6,143	0,000	Positive and Significant Effect
Online Customer Review → Trust	0,338	4,540	0,000	Positive and Significant Effect
Trust → Purchase Decision	0,687	8,895	0,000	Positive and Significant Effect
Live Streaming Shopping → Purchase Decision	0,125	1,465	0,071	Not Significant
Online Customer Review → Purchase Decision	-0,120	1,417	0,078	Not Significant

Source : SmartPLS 4 (2026)

a. The Effect of Live Streaming Shopping on Trust

The analysis results indicate that *Live Streaming Shopping* has a path coefficient of 0.469, a T-Statistic of 6.143, and a P-Value of 0.000 (< 0.05). These findings demonstrate that *Live Streaming Shopping* has a positive and significant effect on trust. This result indicates that high-quality interactions, clear product information, and real-time communication during live streaming sessions enhance consumers' trust in conducting online transactions through TikTok Shop.

b. The Effect of Online Customer Review on Trust

The analysis results indicate that Online Customer Review has a path coefficient of 0.338, a T-Statistic of 4.540, and a P-Value of 0.000 (< 0.05). These findings demonstrate that Online Customer Review has a positive and significant effect on trust. This result indicates that credible and informative customer reviews provide valuable information that strengthens consumers' confidence in both the seller and the products offered, thereby increasing trust in online transactions.

c. The Effect of Trust on Purchase Decisions

The analysis results indicate that *Trust* has a path coefficient of 0.687, a T-Statistic of 8.895, and a P-Value of 0.000 (< 0.05). These findings demonstrate that *Trust* has a positive and significant effect on *Purchase Decisions*. This result indicates that a higher level of consumer trust in the seller and the products offered increases the likelihood of making purchase decisions on the TikTok Shop platform.

d. The Effect of Live Streaming Shopping on Purchase Decisions

The analysis results indicate that Live Streaming Shopping has a path coefficient of 0.125, a T-Statistic of 1.465, and a P-Value of 0.071 (> 0.05). These findings demonstrate that Live Streaming Shopping does not have a positive and significant direct effect on Purchase Decisions. This result indicates that although live streaming provides interactive communication and comprehensive product information, these factors alone are insufficient to directly influence consumers' purchase decisions. Consumers may consider other factors, particularly trust, before making purchasing decisions on the TikTok Shop platform

e. The Effect of Online Customer Review on Purchase Decisions

The analysis results indicate that Online Customer Review has a path coefficient of −0.120, a T-Statistic of 1.417, and a P-Value of 0.078 (> 0.05). These findings demonstrate that Online Customer Review does not have a positive and significant direct effect on Purchase Decisions. This result indicates that customer reviews alone are insufficient to directly influence consumers' purchase decisions. Instead, consumers tend to consider additional factors, particularly trust, before deciding to purchase products through the TikTok Shop platform.

4.3 Indirect Effect Test Results

Table 3. Indirect Effect Test Results

Variable	*Koefisien (o)*	*T-Statistic*	*P-Value*	Result
Live Streaming Shopping → Trust → Purchase Decision	0,322	5,348	0,000	Trust mediates the effect of Live Streaming Shopping on Purchase Decisions
Online Customer Review → Trust → Purchase Decision	0,232	4,156	0,00	Trust mediates the effect of Online Customer Review on Purchase Decision

Source : SmartPLS 4 (2026)

Based on the data presented in Table 3, the results of the specific indirect effects for each relationship are explained as follows:

a. The Effect of Live Streaming Shopping on Purchase Decisions through Trust

The analysis results show a path coefficient of 0.322, a T-Statistic of 5.348, and a P-Value of 0.000 (< 0.05). These findings indicate that Trust significantly mediates the relationship between Live Streaming Shopping and Purchase Decisions. In other words, live-streaming interactions that successfully build consumer trust can have a strong impact on consumers' decisions to purchase products. This suggests that trust plays an important role in strengthening the influence of live-streaming activities on purchasing behavior.

b. The Effect of Online Customer Review on Purchase Decisions through Trust

The analysis results indicate that the indirect effect of Online Customer Review on Purchase Decisions through Trust has a path coefficient of 0.232, a T-Statistic of 4.156, and a P-Value of 0.000 (< 0.05). These findings demonstrate that Trust significantly mediates the relationship between Online Customer Review and Purchase Decisions. This result indicates that credible and informative customer reviews enhance consumers' trust, which in turn encourages them to make purchase decisions. Therefore, Trust serves as an important intervening variable that strengthens the influence of Online Customer Review on consumers' purchasing decisions.

4.3. Discussion

1. **The Effect of Live Streaming Shopping on Trust**

In this study, the effect of Live Streaming Shopping on Trust yielded a path coefficient of 0.469, a T-Statistic of 6.143, and a P-Value of 0.000 (< 0.05). Therefore, Hypothesis 1 was accepted. These findings demonstrate that Live Streaming Shopping has a positive and significant effect on consumer trust. This finding suggests that high-quality interactions, clear product information, and real-time communication during live streaming sessions significantly enhance consumers' trust in conducting online transactions through TikTok Shop.

These findings are supported by Wongkitrungrueng and Assarut (2020), who argued that interactions during live streaming are highly effective in building consumer trust. Furthermore, Zalfa and Indayani (2024) emphasized that direct product demonstrations enhance consumers' confidence in the credibility and honesty of sellers. These findings are also consistent with the Theory of Planned Behavior (TPB), which posits that the information and interactions obtained through Live Streaming Shopping shape consumers' behavioral beliefs and attitudes, thereby strengthening their trust and encouraging online purchasing behavior.

2. **The Effect of Online Customer Reviews on Trust**

In this study, the effect of Online Customer Review on Trust yielded a path coefficient of 0.338, a T-Statistic of 4.540, and a P-Value of 0.000 (< 0.05). Therefore, Hypothesis 2 was accepted. These findings demonstrate that Online Customer Review has a positive and significant effect on consumer trust. This finding indicates that credible, informative, and relevant customer reviews strengthen consumers' confidence in both the seller and the products offered, thereby enhancing trust in online transactions.

These findings are supported by Wijaya (2022), who stated that digital reviews reduce consumers' concerns regarding potential fraud. Likewise, Sulanjari and Tjahjaningsih (2023) found that information shared by previous buyers helps consumers feel more secure before completing online transactions. These findings are also consistent with the Theory of Planned Behavior (TPB), which explains that information obtained through Online Customer Reviews influences consumers' beliefs and perceptions, thereby strengthening trust in the online purchasing process.

3. The Effect of Trust on Purchase Decisions

In this study, the effect of Trust on Purchase Decisions yielded a path coefficient of 0.687, a T-Statistic of 8.895, and a P-Value of 0.000 (< 0.05). Therefore, Hypothesis 3 was accepted. These findings demonstrate that Trust has a positive and significant effect on Purchase Decisions. This finding indicates that higher levels of consumer trust in sellers and the products offered increase the likelihood of making purchase decisions. Trust reduces perceived risks and uncertainties associated with online transactions, thereby encouraging consumers to complete purchases through TikTok Shop.

These findings are supported by Agustin Nur Afifa and Amma Fazizah (2023), who identified trust as one of the primary determinants of online purchasing behavior. Similarly, Gemilang and Laily (2023) reported that consumers' purchase decisions are strongly influenced by their level of trust in sellers. These findings are also consistent with the Theory of Planned Behavior (TPB), which explains that consumers' behavioral beliefs shape their attitudes and behavioral intentions, ultimately influencing their purchase decisions.

4. The Effect of Live Streaming Shopping on Purchase Decisions

In this study, the effect of Live Streaming Shopping on Purchase Decisions yielded a path coefficient of 0.125, a T-Statistic of 1.465, and a P-Value of 0.071 (> 0.05). Therefore, Hypothesis 4 was rejected. These findings indicate that Live Streaming Shopping does not have a positive and significant direct effect on Purchase Decisions. This suggests that consumers consider additional factors, particularly trust, before making purchase decisions through TikTok Shop.

These findings differ from those reported by Azizah (2024), who found that Live Streaming Shopping significantly influences purchase decisions. However, the findings of this study suggest that live-streaming activities alone are insufficient to directly encourage purchasing decisions. This result is consistent with the Theory of Planned Behavior (TPB), which explains that consumers first develop beliefs and attitudes before making purchasing decisions.

5. The Effect of Online Customer Reviews on Purchase Decisions

In this study, the effect of Online Customer Review on Purchase Decisions yielded a path coefficient of -0.120, a T-Statistic of 1.417, and a P-Value of 0.078 (> 0.05). Therefore, Hypothesis 5 was rejected. These findings indicate that Online Customer Review does not have a positive and significant direct effect on Purchase Decisions. This suggests that customer reviews alone are insufficient to directly influence consumers' purchase decisions.

These findings are supported by Wibowo and Wijiastuti (2022), who argued that customer reviews are not the sole determinant of purchase decisions. Likewise, Sulanjari and Tjahjaningsih (2023) stated that reviews mainly serve as supporting information. In line with the Theory of Planned Behavior (TPB), consumers evaluate various sources of information before making purchasing decisions.

6. The Effect of Live Streaming Shopping on Purchase Decisions through Trust

In this study, the indirect effect of Live Streaming Shopping on Purchase Decisions through Trust yielded a path coefficient of 0.322, a T-Statistic of 5.348, and a P-Value of 0.000 (< 0.05). Therefore, Hypothesis 6 was accepted. These findings demonstrate that Trust significantly mediates the relationship between Live Streaming Shopping and Purchase Decisions. This indicates that effective live-streaming interactions increase consumers' trust, which subsequently encourages purchase decisions.

These findings are supported by Wongkitrungrueng and Assarut (2020), who explained that live-streaming interactions contribute to building consumer trust. Similarly, Gemilang and Laily (2023) found that trust strengthens the relationship between promotional activities and purchasing behavior. These findings are also consistent with the Theory of Planned Behavior (TPB), which explains that trust reinforces consumers' intention to make purchase decisions.

7. The Effect of Online Customer Reviews on Purchase Decisions through Trust

In this study, the indirect effect of Online Customer Review on Purchase Decisions through Trust yielded a path coefficient of 0.232, a T-Statistic of 4.156, and a P-Value of 0.000 (< 0.05). Therefore, Hypothesis 7 was accepted. These findings demonstrate that Trust significantly mediates the relationship between Online Customer Review and Purchase Decisions. This indicates that credible customer reviews enhance consumers' trust, which subsequently encourages purchase decisions.

These findings are supported by Wijaya (2022), who emphasized that customer reviews play an important role in building consumer trust. Likewise, Agustin Nur Afifa and Amma Fazizah (2023) explained that customer reviews become more influential when they strengthen consumers' trust. These findings are also in line with the Theory of Planned Behavior (TPB), which suggests that information obtained through Online Customer Reviews shapes consumers' beliefs and ultimately influences their purchasing decisions through trust.

CONCLUSION

Based on the results of the study and the hypothesis testing, it can be concluded that Live Streaming Shopping and Online Customer Review have positive and significant effects on Trust. In addition, Trust has a positive and significant effect on Purchase Decisions, indicating that consumers with higher levels of trust are more likely to make purchasing decisions on TikTok Shop. However, Live Streaming Shopping and Online Customer Review do not have positive and significant direct effects on Purchase Decisions. These findings suggest that consumers consider additional factors, particularly trust, before making purchasing decisions. Furthermore, Trust significantly mediates the relationship between Live Streaming Shopping and Purchase Decisions, as well as the relationship between Online Customer Review and Purchase Decisions. Therefore, Trust plays an important role in strengthening the influence of Live Streaming Shopping and Online Customer Review on consumers' purchase decisions.

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Strategic Capacity Planning and Production Line Efficiency In Kilogram Based Laundry Services: A Case Study of Dr Laundry

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ABSTRACT
This case study examines capacity constraints at Dr Laundry, a small-scale service business established in 2021. Using a qualitative descriptive approach with field observations and interviews, the study reveals that despite a theoretical washing capacity of 975 kg/day and drying capacity of 325 kg/day, operational bottlenecks emerge when daily demand reaches 100 kg. The primary constraint does not arise from equipment limits or ironing speed (5–10 kg/hour/worker), but from process interruptions caused by overlapping cashier and washing responsibilities. Mitigation strategies including overtime extension, workforce allocation control, and load sequencing are evaluated. The findings demonstrate that task fragmentation and uncoordinated multi-role assignment degrade theoretical throughput in SME service lines, contributing to service operations management literature by highlighting that optimizing capacity does not necessarily require capital expansion, but rather targeted job redesign and process scheduling.

Keywords: Capacity Planning, Bottleneck, Laundry Business, Service Operations.

ABSTRAK
Studi kasus ini mengkaji hambatan kapasitas di Dr Laundry, usaha jasa skala kecil yang berdiri tahun 2021. Dengan pendekatan kualitatif deskriptif melalui observasi dan wawancara, penelitian menemukan bahwa meskipun kapasitas teoretis pencucian mencapai 975 kg/hari dan pengeringan 325 kg/hari, hambatan operasional muncul saat permintaan harian mencapai 100 kg. Hambatan utama bukan disebabkan oleh keterbatasan mesin atau kecepatan setrika (5–10 kg/jam/pekerja), melainkan oleh gangguan proses akibat tumpang tindih tugas kasir dan pencucian. Strategi mitigasi seperti lembur, pengendalian alokasi tenaga kerja, dan penjadwalan beban dievaluasi. Temuan menunjukkan bahwa fragmentasi tugas dan pembagian peran ganda yang tidak terkoordinasi menurunkan kapasitas teoretis di lini usaha kecil dan menengah, serta berkontribusi pada literatur manajemen operasi jasa dengan menekankan bahwa optimalisasi kapasitas tidak selalu memerlukan ekspansi modal, melainkan perancangan ulang tugas dan penjadwalan proses yang terarah.

Kata kunci: Perencanaan Kapasitas, Hambatan, Usaha Laundry, Operasi Jasa

INTRODUCTION

In Dynamic capacity management in service operations often encounters operational friction due to the temporal mismatch between fluctuating demand and fixed structural capacity (Chase et al., 2018; Krajewski et al., 2019). While capacity planning models have been extensively studied in high-volume manufacturing environments, empirical research on capacity constraint management in small-to-medium service enterprises (SMEs) particularly those balancing standard batch processes with high-margin express requests remains limited (Johnston & Clark, 2018). Dr Laundry has been operating since 2021, providing laundry services for 13 hours daily (09:00 a.m. to 10:00 p.m.).

To remain competitive, the business offers diverse service lines, including weight-based laundry, individual garment cleaning, ironing, and express service. In practice, daily demand fluctuates significantly, averaging 80 kg on regular days, surging to approximately 100 kg during peak periods, and dropping to 50 kg on quieter days. During demand surges, operations experience fully occupied machines, employee overload, and service delays. Prior studies suggest that service bottlenecks are primarily caused by physical equipment limits (Heizer et al., 2020); however, preliminary observations at Dr Laundry indicate that bottlenecks persist even when total daily machine capacity remains underutilized. This reveals a critical research gap regarding how internal task switching and uncoordinated multi-role allocations generate operational bottlenecks in SME service lines. Grounded in the Theory of Constraints (Goldratt, 1984), this research aims to evaluate production line capacity, identify operational bottlenecks, and assess capacity management strategies at Dr Laundry.

THEORETICAL BACKGROUND

Strategic capacity planning refers to the process of determining the overall capacity of an organization's capital resources—including physical facilities, equipment capability, and workforce allocation—to ensure that operational output aligns with the company's long-term competitive strategy (Krajewski et al., 2019). The primary objective of capacity management is to achieve an optimal balance that minimizes the costs of excess capacity while reducing the economic losses associated with insufficient service capacity (Chase et al., 2018).

To evaluate production flow efficiency, the Theory of Constraints (TOC), introduced by Eliyahu M. Goldratt (1984), provides a framework suggesting that every operational system is ultimately constrained by one or more bottlenecks that limit its maximum throughput. A bottleneck occurs when the actual capacity of a workstation is lower than the workload it receives or lower than the capacity of the preceding and subsequent workstations (Heizer et al., 2020). As a result, the bottleneck determines the pace of the entire production process.

In small and medium-sized service businesses, production line efficiency is frequently affected by overlapping duties or multitasking. Although workforce flexibility through cross-training can theoretically reduce employee idle time, assigning multiple responsibilities without carefully considering task transition time may instead create operational inefficiencies (Appelbaum et al., 2013). These include higher cognitive workload and increased task-switching costs (Rubinstein et al., 2001). Frequent and unstructured movement between tasks disrupts standardized processing times, interferes with queue priorities at downstream workstations, and creates fluctuating operational bottlenecks that are difficult to detect when evaluation is based solely on theoretical capacity calculations (Johnston & Clark, 2018).

RESEARCH METHODS

This research employed a qualitative descriptive approach using an in depth case study to explore the operational practices at Dr Laundry. A case study was considered the most appropriate approach because it allows operational variables to be examined within their actual setting, particularly in the dynamic environment of a micro, small, and medium sized enterprise. Primary data were collected through two main methods:

3.1 In depth Interviews: Face to face interviews were conducted with the owner, who also manages the daily operations of Dr Laundry, to collect information on historical daily order volumes, human resource management practices, task allocation, and the operational challenges experienced in day to day activities.

3.2 Structured Field Observation: Direct observations, including a time motion study, were carried out to record quantitative data from the production floor. The observations covered the actual cycle time of each machine, laundry arrival patterns, manual ironing rates across different fabric types, and employee movement between workstations.

The data analysis combined a deterministic quantitative approach to estimate the theoretical installed capacity with an inductive qualitative approach to evaluate the actual workload. The theoretical daily machine capacity was calculated using the following basic equation:

$$\boldsymbol{Daily\ Capacity} = \frac{\boldsymbol{Total\ Effective\ Operating\ Time}}{\boldsymbol{Processing\ timer\ per\ Cycle}} \boldsymbol{x} Machine\ Rated\ Load\ Capacity \quad (1)$$

The numerical calculation results were then compared with a process mapping analysis to identify the gap between the theoretical capacity estimated on paper and the actual throughput achieved in daily operations. This approach made it possible to accurately determine the root causes of production bottlenecks.

RESULT AND DISCUSSION

4.1 Production Line Configuration and Human Resources

Dr Laundry operates with a total of four employees. To reduce fixed overhead costs associated with labor, the business adopts a cross functional work structure in which employees perform overlapping duties across multiple workstations. In practice, two employees are assigned primarily to washing operations, while three work at the ironing station, including two who also handle washing tasks. One employee is responsible for laundry pickup and delivery, and another manages cashier duties, administrative work, and bookkeeping while also assisting with washing and ironing whenever the production system reaches a bottleneck or operates at maximum capacity.

This lean organizational structure provides a high degree of flexibility during periods of low demand. However, as the workload increases, the absence of clearly defined job boundaries begins to affect operational efficiency. Production staff frequently shift between sequential tasks without a structured priority, resulting in reduced focus and disruptions to the overall workflow.

4.2 Washing and Drying Machine Capacity Analysis

Dr Laundry's operations are supported by washing and drying machines with processing times that vary according to load capacity. Based on an effective operating schedule of 13 hours per day, from 9:00 a.m. to 10:00 p.m., the maximum theoretical daily capacity was calculated as follows:

Table 1. Dr Laundry Washing and Drying Machine Capacity

Machine Type	Number of Units	Capacity / Processing Time	Theoretical Daily Capacity (13 Hours)
Large Washing Machine	1 Unit	12 kg / Approximately 30 Minutes	312 kg/day
Small Washing Machine	2 Units	8.5 kg / Approximately 19 Minutes	Approximately 663 kg/day
Total Maximum Washing Capacity			975 kg/day
Large Drying Machine	1 Unit	10 kg / 40 Minutes (Rate: 15 kg/hour)	195 kg/day
Small Drying Machine	2 Units	5 kg / 60 Minutes (Rate: 5 kg/hour)	130 kg/day
Total Maximum Drying Capacity			325 kg/day

Source: Processed Observation Data (2026)

The empirical calculations confirm that the drying station represents the lowest technical capacity within the machine system, with a maximum capacity of 325 kg per day. Even so, this capacity remains more than sufficient, providing a capacity cushion of approximately 69.2% above the workload recorded on the busiest days, which averages around 100 kg.

4.3 Manual Ironing Station Efficiency (Finishing)

The finishing stage relies on manual steam ironing, and its efficiency depends largely on the operator's physical capability and the complexity of the fabrics being handled. The time and motion study revealed two distinct levels of ironing performance:

1. Low Complexity Garments (T shirts and Casual Wear): These items have relatively flat and simple surfaces, allowing an ironing rate of 5 kg every 30 minutes, equivalent to 10 kg per hour per operator.
2. High Complexity Garments (Dress Shirts, Denim Trousers, Long Dresses, and Layered Hijabs): These items require greater attention to detail and careful ironing, resulting in a processing rate of 5 kg every 60 minutes, equivalent to 5 kg per hour per operator.

Under the worst case scenario, assuming that all incoming laundry consists of high complexity garments with the lowest ironing rate of 5 kg per hour, the combined capacity of three ironing operators reaches 15 kg per hour. Over a 13 hour operating day, the finishing station has a theoretical capacity of 195 kg. This finding indicates that, under uninterrupted working conditions, the ironing station is capable of processing nearly twice the laundry volume handled on the busiest days, which averages approximately 100 kg.

4.4 Bottleneck Analysis and Production Line Inefficiency

The calculated washing capacity (975 kg), drying capacity (325 kg), and theoretical ironing capacity (195 kg) indicate that Dr Laundry has more than sufficient infrastructure to handle peak daily demand of approximately 100 kg. Despite this, the business continues to experience operational issues, with machines frequently perceived as fully occupied and employees struggling to keep up with the workload. The analysis identified that the main bottleneck does not stem from limited capacity, but from inefficiencies created by overlapping job responsibilities, particularly when express service orders are received. During busy periods, ironing staff who also perform washing duties must leave their ironing stations to weigh, sort, and load laundry into the washing machines. These interruptions create idle time at the ironing station, causing dry laundry to accumulate while waiting to be ironed. As the backlog grows, the workload becomes increasingly concentrated, creating the impression that the available operational capacity is insufficient even though the existing infrastructure is technically capable of meeting demand.

4.4 Bottleneck Analysis and Production Line Inefficiency

The calculated capacities of the washing station (975 kg), drying station (325 kg), and theoretical ironing station (195 kg) indicate that Dr Laundry has more than sufficient infrastructure to handle peak daily demand of approximately 100 kg. Despite this, operational issues such as fully occupied machines and overwhelmed employees continue to occur. The findings reveal that the primary bottleneck is not caused by limited machine capacity, but by inefficiencies arising from overlapping job responsibilities, particularly when express service orders are received.

During busy periods, ironing staff who also perform washing duties must leave their ironing stations to weigh, sort, and load laundry into the washing machines. These interruptions create idle time at the ironing station, allowing dry laundry to accumulate while waiting to be ironed. As the backlog grows, the workload becomes increasingly concentrated at the finishing stage, creating the impression that the business lacks sufficient operational capacity, even though the available capacity is technically adequate.

4.5 Capacity Management Strategies During Demand Surges

To address operational bottlenecks during peak demand periods specifically managing the observed accumulation of approximately 100 kg of dry laundry per day the management of Dr Laundry implements three primary capacity management strategies. The practical application of these strategies is evaluated against operations management theories and empirical research as follows:

1. **Extension of Working Hours Through Overtime:**
   - **Empirical Findings:** Management frequently utilizes 1.5 to 2 hours of daily overtime per operator during high-volume periods to ensure delivery schedules are met. While this strategy successfully prevents chronic delivery delays, operational observation indicates that prolonged overtime causes fatigue, leading to a noticeable decline in ironing finish quality and an increase in unit labor costs.
   - **Theoretical Analysis & Literature:** This aligns with Capacity Requirement Planning (CRP) principles, where short-term capacity adjustments rely on labor flexibility. However, as noted by Chase et al. (2018) and Soman et al. (2017), excessive reliance on overtime to mitigate capacity shortages introduces labor inefficiencies, increases variable costs, and diminishes operational quality due to human fatigue in labor-intensive tasks.

2. **Workforce Capacity Control:**
   - **Empirical Findings:** Dr Laundry restricts the recruitment of temporary daily workers during routine operations, reserving temporary expansion strictly for extreme seasonal spikes such as the Eid al-Fitr holiday period (where demand surges up to 150–200%). Under normal operating fluctuations, fixed headcount is maintained to stabilize labor overhead.
   - **Theoretical Analysis & Literature:** This approach reflects a Level Capacity Strategy aimed at maintaining a steady workforce and controlling fixed/overhead costs (Krajewski et al., 2019). By absorbing normal demand variations through internal task re-allocation rather than continuous hiring, the business avoids training friction and maintains predictable operating margins, consistent with empirical findings on small-service-enterprise workforce stability (Fitriani & Hidayat, 2021).

3. **Load Order Flow Management Without Rejecting Express Orders:**
   - **Empirical Findings:** The business continues to accept high-margin express service orders alongside regular laundry queues. While express pricing yields higher profit margins and optimizes short-term cash flow, empirical workflow tracking reveals that processing unscheduled express orders on the main production line disrupts regular batching, introducing operational variability that accounts for the peak 100 kg backlog at the ironing station.
   - **Theoretical Analysis & Literature:** According to Queuing Theory and Operations Strategy (Heizer et al., 2020), introducing high-priority jobs into a shared facility without dedicated fast-track routing increases process variance and extends total cycle times for standard orders. In line with findings by Johnston and Clark (2018), capturing premium-margin demand without dedicated capacity allocation inevitably degrades baseline process stability.

CONCLUSION AND SUGGESTIONS

This case study demonstrates that while Dr Laundry possesses a solid physical infrastructure—evidenced by a theoretical washing capacity of 975 kg/day and a drying capacity of 325 kg/day—its operational performance is fundamentally constrained by capacity planning and resource allocation rather than equipment limits. From an operations management perspective, the accumulation of approximately 100 kg of dry laundry during peak periods represents an operational bottleneck driven by task fragmentation and uncoordinated labor allocation. This contributes to the broader operations management literature by illustrating how flexible, multi-role assignment models in small-to-medium service enterprises can unintendedly degrade theoretical throughput.

From a practical standpoint, the study highlights that optimizing operational throughput does not necessarily require capital expansion, but rather targeted job redesign and process scheduling. Specifically, the frequent interruptions experienced by manual ironing operators caused by overlapping cashier duties and unscheduled express service requests can be mitigated by strictly decoupling front-line service functions from back-end finishing operations. Implementing formal time-blocking for express orders and establishing dedicated workstation policies directly optimize effective working hours, demonstrating how procedural adjustments and task separation restore operational balance without additional capital expenditure.

5.2 Suggestions

To eliminate these operational constraints without increasing capital investment costs, Dr Laundry is recommended to implement the following strategic measures:

1. **Workstation Isolation Policy:** During peak hours on busy days, at least one ironing operator should be completely isolated from cashier and washing responsibilities. This measure is essential for maintaining the continuity of the finishing station's throughput rate.
2. **Time Blocking System:** Management should establish dedicated time windows for processing regular and express orders. Express service items should be grouped and loaded into the washing machines at scheduled intervals, for example every two hours, to minimize unexpected interruptions that reduce ironing productivity.
3. **Visual Management:** Introduce a simple visual control board, such as a physical *Kanban* card system, to provide employees with clear information about the status of laundry queues. This approach enables workforce allocation across workstations to be based on actual operational needs rather than individual assumptions.

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The Role of Customer Personas in Determining Digital Marketing Strategy for Office Rental Companies

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ABSTRACT
This study aims to design customer personas as a foundation for developing digital marketing content strategies in an office rental company. A qualitative method was employed through in-depth interviews with a customer, Tenant Marketing staff, a Social Media Specialist, and the company director, with data analyzed using data reduction, data display, and conclusion drawing techniques. The findings indicate that the primary customers belong to the business-to-business (B2B) segment, consisting of business owners, company managers, and business consultants who require practical workspaces, complete facilities, flexible rental systems, and transparent pricing. The study resulted in three main customer personas—founder, branch manager, and business consultant—which can be used as a basis for creating more relevant and customer-oriented digital marketing content strategies.

Keywords: customer persona, digital marketing, content strategy, business-to-business, office rental.

ABSTRAK
Penelitian ini bertujuan untuk merancang customer persona sebagai dasar penyusunan strategi konten digital marketing pada perusahaan sewa kantor. Penelitian menggunakan metode kualitatif dengan teknik wawancara mendalam kepada konsumen, Tenant Marketing, Staff Social Media Specialist, dan Direktur perusahaan yang dianalisis melalui tahap reduksi data, penyajian data, dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa pelanggan utama berasal dari segmen business-to-business (B2B), yaitu pemilik usaha, manajer perusahaan, dan konsultan bisnis yang membutuhkan ruang kerja praktis, fasilitas lengkap, sistem sewa fleksibel, serta transparansi biaya layanan. Penelitian ini menghasilkan tiga customer persona utama, yaitu founder, branch manager, dan konsultan bisnis yang dapat digunakan sebagai dasar dalam menyusun strategi konten digital marketing yang lebih relevan dan sesuai dengan kebutuhan pelanggan.

Kata kunci: customer persona, digital marketing, strategi konten, business-to-business, sewa kantor

INTRODUCTION

In today's digital era, technological developments have experienced very rapid progress and have had an impact on various aspects of human life. One area that has experienced significant changes is the business world, particularly in marketing activities. While previously promotional activities were mostly carried out directly through door-to-door or word-of-mouth methods, now promotions can be carried out more easily through various digital platforms. These technological developments have given birth to various digital media, such as social media, marketplaces, and increasingly sophisticated search engines. In fact, various marketing activities are now increasingly facilitated by the presence of Artificial Intelligence (AI) technology. According to Neil Patel (2020) in Erwin et al. (2023), digital marketing is a marketing effort supported by the use of electronic tools and the internet, encompassing various tactics and channels, such as the use of search engines with SEO and SEM, social media, content marketing, email, and others, to connect with existing and potential customers.

Digital marketing is an effective strategy for increasing brand awareness, supporting promotional activities, and strengthening communication between companies and customers. Amidst increasingly fierce business competition, companies are not only required to understand customer needs and characteristics, but also to be able to keep up with evolving marketing trends to remain competitive. Before implementing a digital marketing strategy, companies need to clearly understand their target market, starting from age , occupation, gender, needs, habits, and preferences, known as customer personas. Through customer personas, companies can determine communication, promotion, and marketing strategies that are more in line with customer characteristics. In addition, customer personas help companies understand the various factors that influence customers in choosing the products or services they need.

Office leasing and coworking space industry, understanding customer characteristics is crucial because each customer's needs tend to be different. Some customers require practical, ready-to-use office space , while others prioritize comfort, amenities, location, and operational efficiency. Furthermore, increasingly flexible work patterns have increased the need for workspaces that support productivity without requiring large-scale office rentals. This situation encourages office leasing companies to continuously evaluate the suitability of their products and services to the needs of their target market.

Office rental company in Surabaya targets business-to-business (B2B) companies and mid-sized enterprises requiring flexible workspace through the serviced office concept. A serviced office provides various operational support facilities, such as internet access, electricity, water, air conditioning, desks, chairs, and other supporting facilities for customers to use. In addition to offering these amenities, the company also prioritizes comfort, convenience, and efficiency as its primary values for customers. To increase brand awareness, the company has utilized various social media platforms, such as Instagram, TikTok, and Threads, to expand its visibility amidst the ever-growing competition in the office leasing industry.

However, in its implementation there are still several obstacles, especially related to understanding the target market to be reached, which has an impact on the preparation of content that has not been able to generate optimal engagement. So far, understanding of customers is still largely based on the company's experience and general observations of the target market. This situation demonstrates the need for a more in-depth mapping of customer characteristics to develop more effective and targeted digital marketing strategies. Therefore, this study was conducted to identify customer characteristics and analyze the role of customer personas in helping companies develop more relevant, targeted, and behaviorally-aligned digital marketing strategies for office rental companies located in Surabaya.

This research was conducted based on the relationship between the concept of customer personas and digital marketing strategies, where customer personas are semi-fictional representations of target customers, structured based on demographic, psychographic, behavioral, needs, and preferences. A clear understanding of customer characteristics makes it easier for companies to determine how information will be delivered.
This information is also used to determine the type of content, marketing messages, digital platform selection, and even the development of calls to action relevant to the target audience. Thus, customer personas serve as the foundation for developing targeted digital marketing strategies.

Based on this framework, this research will focus on the role of customer personas in developing digital marketing strategies. Analysis is conducted by identifying information obtained from relevant sources. This information will then form the basis for designing customer personas, the primary foundation of digital marketing.

THEORETICAL BACKGROUND

2. 1. Customer Persona

According to Salminen et al. (2018) in Gugyh Susandy et al. (2025), a customer persona is a semi-fictional character that represents a group of real customers and is designed to help marketers understand and respond to customer needs effectively. Customer personas also play a role in helping companies understand the needs and preferences of potential customers in more depth (Revella, 2015). Meanwhile, Clarabridge (2020) in Burhanudin (2021) explains that buyer personas generally include aspects of customer preferences, skills, knowledge, needs, and desires.

2. 2. Digital Marketing Strategy

According to Philip Kotler and Kevin Keller (2016), digital marketing is the process of marketing products, both goods and services, that utilizes digital technology, particularly the internet, and is supported by the use of mobile devices, display advertising, and various other digital media. In their definition, Philip Kotler and Kevin Keller explain that digital marketing is a process that involves the use of various digital tools and platforms to harness the power of the internet and other digital media to reach customers in a timely, relevant, personal, and cost-efficient manner. This definition emphasizes the importance of utilizing digital technology to create more personalized and effective interactions with customers (Kotler et al., 2018; Puriwat & Tripopsakul, 2021).

Meanwhile, Neil Patel (2020) defines digital marketing as all marketing activities supported by the use of electronic devices and the internet, encompassing various marketing tactics and channels such as Search Engine Optimization (SEO), Search Engine Marketing (SEM), social media, content marketing, email marketing, and various other methods to build relationships with existing and potential customers. This definition shows that digital marketing involves a variety of digital strategies and channels to achieve marketing goals. In addition, Neil Patel also emphasized the importance of utilizing various available digital platforms and tools to build strong communication and engagement with target audiences (Sharma & Sharma, 2021).

Laudon and Traver (2021), Maingret (2021), Miles (2021), Turban, Whiteside, King, and Outland (2017), Strauss and Frost (2014), and Taken (2012) explain that e-marketing or internet marketing, also known as digital marketing, is the core of e-business. Through digital marketing, companies can build relationships with customers, better understand their needs, increase product value, expand distribution networks, and increase sales through various digital marketing activities such as search engine marketing, online advertising, and affiliate marketing. Furthermore, Amalia, Widyakto, and Prapti (2021), Rizaldi et al. (2021), and Chaffey and Ellis-Chadwick (2019) state that a digital marketing strategy is needed to provide consistent direction for an organization's online marketing activities so that they can be integrated with other marketing activities and support the achievement of overall business goals. In addition, Chaffey (2020) and Patrutiu-Baltes (2016) argue that digital marketing strategies have many similarities with the objectives of traditional marketing strategies.

According to Sponder and Khan (2021) and Chaffey and Ellis-Chadwick (2019), digital marketing strategies have several important roles, namely:

1. Provides clear direction for the implementation of future digital marketing activities.
2. Involves analysis of the organization's external environment, internal resources, and company capabilities as a basis for developing strategies.
3. Set digital marketing goals that align with the organization's marketing goals.
4. Involves selecting various alternative strategies to achieve digital marketing goals and create sustainable competitive advantages, including determining target markets, positioning, and marketing mix.
5. Helps organizations identify unnecessary strategies and inappropriate marketing tactics.
6. Determining the utilization of resources and organization of the company in supporting the implementation of established strategies.

This research was conducted based on the relationship between the concept of customer personas and digital marketing strategies, where customer personas are semi-fictional

representations of target customers, structured based on demographic, psychographic, behavioral, needs, and preferences. A clear understanding of customer characteristics makes it easier for companies to determine how information will be delivered.
This information is also used to determine the type of content, marketing messages, digital platform selection, and even the development of calls to action relevant to the target audience. Thus, customer personas serve as the foundation for developing targeted digital marketing strategies.

Based on this framework, this research will focus on the role of customer personas in developing digital marketing strategies. Analysis is conducted by identifying information obtained from relevant sources. This information will then form the basis for designing customer personas, the primary foundation of digital marketing.

RESEARCH METHODS

This research uses a qualitative research method with a descriptive approach. According to Hardani et al. (2020) in Hikma (2023), qualitative research is research that aims to understand social phenomena in depth based on the natural conditions of the research object. A descriptive approach was used to describe the phenomenon based on observations and interviews with key informants. This approach was chosen because the researchers wanted to determine whether the company accurately understood the characteristics of its target customers and the digital marketing strategies it employed.

This research was conducted at an office rental company in Surabaya that provides virtual offices, private offices, and meeting rooms. Data collection was conducted through semi-structured interviews with several informants. The informants consisted of five informants: the director, tenant marketing manager, social media specialist staff, tenants, and supporting staff in the form of visitor reviews on Google Reviews .

According to Hardani et al. (2020) in Sholikhah et al. (2026), data analysis techniques are carried out through the stages of data reduction, data presentation, and drawing conclusions. Data reduction was performed by selecting and focusing interview results relevant to the research. The data was then presented in descriptive narrative form and quoted statements to facilitate analysis. The final stage involved drawing conclusions based on the overall information gathered regarding customer behavior patterns, customer needs, and the relationship between customer personas and the company's digital marketing strategy . Then, the analysis results are used to create customer personas that can help companies determine more relevant communication and digital marketing strategies

RESULT AND DISCUSSION

The data analysis in this study involved several stages: data reduction, data presentation, and conclusion drawing. In the data reduction stage, the researcher selected, simplified, and grouped the data from the interviews. Then, in the data presentation, the researcher included the data obtained. Finally, the researcher provided conclusions based on the interview and analysis results.

Data Reduction

In the data reduction stage, researchers conducted a process of selecting, simplifying, and grouping interview data relevant to the research objectives. From the interviews conducted, information was obtained regarding customer characteristics, customer behavior, customer needs, factors influencing purchasing decisions, and the *digital marketing strategies* used by the company previously. The data used in forming customer personas were grouped into several categories, namely customer demographic characteristics, customer needs and motivations, digital media usage behavior, decision-making factors, and digital content preferences. The data used in determining the company's strategy was based on the media used, the type of content produced, the level of audience engagement, and factors influencing customer engagement. Through the data reduction process, information obtained from the four sources can be focused on findings to support the design of customer personas as a basis for compiling a *digital marketing content strategy* for an office rental company .

Data Presentation

Based on the results of data reduction, several findings were obtained as follows;

1. **Customer Characteristics**
   Interviews with the Director revealed that the company's primary target audience is *business-to-business* (B2B) customers, such as business owners and corporate headquarters requiring branch offices in the Surabaya area. According to the Director, the majority of customers are between the ages of 30 and 50, requiring practical workspaces with comprehensive facilities and affordable prices. This finding was further supported by the Tenant Marketing Manager's statement that potential customers frequently come from MSMEs, corporate branches , and service, legal, and consulting businesses. This suggests that these frequent customers are individuals with active businesses and require workspaces with comprehensive facilities.

2. **Customer Needs and Motivations**
   Based on the interview results, the main customer need is to obtain a workspace that is comfortable, practical, and has transparent costs. The director also stated that the company promotes an *all-in concept* , meaning customers only pay a monthly fee without having to worry about utility costs. This finding is supported by interviews with consumers who stated that affordable prices, complete facilities, a suitable location, and a comfortable work environment were the main reasons for choosing this office rental company in Surabaya. Furthermore, consumers also added that a comfortable work environment and good service were added values that increased their satisfaction.

3. **Customer Information Search Behavior**
   Researchers also found that customers tend to seek information from digital media before making a purchasing decision. Consumers stated that information about Surabaya office rental companies was first found through the OLX platform. Meanwhile, the Tenant Marketing Manager revealed that some customers learned about the company through *Meta Ads* , social media, the company website, *Google Maps* , and recommendations from friends. These findings further reinforce the importance of digital media in building *awareness* and

serving as a primary source of information for potential consumers seeking office rental services .

4. **Digital Marketing Content Strategy**
   Based on interviews with *Social Media Specialist Staff* , the most frequently produced content is *entertainment content* and content that follows trends and aims to generate high *engagement .* However, the tenant marketing manager revealed that the most contributing content was office tours, service explanations, and product information. Furthermore, potential customers who contacted the company via Instagram *direct messages generally inquired about* office availability and pricing. A concern among potential customers was the potential additional costs for the services offered. These findings indicate that customers need information regarding price transparency, facilities, and the benefits of the services they receive.

Drawing Conclusions and Designing Customer Personas
Based on the results of data reduction and data presentation, relatively uniform customer characteristics were obtained so that a customer persona can be compiled that represents the main target customers of the office rental company . This customer persona is designed based on aspects of persona identity such as name , age, and occupation, aspects of persona background such as status and social class, aspects *of paint points* , aspects of needs , and solutions provided by the company to market needs. The following are the results of the customer persona design;

Table 1. Result of Customer Persona Design

Persona 1	
Aspect	**Description**
Persona Name	Diandra Marsha
Age	28 Years
Work	Founder of Sattka.basic
Background	Fashion business owner with middle market positioning who is currently in the development and scaling stage of his business.
Characteristics	Actively manages branding, content, and customer experience. Uses Instagram and TikTok to find business inspiration, trends, and marketing strategies. Requires a workspace that can function as both an office and a space for content production and live shopping.
Goals	Develop your business efficiently and increase brand credibility through the use of a professional office.
Pain Points	The high cost of renting conventional offices, less flexible lease contracts, and the difficulty of finding an office that has live streaming facilities.
Needs	Ready-to-use office, flexible rental system (monthly), strategic location, and special space for live shopping.
Digital	Instagram and TikTok

Channel	
Content Preferences	Visual content that is aesthetic, informative, and relevant to business needs.
Enterprise Solutions	Providing flexible offices with complete facilities and a dedicated live streaming space to support business development.

Persona 2

Aspect	Description
Persona Name	Jerome
Age	35 Years
Work	Branch Manager
Background	Work at a company with middle to high-end positioning and be responsible for the development of the company's branches.
Characteristics	Focused on a professional company image and operational efficiency. Using Instagram and TikTok to stay up-to-date on business trends, branding, and modern workspace references.
Goals	Get a representative branch office and support the company's professional image.
Pain Points	Difficulty finding a branch office that meets company standards in terms of location, facilities, and building appearance.
Needs	Flexible offices, professional meeting rooms, complete facilities, and a hassle-free rental process.
Digital Channel	Instagram and TikTok
Content Preferences	Content that shows the professionalism of the office, workspace facilities, and meeting rooms.
Enterprise Solutions	Offering flexible offices with a professional appearance and facilities that support the company's operational needs.

Persona 3

Aspect	Description
Persona Name	Raymond Chin
Age	32 Years
Work	Business Consultant
Background	Professionals who help companies develop business strategies and have high mobility in meeting clients.
Characteristics	Prioritize professionalism and first impressions. Actively use Instagram and TikTok to explore business insights, industry trends, and build your

	personal brand.
Goals	Get a professional and flexible meeting room to support meetings with clients.
Pain Points	Having difficulty finding a meeting room suddenly and needing a quiet and comfortable work environment.
Needs	Flexible meeting rooms, complete facilities, and a professional work environment.
Digital Channel	Instagram and TikTok
Content Preferences	Educational, insightful, and real-life experience-based content.
Enterprise Solutions	Providing flexible meeting rooms with complete facilities and a representative work environment.

Source : Processed Observation Data (2026)

Based on the data analysis, three main customer personas were identified that represent Revio's target customers: business owners looking to expand their businesses, corporate managers looking for professional branch offices , and business consultants seeking flexible meeting spaces. All three personas share common needs : efficiency, flexibility, professionalism, and facilities that support business activities. Therefore, these customer personas can serve as the basis for developing a *digital marketing strategy* that is more relevant to target consumers.

The findings of this study indicate that the development of customer personas based on customer characteristics, needs, behaviors, and preferences serves as an effective foundation for designing digital marketing strategies at PT Revio Mulia Lestari. The resulting customer personas enable the company to identify its target audience more accurately, determine appropriate communication approaches, and develop content that aligns with the needs of each customer segment. Consequently, the company's digital marketing strategy becomes more focused and relevant to its intended market.

These findings are consistent with previous studies, which have reported that customer personas contribute significantly to improving the effectiveness of digital marketing strategies. Earlier research has shown that a comprehensive understanding of customer profiles enables businesses to create more personalized marketing content, enhance customer engagement, and strengthen long-term relationships with their target audience. Therefore, customer personas function not only as a market segmentation tool but also as a strategic reference for decision-making in marketing activities.

However, this study offers a distinct contribution compared to previous research. While many earlier studies primarily examined the application of customer personas in business-to-consumer (B2C) contexts, this research demonstrates their implementation in a business-to-business (B2B) office rental service company. The customer personas developed in this study represent startups, micro, small, and medium enterprises (MSMEs), and corporate clients seeking flexible office solutions. Furthermore, unlike previous studies that generally focused on customer profiling, this research translates the developed customer personas into actionable digital marketing recommendations through a structured content planning strategy. This practical output provides PT Revio Mulia Lestari with a clear reference for producing targeted digital content and enhancing its marketing effectiveness.

CONCLUSION

Based on the results of research on designing customer personas as the basis for digital marketing content strategies for office rental companies, it can be concluded that the main customers come from the business-to-business (B2B) segment, consisting of business owners, company managers, and professional consultants who are in need of practical, flexible, and professional workspaces and meeting rooms. The analysis results show that customers of office rental companies have several main needs, namely complete office facilities, a flexible rental system, a comfortable work environment, and transparency of service costs. Customers also utilize digital media as a primary source of information in making rental decisions.

Based on data reduction and presentation, this study identified three primary customer personas: the founder , branch manager , and business consultant. They share common concerns : a need for representative office space, meeting room facilities, and a flexible rental system. Furthermore, the three personas share concerns about non-transparent additional costs, limited facilities, and the suitability of services to their business needs. Therefore, comfort, professionalism, completeness of facilities, and cost transparency are crucial factors in the decision-making process.

The research also shows that the most effective content currently is office tours , facility information, service explanations, and content that generates high engagement to build company brand awareness . Meanwhile, office tours , facility information, service explanations, and content that provides a concrete picture of benefits and advantages help potential customers make informed decisions. These findings demonstrate that customers need content that is not only visually appealing but also provides relevant information.

Therefore, the customer persona that has been designed can be used as a basis for developing a digital marketing strategy. Customer personas are useful for helping companies understand their customers' needs, problems, behaviors, and information preferences. Relevant content will be more targeted because it's more relevant to the needs of target consumers.

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The Effect of Communication, Culture and Organizational Commitment on the Performance of Employees in the Ngawi Regency Transportation Service

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ABSTRACT
This study was conducted to determine the influence of communication, organizational culture, and organizational commitment on the performance of employees at the Ngawi Regency Transportation Agency. To determine the results of the study, a quantitative research type was used by distributing questionnaires. The employee population at this agency was 126 people. The sampling technique in this study used saturated samples. So all populations were used as research samples. To find out the answer to the research objectives, a multiple linear regression analysis technique was used with the help of the SPSS application. The results of the study indicate that communication partially influences employee performance. Meanwhile, organizational culture and organizational commitment do not affect employee performance. Simultaneously, the results of the study indicate that there is an influence between communication, organizational culture, and organizational commitment on employee performance.

Keywords: Communication; Culture; Organizational Commitment; Performance

ABSTRAK
Penelitian ini dilakukan untuk mengetahui pengaruh komunikasi, budaya organisasi, dan komitmen organisasional terhadap kinerja pegawai Dinas Perhubungan Kabupaten Ngawi. Untuk mengetahui hasil penelitian menggunakan jenis penelitian kuantitatif dengan menyebarkan kuesioner. Populasi pegawai pada dinas ini sebanyak 126 orang. Teknik sampling dalam penelitian ini menggunakan sampel jenuh. Jadi semua populasi jadi sampel penelitian. Untuk mengetahui jawaban atas tujuan penelitian ini menggunakan teknik analisis regresi linier berganda dengan bantuan aplikasi SPSS. Hasil penelitian menunjukkan bahwa secara parsial komunikasi berpengaruh terhadap kinerja pegawai. Sedangkan budaya organisasi dan komitmen organisasi tidak berpengaruh terhadap kinerja pegawai. Secara simultan, hasil penelitian menunjukkan bahwa terdapat pengaruh antara komunikasi, budaya organisasi, dan komitmen organisasi terhadap kinerja pegawai.

Kata kunci: Komunikasi; Budaya; Komitmen Organisasi; Kinerja

INTRODUCTION

The Ngawi Regency Transportation Agency was established to assist the local government in managing land transportation. Under Ngawi Regent Regulation No. 13 of 2022 (and its amendment, Regent Regulation No. 38 of 2022), the agency is also authorized to handle roadworthiness certification for public and freight transport. This service represents a commitment to the public interest, ensuring safe, secure, and comfortable travel alongside smooth mobility. As state apparatus, the professionalism of Ngawi Transportation Agency employees should reflect public sector responsibility and transparency. However, according to NusantaraNews.Co (2022), the professionalism index of transportation agencies in East Java reached only 49%.

Periodic evaluations reveal that the Ngawi Regency Transportation Agency faces numerous performance issues, such as the management of illegal parking that compromises resident comfort and safety (Purniawan, 2026). Externally, employee performance in managing public spaces has come under intense scrutiny due to the direct impact on the community. Preliminary observations by the researcher indicate that, internally, many agency employees demonstrate low levels of discipline and commitment in carrying out their duties and roles as state officials. Attendance records from April 2026 show that over 80% of employees arrived late. According to the SOP, the workday begins promptly at 7:00 AM; however, many employees arrive after 8:00 AM, and some do not even show up until 9:00 AM. These frequent delays—occurring almost daily—suggest a culture of permissiveness and a lack of oversight within the agency, resulting in low employee commitment to disciplined duty performance.

Misnawati (2024) identifies organizational communication as a key factor in enhancing performance. Organizational communication is shaped by intensive interactions that influence individual behavior within the organization over the long term. It operates within complex systems and structures that affect interpersonal relationships between employees and leadership. Prasetyo et al. (2025) state that successful organizational communication can improve the work environment and influence the development of strong performance and organizational structure.

Successful interpersonal interactions within an organization can foster a stable work culture. Hadijaya (2020) states that organizational culture serves as the foundation and set of values that align all members within a harmonious work system. Normatively, work culture acts as a moral and behavioral basis for organizational members, establishing binding standards for conduct in the workplace. In the long term, work culture shapes distinctive employee characteristics. Anitra et al. (2024) describe organizational culture as a control system that cultivates employee attitudes and behaviors—including discipline and organizational commitment—to drive positive performance growth.

Organizational commitment is another factor of equal importance in driving employee performance. Pamungkas et al. (2020) note that employee commitment is a primary focus for human resource management during recruitment. This is because commitment represents a form of employee engagement and loyalty, demonstrated by prioritizing organizational interests over personal ones.

Improving performance as part of the transformation of human resource management is a critical issue for government organizations (Muliantari, 2025). Human resource governance plays a crucial role in enhancing overall employee performance. Recent empirical studies indicate that factors capable of boosting performance include organizational culture and commitment (Thakurani et al., 2022). Such research demonstrates that organizational culture and commitment can drive performance by 57.1%. This finding is supported by Anitra et al. (2024), who state that within the workplace, employees require support from various internal factors—such as organizational commitment—to perform optimally. However, findings by Sage et al. (2024) present contradictory results, showing that commitment, when analyzed in isolation, does not significantly influence performance.

While various empirical studies have individually examined factors influencing employee performance, this research addresses a gap in the literature by combining communication, culture, and commitment as factors affecting performance, specifically within the Ngawi Regency Transportation Agency. In addition to the absence of similar prior studies, this research offers novelty regarding the specific timeframe and the type of agency that interacts directly with the public. Improving the performance of the Ngawi Regency Transportation Agency cannot be delayed, as doing so would jeopardize public mobility and road safety; consequently, enhancing the performance of the agency's employees is a matter of urgency. Therefore, this study examines "The Influence of Communication, Culture, and Organizational Commitment on the Performance of Ngawi Regency Transportation Agency Employees."

THEORETICAL BACKGROUND

In an organizational context, communication refers to the process of disseminating messages, commands, and directions aimed at facilitating team coordination and evaluating performance (Wardhana, 2024). Communication plays a crucial role in organizational development as it is key to the stability and success of implemented programs. Organizational culture is an integral part of the operation and running of organizational activities. Organizational culture is a control system that influences the values, attitudes, and thinking of members in the long term (Anitra et al., 2024). Employee hard work, also known as organizational commitment, fosters employee engagement and trust, fostering loyalty to the organization (Pamungkas et al., 2020). Employee commitment is a supporting factor in overcoming various organizational obstacles such as turnover and internal conflicts.

2.1. Organizational Communication and Performance

Organizational communication is a complex interaction process between individuals and groups that occurs within an organizational context to build culture, work ethic, coordination, and collaboration (Misnawati et al., 2024). Communication in an organization is not simply an exchange of information but involves an organizational structure that reflects the professionalism and performance of employees. Organizational communication reflects measurable indicators including clarity of information, timeliness of information provision, validity, openness, smooth distribution of information, feedback, and the media used (Wardhana, 2024). All of these elements need to be fulfilled so that information can be received, both in the form of instructions and policies that are implemented appropriately. Empirical studies have shown that communication, culture, and organizational commitment can improve performance by 57.1% (Thakurani et al., 2022). Other research also states that communication can partially affect performance (Sage et al., 2024). Empirical evidence finds that ideal communication can improve performance success.

2.2. Organizational Culture and Performance

Organizational culture is the foundation of members' values, norms, and beliefs that determine attitudes and behaviors within the organization's work system (Hadijaya, 2020). Organizational culture can be determined by indicators such as innovation and risk-taking, attention to detail, outcome orientation, people and team orientation, aggressiveness, and stability (Giawa et al., 2024). Work culture can partially influence performance by shaping mindsets, attitudes, and actions that align with these norms. Other research suggests that every organizational decision is determined by work culture, thus creating stable performance (Anitra et al., 2024). This suggests that culture can influence members to work optimally to achieve the organization's goals.

2.3. Organizational Commitment and Performance

Organizational commitment is loyalty. It is the involvement and trust of employees in pursuing organizational interests (Bangun et al., 2025). Psychologically, commitment is loyalty that drives employees' willingness to contribute to the organization. Commitment can be measured using affective indicators, ongoing considerations, and normative aspects (Thakurani et al., 2022). This research partially proves that high commitment will drive better employee performance. However, other empirical studies indicate that high commitment without competence cannot improve performance (Sage et al., 2024).

2.4 Conceptual Framework

By examining the theoretical and empirical aspects above, the researcher found that each factor cannot stand alone. Therefore, they propose a combination of various factors to improve performance. The relationship between factors can be described as the independent variables, including communication, culture, and organizational commitment, and the dependent variable is performance. The research hypothesis indicates the influence of each independent variable, both partially and simultaneously, on performance.

H_1: organizational communication → employee performance
H_2: organizational culture → employee performance
H_3: organizational commitment → employee performance
H_4: communication, culture, and organizational commitment → employee performance

RESEARCH METHODS

3.1. Population and Sampling

The analysis method used was a multiple linear regression model with three independent variables. This research was conducted at the Ngawi Regency Transportation Agency, involving 126 active employees. The researchers used a saturated sampling technique, resulting in a total sample of 126 employees (Sugiyono, 2022).

3.2. Data Collection Method

The data collection technique was implemented as follows:

a. The questionnaire was distributed via Google Forms.
b. The questionnaire included information including respondent data (gender, education level, and length of service), opinions on the independent variables (communication, culture, and organizational commitment), and the dependent variable (performance).
c. All items were measured using a Likert scale (1 = strongly disagree (STS), 2 = disagree (TS), 3 = somewhat disagree (KS), 4 = agree (S), 5 = strongly agree (SS)).

3.3. Reliability and Validity

The validity test compares the calculated r_{value} (positive value) > r_{Table}. If the calculated r_{value} > r_{Table}, then it is valid. Meanwhile, the reliability test uses the Cronbach's Alpha value in the Statistical Reliability Table and the reliability limit value of 0.6. If the comparison results show a Cronbach's Alpha value ≥ 0.6, then it is reliable. Measurement of operational variables is carried out in the following manner:

Table 1. operational variables

No.	Variables	Variable Definition
1	Organizational communication (X1)	Organizational communication refers to the delivery of messages from superiors to subordinates, with indicators including information clarity, information accuracy, timeliness, information openness, information flow, feedback, and information media (Wardhana, 2024).
2	Organizational culture (X2)	Organizational culture refers to employee attitudes and behaviors, including innovation and risk-taking, attention to detail, outcome orientation, people orientation, team orientation, aggressiveness, and stability (Giawa et al., 2024).
3	Organizational commitment (X3)	Organizational commitment refers to employee loyalty and engagement, measured by affective commitment, continuance commitment, and normative commitment (Thakurani et al., 2022).
4	Performance (Y)	Performance refers to employee work results, measured by professionalism, productivity, timelines, resource management, and dedication and integrity (Maryati, 2021).

Source: collected literature study (2026)

3.4. Data Analysis Techniques

The data analysis technique used a multiple regression model with the following formula:

$$Y = a + b X_1 + b X_2 + b X_3 \quad (1)$$

The formula can be explained as follows:

Y : dependent variable (Performance)

a : constant or intercept

X_1, X_2, X_3 : independent variables (organizational communication, organizational culture, organizational commitment)

b_1, b_2, b_3 : regression coefficients indicating the magnitude of the change in Y due to changes in X_1, X_2, dan X_3

Partial hypothesis testing uses a t-test, with the interpretation that if the calculated $t_{\text{-value}} > t_{\text{-table}}$ or sig. < ά (0.05), there is an effect. Simultaneous hypothesis testing uses an F-test, with the interpretation that if the calculated $F_{\text{-value}} > F_{\text{-table}}$ or sig. < ά (0.05), there is an effect. The Test of Determination test is conducted to determine the contribution of the independent variables to the dependent variable. The interpretation uses the Adjusted R-square value in the range of 0-1.

RESULT AND DISCUSSION

Through the application of regression model analysis, this section explains the results of data interpretation based on indicator values in each type of test. Statistical tests using SPSS V.4 include descriptive tests, validity and reliability tests, and hypothesis tests using t-tests and F-tests. Based on the results of primary data collection, the following results were obtained:

4.1. Result

a. Characteristics of Respondents

Table 2. Characteristics of Respondents

No	Characteristics		Percentage
1	Gender	Male	79,4%
		Female	20,6%
2	Educational Background	Elementary School	0,8%
		Middle School	1,6%
		High School	18,3%
		Bachelor's/Master's/Doctoral Degree	79,4%
3	Working Period	0-5 years	23,8%
		6-10 years	36,5%
		> 10 years	39,7%

Source: Primary data by the author (2026)

Information in Table 2 shows that the Ngawi Regency Transportation Agency employees are dominated by male employees at 79.4% while female employees are 20.6%. The majority of employees have a Bachelor's/Master's/Doctoral Degree education level of 79.4%. While the remaining are high school graduates (18.3%), junior high school (1.6%), and elementary school (0.8%). The average employee of the Ngawi Regency Transportation Agency has worked for more than 10 years (39.7%). Employees who have worked between 6-10 years are 36.5% while the rest are only 0-5 years (23.8%).

b. Validity And Reliability Test

This study has 126 respondents so that the df value 1 = n-2 = 126-2 = 124, and α = 0.05 so that the r_{table} value = 0.1750. Based on the results of the validity test using the Corrected Item-Total Correlation method, it was found that all statement items in the questionnaire were valid, where the Corrected Item-Total Correlation value > r_{table} (0.1750). In the reliability test using the Cronbach's Alpha method, it was found that all statement items had a Cronbach's Alpha value > 0.6, so it was concluded that all items were reliable.

c. Hypotesis Test

Table 3. One-Sample Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test		Unstandardized Residual
N		126
Normal Parameters[a,b]	Mean	0,0000000
	Std. Deviation	1,83042095
Most Extreme Differences	Absolute	0,063
	Positive	0,042
	Negative	-0,063
Test Statistic		0,063
Asymp. Sig. (2-tailed)		0,200

Source: Primary data by the author (2026)

The information in Table 3 shows that Asymp. Sig. (2-tailed) value (0.200) > 0.05 so that the data is declared normally distributed.

Partial Hypothesis

Table 4. Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2,722	2,698		1,009	0,315
Organizational Communication (X1)	0,202	0,044	0,391	4,619	0,000
Organizational culture (X2)	0,119	0,068	0,148	1,754	0,082
Organizational Commitment (X3)	0,086	0,079	0,087	1,085	0,280

Source: Primary data by the author (2026)

Table 4 explains the calculated t-value and sig., which serve as a reference for determining whether there is a relationship between the independent and dependent variables. This study involved 126 respondents with α = 5%, resulting in a r_{table} value of 1.98. The results of the analysis can be explained as follows: first, Organizational communication (X1) has a calculated t_{-value} (4,619) > t_{table} (1.98), and a Sig. (0.000) < α (0.05). Therefore, it has an impact on performance. Second, Organizational culture (X2) has a calculated t_{-value} (1,754) < t_{table} (1.98), and a Sig. (0.082) > α (0.05). Therefore, it has no impact on performance. Third, Organizational commitment has a t_{-count} (1,085) < t_{table} (1.98), and a sig. (0.280) > α (0.05). Therefore, it has no impact on performance.

Simultaneous Hypothesis

Table 5. Anova

Model		*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
1	*Regression*	120,568	3	40,189	11,707	0,000
	Residual	418,805	122	3,433		
	Total	539,373	125			

Source: Primary data by the author (2026)

The F_{Table} value is 2.68, so the F_{-test} interpretation is F_{count} (11,707) > F_{Table} (2.68), and Sig. (0.000) < α (0.05). This means that communication, culture, and organizational commitment collectively influence performance.

Coefficient of Determination

Table 6. Model Summary

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
1	0,473	0,224	0,204	1,85279

Source: Primary data by the author (2026)

Table 6 shows an Adjusted R Square value of 0,204. Combined, communication, culture, and organizational commitment can contribute to a 20,4% change in performance.

4.2. Discussion

The influence of communication, culture and organizational commitment on performance based on regression model analysis can be explained as follows:

1. The Influence of Organizational Communication on Performance

This research clearly demonstrates that organizational communication can influence performance improvement. This finding is supported by research by Sage et al. (2024), which demonstrated that good organizational communication can drive positive performance growth. Communication acts as an information bridge that supports effective coordination, direction, and leadership instruction. Effective communication can play a role in minimizing internal conflict, misunderstandings, and instability in the work environment, which can lead to decreased employee productivity.

Anitra et al.'s (2024) empirical study also demonstrated the role of communication in organizational success, particularly in clarifying job descriptions, roles, and objectives of each member. Ideal communication fosters a focused and harmonious work structure and interpersonal relationships, enabling efficient decision-making. The Ngawi Regency Transportation Agency promotes harmonious, effective, and focused communication both vertically and horizontally by utilizing digital media such as WhatsApp. Every member has access to open, transparent, fast, and reliable communication.

2. The Influence of Organizational Culture on Performance

This study proves that organizational culture has no effect on performance. This aligns with the findings of Giawa et al. (2024), who demonstrated that organizational culture does not affect performance. This finding is based on conditions where performance is heavily influenced by harmony, cohesiveness, and real and fair conflict management. Performance, in general, is more influenced by other factors such as environmental stability, competence, and more complex interpersonal communication.

However, this contrasts with the findings of Anitra et al. (2024), who stated that work culture can improve performance. This is based on the assumption that work culture is the foundation of values and norms that govern employee attitudes and behavior. Therefore, a strong organizational culture encourages employees to be obedient, loyal, and perform optimally. Organizational culture is thought to create unwritten rules that pressure employees to act as representatives of the organization, thus tending to be cautious.

The Ngawi Regency Transportation Agency does not yet have a strong culture rooted in this. This is reflected in the lack of discipline as a value system and efficient work procedures within the government agency. For example, many employees arrive late, work late after long holidays, and tend to work carelessly due to being in a comfort zone. This encourages organizational culture to be merely jargon that is not actually applied in daily work.

3. The Influence of Organizational Commitment on Performance

This study demonstrated that commitment does not positively improve performance. This finding is supported by Sage et al. (2024). In the context of the Ngawi Regency Transportation Agency, commitment is not the basis for completing tasks accurately and quickly. Consequently, employee performance tends to be low due to the top-down work system, meaning many employees simply follow orders from their superiors. Employee engagement is driven more by the need for structural formation and formality.

4. The Influence of Communication, Culture, and Organizational Commitment on Performance

This research demonstrates that the combination of ideal communication, a deeply rooted culture, and loyal organizational commitment can significantly improve performance. An empirical study by Thakurani et al. (2022) found that the combination of these three factors plays a key role in effective performance improvement. Performance increases can even reach 57.1% with strong communication, culture, and organizational commitment.

Similar research also demonstrated that the combination of communication, culture, and commitment can increase employee performance by up to 53.7% (Anitra et al., 2024). This demonstrates that each factor cannot play a role in isolation. Management needs to holistically understand the diverse factors that influence performance. Understanding significant factors encourages management to increase success in managing productive and innovative human resources.

The findings above indicate that the relationships between these variables are inseparable; communication, culture, and organizational commitment can collectively drive performance. While these three variables are complementary, their individual contributions vary: communication has a significant impact on performance, whereas culture and organizational commitment do not exert a significant influence on performance when analyzed in isolation.

From this perspective, the study suggests that organizations must foster all these factors in a balanced manner to effectively enhance performance. Communication can serve as the primary driver, supported by the establishment of a positive organizational culture and the strengthening of employee organizational commitment. Employee culture and commitment can flourish through open, transparent, and coordinated communication. Leadership at the Ngawi Regency Transportation Agency has demonstrated a strong focus on developing organizational communication to manage operations—utilizing direct field instructions and following up on employee performance evaluations—while culture and organizational commitment are not directly manifested as tangible outcomes, as they are regarded as fundamental individual values.

CONCLUSION

In conclusion, communication organizational partially influence performance. However, organizational culture and organizational commitment does not have a partial effect on performance. Organizational performance can be improved by combining communication, culture, and organizational commitment. The combination of these independent variables can influence performance changes by 20.4%. Research indicates a lack of commitment and organizational culture that fosters employee performance growth. Therefore, the researchers suggest that the Ngawi Regency Transportation Agency strengthen aspects of communication, culture, and organizational commitment as part of its human resource management through various activities, such as workshops, team-building exercises, and cross-sectoral discussions.

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Appendix 1. Validity Test

Variables	Item-Total Statistics				
	Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Organizational Communication	X1.1	21.6270	3.932	0.489	0.743
	X1.2	21.5873	3.716	0.639	0.713
	X1.3	21.6032	3.889	0.524	0.737
	X1.4	21.6270	3.868	0.526	0.736
	X1.5	21.6190	3.822	0.557	0.730
	X1.6	21.6905	4.023	0.381	0.767
	X1.7	21.7222	4.058	0.361	0.771
Organizational culture	X2.1	21.0635	5.036	0.515	0.792
	X2.2	21.1746	5.057	0.467	0.802
	X2.3	20.8968	4.925	0.693	0.763
	X2.4	20.9127	4.976	0.661	0.768
	X2.5	21.1270	5.856	0.190	0.847
	X2.6	20.8810	4.682	0.712	0.755
	X2.7	20.8968	4.925	0.693	0.763
Organizational Commitment	X3.1	16.0794	2.906	0.532	0.777
	X3.2	16.1429	3.259	0.544	0.765
	X3.3	16.1746	2.945	0.691	0.727
	X3.4	16.2460	3.291	0.536	0.766
	X3.5	16.2381	3.415	0.599	0.756
	X3.6	16.2619	3.715	0.449	0.786
Performance	Y1	13.8016	3.216	0.515	0.703
	Y2	14.0476	2.478	0.714	0.612
	Y3	14.0476	2.478	0.714	0.612
	Y4	14.0079	3.192	0.354	0.756
	Y5	13.9683	3.327	0.297	0.773

Appendix 2. Reliability Test

Variables	Cronbach's Alpha	N of Items
Organizational Communication (X1)	0.771	7
Organizational culture (X2)	0.811	
Organizational Commitment (X3)	0.725	
Performance (Y)	0.744	

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Determinants of Investment Decisions Among Generation Z: The Role of Financial Literacy, Financial Inclusion and Fintech

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ABSTRACT
The dynamics of financial decision-making among Generation Z have emerged as a primary focus, driven by their surging demographic proportion within the working-age population and the rapid digital transformation in the financial sector. This study was conducted to evaluate the impact of financial literacy, financial inclusion, and the adoption of financial technology on the investment decisions of Generation Z in Banda Aceh City. Using a quantitative design and purposive sampling, data was collected from 100 Generation Z capital market investors. Statistical analyses demonstrated that financial literacy, financial inclusion, and financial technology exert a positive and significant influence on investment decisions, both partially and simultaneously. Ultimately, these findings highlight the necessity of enhancing financial education, expanding facility access, and leveraging digital platforms to optimize financial decision-making among the younger generation.

Keywords: Investment Decisions, Generation Z, Financial Literacy, Financial Inclusion, Financial Technology.

ABSTRAK
Dinamika pengambilan keputusan finansial di kalangan Generasi Z kini menjadi sorotan utama, didorong oleh lonjakan proporsi demografi mereka pada kelompok usia produktif serta pesatnya transformasi digital di sektor keuangan. Penelitian ini dilakukan untuk mengevaluasi dampak literasi keuangan, inklusi keuangan, dan *financial technology* terhadap keputusan investasi Generasi Z di Kota Banda Aceh. Menggunakan desain kuantitatif dan *purposive sampling*, data dikumpulkan dari 100 investor pasar modal Generasi Z. Analisis statistik membuktikan bahwa literasi keuangan, inklusi keuangan, dan *financial technology* memberikan pengaruh yang positif dan signifikan terhadap keputusan investasi, baik secara parsial maupun simultan. Pada akhirnya, temuan ini menegaskan urgensi untuk meningkatkan edukasi finansial, memperluas akses fasilitas, dan memanfaatkan platform digital guna mengoptimalkan pengambilan keputusan keuangan di kalangan generasi muda.

Kata kunci: Keputusan Investasi, Generasi Z, Literasi Keuangan, Inklusi Keuangan, *Financial technology*

INTRODUCTION

In an era of globalization marked by economic uncertainty, individuals are required to possess sound financial knowledge, particularly in utilizing investments to secure future financial returns(Purnomo et al., 2025; Wicaksono & Wafiroh, 2022). Investment decisions entail the strategic allocation of funds into specific financial instruments to achieve long-term objectives (Putri, 2020; Yenny et al., 2020). This decision making process can be executed through either a rational approach, grounded in logical and in-depth analysis, or an irrational approach, driven by the subjective considerations of the investor.

Theoretically, investment decision-making is influenced by various factors, including income levels, risk perception, herding behavior, and risk aversion (Putri, 2020). Furthermore, numerous studies have integrated behavioral bias variables such as overconfidence, loss aversion, price anchoring, representativeness bias, and availability bias into the analysis of investment decisions (Agustin & Lysion, 2021). Nevertheless, this study narrows its focus to three primary determinants: financial literacy, financial inclusion, and financial technology (fintech). This delimitation is based on the premise that these factors are highly pertinent to the characteristics of Generation Z as digital natives, whose investment decisions are profoundly shaped by their financial comprehension, access to financial services, and the utilization of financial technology in their daily investment activities.

Financial literacy serves as a cognitive foundation that equips individuals with the knowledge and skills necessary to make prudent financial decisions (Rohmah & Gunarsih, 2021; Safryani et al., 2020), thereby fostering more accurate investment decisions with well-calibrated risk profiles (Fadila et al., 2022). This capability is further accelerated by financial inclusion, which acts as a catalyst by providing access to affordable, high quality, and sustainable financial services (OJK, 2017). The synergy between robust financial comprehension and broader accessibility to financial infrastructure is crucial in facilitating investment decisions, which in turn can significantly elevate the broader economic well-being of the society (Ariefin et al., 2023).

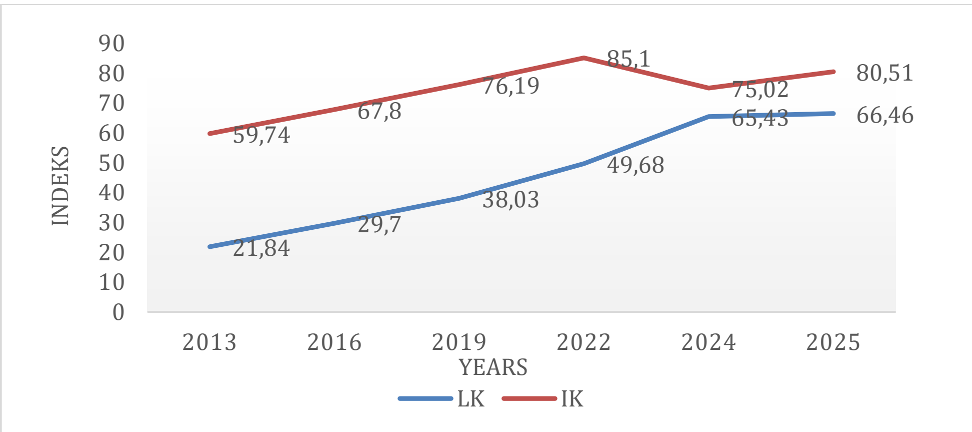

Figure 1. Financial Literacy and Financial Inclusion Index
Source: OJK (2025)

Based on Figure 1.1 regarding data from the National Survey of Financial Literacy and Inclusion (SNLIK), it is evident that historically, the public's financial inclusion rate has consistently remained above the literacy rate. The notable gap in the initial period (inclusion at 59.74% versus literacy at 21.84%) indicates a high utilization of financial services without a comprehensive underlying understanding. Nevertheless, the general trend exhibits an increase in both indicators, driven by the acceleration of digitalization, educational interventions from relevant authorities, and the surge in digital transactions prompted by the Covid-19 pandemic. Although the inclusion rate experienced fluctuations due to economic dynamics, the latest survey indicates a resurgence in both metrics—with inclusion reaching 80.51% and literacy at 66.46%—aligning with the national economic recovery and the widespread adoption of digital payments.

In addition to financial literacy and financial inclusion, Financial Technology (fintech) emerges as a crucial determinant in investment decisions. Fintech represents the integration of modern technology within the financial system, aiming to provide more efficient and affordable services (Fadila et al., 2022; Hakim et al., 2022). The development of these digital investment platforms has significantly transformed the patterns and accessibility for the public, particularly Generation Z, in conducting investment activities. This is corroborated by the 2024 Annual Member Survey (AMS) report from the Indonesian Fintech Association (AFTECH), which reveals that Millennials and Generation Z dominate 68.7% of national fintech users (OJK, 2024). As digital natives, the risk profiles and investment mindsets of Generation Z are profoundly influenced by internet-based technology (Arum et al., 2023; Bambang et al., 2020), evidenced by their dominance, comprising 80.44% of the total national capital market investors (Merdeka, 2022). Given their substantial population size of 79.93 million (Giarta & Pratono, 2025), the quality of financial decisions made by generation Z becomes highly critical, as they are projected to be the primary driving force of the workforce by 2030 and the core pillar of the demographic dividend peak in 2045.

Although financial literacy, financial inclusion, and fintech are considered pivotal in influencing investment decisions, previous literature reveals empirical inconsistencies (research gap). For instance, Chotimah et al., (2024) found that financial literacy actually exerts a negative effect on investment decisions, contrasting with fintech, which exhibited a positive impact. Conversely, Hariyanto & Graciafernandy (2024) demonstrated that both variables have a positive and significant influence. A similar pattern emerges regarding the financial inclusion variable, where Sawitri & Candrayani (2025) and Hasanudin et al., (2022) confirmed a positive and significant effect, whereas Sari & Fahamsyah (2025) asserted that financial literacy and inclusion do not significantly impact investment choices. These divergent findings indicate that the local context, the respondents' socio-economic conditions, and methodological approaches significantly contribute to shaping research outcomes.

In addition to the issue of inconsistent findings, there is a distinct scarcity of studies evaluating these three factors simultaneously, particularly those focusing on the demographic landscape of Banda Aceh City, the capital of Aceh Province. This research is specifically focused on investment activities within the capital market, encompassing financial instruments such as stocks, mutual funds, and bonds, to ensure a more targeted analysis of the capital market ecosystem's characteristics. Based on the demographic urgency and the elucidated research gap, this study aims to analyze the effect of financial literacy, financial inclusion, and financial technology both partially and simultaneously on the investment decisions of Generation Z in Banda Aceh City.

THEORETICAL BACKGROUND

2.1 Investmen Decision

Investment can be understood as the commitment to allocate funds or resources in the present with the objective of gaining future benefits or returns (Halim & Tandelilin, 2001) .In this context, investment decisions are defined as an individual's strategic choices to accumulate assets profitably (Fridana & Asandimitra, 2020). This decision-making process can be explained through the Theory of Planned Behavior (TPB) proposed by (Ajzen, 1991), which postulates that investment behavior is driven by intentions formed by three primary determinants: a positive attitude toward the behavior, social support from the surrounding environment (subjective norm), and the individual's confidence in their capacity to invest (perceived behavioral control). Furthermore, Hidayat et al. (2023) delineate that investment decisions encompass three main indicators: the expected rate of return, the level of tolerance for uncertainty or risk, and the time factor required to achieve predefined financial objectives.

2.2 Financial Literacy

Financial literacy encompasses the knowledge, skills, and beliefs that shape an individual's behavior in making financial decisions to achieve economic well-being (OJK, 2024). In the context of investment, this capability acts as an essential cognitive foundation for understanding product characteristics and their associated risks. Furthermore, Fadila et al. (2022) formulate that an individual's level of financial literacy can be measured through four integrated primary indicators: (1) comprehension of basic financial knowledge, such as inflation and the time value of money; (2) savings and loan management; (3) proficiency in identifying investment instruments along with their risk-return ratios; and (4) the understanding of insurance as an instrument for financial protection against uncertainty.

2.3 Financial Inclusion

Financial inclusion is characterized as a comprehensive effort to eliminate various barriers faced by the public in accessing and utilizing financial services (Salwa et al., 2022). Furthermore, Sawitri & Candrayani (2025) delineate that the successful implementation of financial inclusion can be measured through three main indicators: (1) reach, which represents the ease of service accessibility both physically and in terms of cost; (2) the level of usage of available products; and (3) service quality, which encompasses aspects of transaction security, information transparency, and the suitability of products to the specific needs of its users.

2.4 Financial Technology

Financial technology (fintech) refers to the application of technology within the financial system that yields new products, services, technologies, or business models, and has the potential to influence monetary stability, financial system stability, as well as the efficiency, smoothness, security, and reliability of the payment system (Bank Indonesia, 2017). Sawitri & Candrayani (2025) identify three indicators to measure the fintech variable, namely: (1) speed, indicating the capability of digital systems to process financial transactions instantaneously compared to conventional methods; (2) efficiency, reflecting the ability of fintech to minimize costs, time, and resources in financial activities; and (3) accessibility, which allows users to utilize financial services anytime and anywhere through digital devices such as smartphones or computers.

RESEARCH METHODS

This study uses a quantitative framework with an inferential approach , relying on primary data obtained through the distribution of online questionnaires as the main data collection instrument. The population in this study encompasses the entire Generation Z in Banda Aceh City, with sampling focused on individuals who invest in the financial sector, particularly the capital market. To obtain the most relevant and representative data sources, sample selection was conducted using a non-probability sampling technique with a purposive sampling approach. The inclusion criteria established for the respondents involve an age range of 17 to 28 years (Gen Z), residency in Banda Aceh City, and a track record of investment experience in the capital market. The Lemeshow formula is used to calculate the optimal sample size of this study (Lemeshow et al., 1990):

$$n = \frac{Za^2\,P(1-P)}{d^2} \qquad (1)$$

$$n = \frac{1{,}962 \times 0{,}5 \times (1-0{,}5)}{0{,}10}$$

$$n = 96{,}04$$

Where:

n = the minimum threshold for the sample size

Z = the critical value for a 95% confidence interval (1.96)

P= estimated proportion = 0.5 (maximum variation assumption)

d = margin of error = 0.10

The calculation results indicate that the required sample size for this study is 96.04, which was subsequently rounded up to 100 respondents. In this study, data analysis was performed using multiple linear regression, conducted systematically and sequentially with the following equation:

$$Y = \alpha + b1.X1it + b2.X2it + b3.X3it + e \;\ldots\ldots\ldots\ldots \qquad (2)$$

Y	: Investment Decision
a	: Constant
b1, b2, b3	: coefficients of the independent variables

X_1 : Financial Literacy
X_2 : Financial Inclusion
X_3 : Financial technology
e : Error Term

The SPSS software were used to analyze the collected data, commencing with instrument quality testing, which included a validity test (threshold of corrected item-total correlation > 0.30) and a reliability test (threshold of Cronbach's Alpha > 0.60) (Ghozali, 2016). Once the instrument was confirmed to be accurate and consistent, the subsequent stage involved fulfilling the classical assumption tests to ensure the statistical viability of the regression model. These prerequisite checks included the Kolmogorov-Smirnov test for normality (where significance must exceed 0.05), a multicollinearity assessment observing Tolerance levels (> 0.10) and Variance Inflation Factor indexes (VIF < 10), and a heteroscedasticity evaluation using the Glejser test, which requires a residual probability value greater than 0.05 (Ghozali, 2018).

To address the proposed hypotheses, a multiple linear regression framework was deployed to evaluate the respective impacts of financial literacy, financial inclusion, and financial technology on investment choices. This analysis was evaluated through the t-test (partial) to identify the impact of each independent variable individually, and the F-test (simultaneous) to examine the collective effect of all variables simultaneously, guided by a significance level of 5% (alpha = 0.05). Furthermore, the explanatory power of the research model was measured using the coefficient of determination (Adjusted R2) (Ghozali, 2018).

RESULT AND DISCUSSION

4.1 Respondent Characteristics

The demographic profile of the respondents in this study is categorized based on gender, age, occupation, income level, and the type of investment instruments utilized in the capital market. The detailed characteristics of the respondents are presented in Table 1 below:

Table 1. Respondent Characteristics

No.	Respondent Characteristics	Frequency (n)
1	**Gender**	
	Male	64
	Female	36
	Total	100
2	**Age (Years)**	
	17-20	24
	21-24	74
	25-28	2
	Total	100
3	**Occupation**	

	Student	93
	Civil Servant	1
	Merchant / Trader	0
	Entrepreneur	1
	Others	5
	Total	100
4	**Income Level (IDR)**	
	- < 500.000	52
	500.000 - 1.500.000	29
	1.500.000- 2.500.000	7
	2.500.000 - 3.500.000	6
	> 3.500.000	6
	Total	100
5	**Investment Instruments in the Capital Market**	
	Bonds	64
	Bonds	7
	Mutual Funds	22
	Exchange Trade Fund	4
	Derivatives	3
	Total	100

Source: Primary Data Processed (2026)

4.2 Validity and Reliability Test Results

A validity test is employed to measure whether the statements in a questionnaire are legally valid or not. Meanwhile, a reliability test is used to identify whether the responses provided by the respondents in the questionnaire remain consistent when measuring the same phenomenon or occurrence. The complete results of the validity and reliability tests are presented in Table 2 and Table 3 below:

Table 2. Validity Test Results

No	Pernyataan	r-count	r-table	Decision
Financial Literacy (X1)				
1	X1P1	0,787	0.195	Valid
2	X1P2	0,747	0.195	Valid
3	X1P3	0,741	0.195	Valid
4	X1P4	0,834	0.195	Valid
5	X1P5	0,807	0.195	Valid
6	X1P6	0,681	0.195	Valid
7	X1P7	0,754	0.195	Valid
8	X1P8	0,642	0.195	Valid
Financial Inclusion (X2)				
1	X2P1	0,776	0.195	Valid

2	X2P2	0,817	0.195	Valid
3	X2P3	0,775	0.195	Valid
4	X2P4	0,769	0.195	Valid
5	X2P5	0,790	0.195	Valid
6	X2P6	0,752	0.195	Valid
Financial technology (X3)				
1	X3P1	0,876	0.195	Valid
2	X3P2	0,883	0.195	Valid
3	X3P3	0,908	0.195	Valid
4	X3P4	0,835	0.195	Valid
5	X3P5	0,838	0.195	Valid
6	X3P6	0,890	0.195	Valid
Investment Decisions (Y)				
1	Y.P1	0,686	0.195	Valid
2	Y.P2	0,727	0.195	Valid
3	Y.P3	0,732	0.195	Valid
4	Y.P4	0,747	0.195	Valid
5	Y.P5	0,797	0.195	Valid
6	Y.P6	0,811	0.195	Valid

Source: Primary Data Processed (2026)

The table above demonstrates significant results, indicating that all statement items across the research variables possess an r-count > r-table. At a 5% significance level (alpha = 0.05) and n = 100, the established r-table value is 0.195. It is evident that the r-count for every single item exceeds 0.195, thereby confirming that all items within the research variables are valid. Consequently, the indicators for financial literacy, financial inclusion, financial technology, and investment decisions are deemed valid to be utilized as instruments in this study, and the proposed statements are reliable for measuring the variables under investigation.

Table 3. Reliability Test Results

Variable	Cronbach's Alpha	Cronbach's Alpha Minimal	Decision
Financial Literacy (X1)	0,887	0,60	Reliable
Financial Inclusion (X2)	0,869	0,60	Reliable
Financial technology (X3)	0,936	0,60	Reliable
Investment Decisions(Y)	0,842	0,60	Reliable

Source: Data Processed (2026)

As shown in the Table 3, the Cronbach's Alpha value for the financial literacy variable (X1) is 0.887, the financial inclusion variable (X2) is 0.869, the financial technology variable (X3) is 0.936, and the investment decisions variable (Y) is 0.842. These results indicate that the Cronbach's Alpha value for each respective variable exceeds the minimum threshold of 0.60.

Therefore, it can be concluded that all variables examined in this study are highly dependable and reliable.

4.3 Classical Assumption Tests

Classical assumption tests constitute the statistical prerequisites that must be satisfied when employing multiple linear regression analysis. In this study, several classical assumption tests were administered, specifically the normality test, multicollinearity test, and heteroscedasticity test. The comprehensive results of these tests are presented in the subsequent figures and tables below:

Normality Test

The normality test is conducted to assess the distribution of data within a specific dataset or variable, primarily to determine whether the data is normally distributed. A regression equation is considered to have fulfilled the normality assumption if the significance value derived from the Kolmogorov-Smirnov test is greater than 0.05 (alpha > 0.05).

Table 4 Normality Test

Parameter	Value
Sample Size (N)	100
Klomogorov-Smirnov Statistic	0.053
Significance (2-tailed p-value)	0.2

Source: Data Processed (2026)

Based on the table above, the normality test results indicate that the data is normally distributed. This is evidenced by the Asymp. Sig. (2-tailed) value of 0.200, which is greater than the significance level of 0.05 (alpha > 0.05). Consequently, it can be concluded that the data distribution is normal, thereby satisfying the normality assumption for the regression model.

Multicollinearity Test

Table 5. Multicollinearity Test Results

(Constant)	Tolerence	VIF	Decision
Financial Literacy (X1)	,372	2,692	No Multicollinearity
Financial Inclusion (X2)	,420	2,383	No Multicollinearity
Financial technology (X3)	,483	2,070	No Multicollinearity

Source: Data Processed (2026)

Based on the analysis results in the table above, the obtained tolerance values for X1 (0.372), X2 (0.420), and X3 (0.483) are all greater than the minimum threshold of 0.10. Furthermore, the Variance Inflation Factor (VIF) values for X1 (2.692), X2 (2.383), and X3 (2.070) are all less than the maximum limit of 10.00. Therefore, it can be concluded that there are no symptoms of multicollinearity among the independent variables within the regression model.

Heteroscedasticity Test

The heteroscedasticity test in this study was evaluated by observing the scatterplot graph, with the results presented as follows:

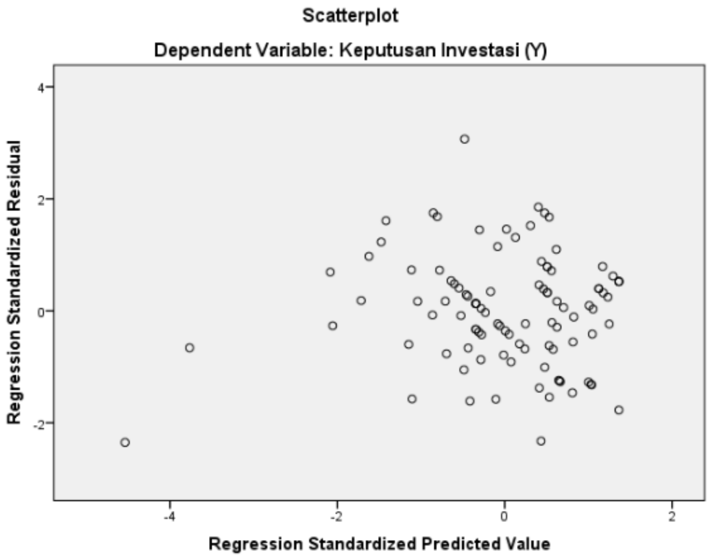

Figure 2. Heteroscedasticity Test Results

Source: Data Processed (2026

Based on the scatterplot graph of the heteroscedasticity test results, it can be observed that the data points are evenly distributed, do not cluster in one specific area, and do not form any discernible pattern. The points spread both above and below the zero mark on the Y-axis. This indicates that there are no symptoms of heteroscedasticity within the regression model.

4.4 Multiple Linear Regression Estimation Results

The multiple linear regression estimation results consist of the t-test, F-test, and the coefficient of determination, which are presented as follows:

Table 6. Multiple Linear Regression Estimation Results

Variabel	B	Std. Error	Beta	t-count	t-table	Sig.	Decision
(Constant)	3,158	1,602		1,971	1.985	,052	Significant
Financial Literacy (X1)	,346	,073	,461	4,743	1.985	,000	Significant
Financial Inclusion (X2)	,187	,088	,193	2,114	1.985	,037	significant
Fintech (X3)	,209	,072	,247	2,896	1.985	,005	significant

Source: Processed Data (2026)

Based on the table above, the calculation results of the independent variables can be formulated into the following equation model:

$$Y = 3,158 + 0,346X1 + 0187X2 + 0,209X3 + e \qquad (3)$$

Based on the multiple linear regression analysis, the established model equation yields a constant value of 3.158. This indicates that if all independent variables are valued at zero, the level of investment decisions stands at 3.158. Furthermore, all independent variables demonstrate a positive contribution, as evidenced by their respective regression coefficients: financial literacy (B = 0.346), financial inclusion (B = 0.187), and financial technology (B = 0.209). A one-unit increase in any of these variables will proportionally enhance investment decisions.

Moreover, the partial test (t-test) results confirm that these three variables exert a positive and significant effect on investment decisions, as their t-count values exceed the t-table value (1.98498) and their significance values are below 0.05. Specifically, financial literacy (t = 4.743; sig = 0.000), financial inclusion (t = 2.114; sig = 0.037), and financial technology (t = 2.896; sig = 0.005) meet the criteria for hypothesis acceptance. Therefore, H1, H2, and H3 in this study are accepted.

Table 7. F-Test Results (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	894,769	3	298,256	62,864	,000[b]
Residual	455,471	96	4,744	-	-
Total	1,350,240	99	-	-	-

Source: Data Processed (2026)

As demonstrated in the preceding table, the obtained F-count value (62.864) is greater than the F-table value (3.091), and the significance value (0.000) is less than 0.05 (alpha). These statistical indicators confirm that the variables of financial literacy (X1), financial inclusion (X2), and financial technology (X3) exhibit a positive and significant simultaneous effect on investment decisions (Y). Thus, the empirical evidence fully supports the acceptance of the fourth hypothesis.

Table 8. Coefficient of Determination (R2) Test Results

R	R Square	Adjusted R Square	Std. Error of the Estimate
,814[a]	,663	,652	2,178

Source: Data Processed (2026)

Furthermore, the coefficient of determination (R2) test was calculated to identify how much of the dependent variable's fluctuation is driven by the chosen predictors. The statistical output yielded an R2 index of 0.663. This indicates that a proportion of 66.3% of the investment decisions can be explained by the combined effects of financial literacy, financial inclusion, and financial technology. Meanwhile, the residual 33.7% is driven by external variables that were excluded from the current analytical framework.

4.5 The Effect of Financial Literacy on the Investment Decisions of Generation Z in Banda Aceh City

Based on the statistical test results, financial literacy is proven to have a positive and significant effect on the investment decisions of Generation Z in Banda Aceh City (t_{value} = 4,743 > t_{table} = 1,98498; sig = 0,000 < 0,05). This finding indicates that a higher level of financial literacy which encompasses the ability to understand, manage, and use financial information rationally leads to Generation Z being wiser in making their fund allocation decisions. A proficient cognitive understanding equips this generation with the confidence to analyze various investment instruments, as well as calculate risk ratios and profit expectations more accurately.

This high financial literacy aligns with the empirical reality on the ground, where Generation Z and Millennials now dominate 80.44% of the total national capital market investors. This massive level of participation is inseparable from the success of continuous educational interventions by authoritative institutions, such as the LIKE IT (Literasi Keuangan Indonesia Terdepan/Leading Indonesian Financial Literacy) program, synergistically initiated by the OJK, BI, LPS, and the Ministry of Finance (OJK, 2024). These literacy programs effectively enhance the capabilities of the younger generation in investment planning and the utilization of formal financial products. Overall, this finding reinforces previous research by Mandagie et al. (2020) and (Azizah Romadhani & Handini (2023), which consistently asserts that financial literacy is a crucial determinant in driving the quality of targeted investment decision-making.

4.6 The Effect of Financial Inclusion on the Investment Decisions of Generation Z in Banda Aceh City

Subsequent statistical testing proves that financial inclusion has a positive and significant effect on the investment decisions of Generation Z in Banda Aceh City (t value = 2,114 > t table = 1,98498; sig = 0,037 < 0,05). The acceptance of this hypothesis indicates that a higher level of accessibility and utilization of formal financial services possessed by the younger generation leads to more well-planned steps in making investment decisions. The availability of accessible and affordable financial facilities directly plays a role in reducing the barrier to entry for novice investors. With the support of an adequate financial inclusion ecosystem, Generation Z has the flexibility to reach and utilize various investment products practically, thus encouraging them to invest more actively. This finding strengthens the research by Sari & Fahamsyah (2025), which asserts that financial inclusion is a crucial prerequisite in facilitating and enhancing the quality of investment decision-making.

4.7 The Effect of Financial Technology on the Investment Decisions of Generation Z in Banda Aceh City

The research findings demonstrate that financial technology has a positive and significant effect on the investment decisions of Generation Z in Banda Aceh City, as evidenced by a t-count greater than the t-table (2,896 > 1,98498) and a significance value lower than α (0,005 < 0,05). The acceptance of this hypothesis asserts that digital innovation in financial services is capable of delivering efficiency, speed, and convenience that are highly relevant to the lifestyle of young investors. Through the utilization of integrated digital investment applications, Generation Z now has the flexibility to execute transactions, manage portfolios independently, and monitor asset performance more practically. These findings are in line with the research by (Chotimah et al., 2024), which concluded that the intensity of fintech platform usage is directly proportional to the increase in motivation and capability of Generation Z in formulating their investment decisions.

4.8 The Simultaneous Effect of Financial Literacy, Financial Inclusion, and Financial Technology on the Investment Decisions of Generation Z in Banda Aceh City

The simultaneous test proves that financial literacy, financial inclusion, and financial technology collectively exert a significant effect on the investment decisions of Generation Z in Banda Aceh City (F value = 62,864 > F table = 3,091; sig = 0,000 < 0,05).The acceptance of H4 confirms that the quality of investment decisions is not determined by a single factor but is formed from a combination of complementary aspects: adequate cognitive understanding, the availability of access to inclusive financial services, and the support of advanced financial technology facilities. The synergy of these three factors is proven to have a strong explanatory power, contributing 66.3% to the formation of investment decisions, while the remaining 33.7% is influenced by other factors outside the scope of this research model. Overall, these findings reinforce the consensus of various previous studies (Giarta & Pratono, 2025; Hasanudin et al., 2022; Sawitri & Candrayani, 2025), which assert that the integration of knowledge, access, and technological innovation is a vital prerequisite for young investors to formulate and execute investment strategies precis ely and rationally.

CONCLUSION

This study concludes that financial literacy, financial inclusion, and financial technology are proven to have a positive and significant effect on the investment decisions of Generation Z in Banda Aceh City, both partially and simultaneously. Partially, financial literacy demonstrates the most dominant contribution compared to the other two variables, indicating that cognitive understanding of basic financial concepts remains the primary foundation in shaping the quality of investment decision-making among the younger generation. On the other hand, financial inclusion and financial technology also strengthen the process through the expansion of formal financial service access and the convenience of digital-based transactions. Simultaneously, these three variables are capable of explaining 66.3% of the variation in the investment decisions of Generation Z, which asserts that investment decisions in this generation are multidimensional and cannot be understood solely through a single factor, but rather through the integrated interaction of knowledge, access, and technology.

Based on these findings, it is recommended that the local government, together with the Financial Services Authority (OJK) and related institutions, strengthen financial literacy education programs specifically targeting Generation Z, particularly in the Banda Aceh City area. This can be achieved through more contextual and digital-based approaches, such as the utilization of social media, webinars, or collaborations with higher education institutions.

Furthermore, the expansion of financial inclusion needs to be continuously encouraged by simplifying investment account opening procedures and broadening the reach of formal financial institutions at the local level, so that access barriers for novice investors can be minimized. As for financial technology service providers, it is recommended to continuously improve system security, information transparency, and the convenience of investment application interfaces, considering that the aspects of speed and practicality are proven to be the main attractions for young investors in conducting transactions.

For future research, it is suggested to expand the scope of the research area beyond Banda Aceh City to obtain a more comprehensive picture of Generation Z's investment behavior nationally. Additionally, future studies should consider incorporating other variables such as psychological behavioral biases or socio-cultural factors that also influence investment decisions, given that this study still leaves a 33.7% variation unexplained by the model.

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The Effect of Response Time and Teamwork on Employee Performance in the Fire Department of Palopo City

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ABSTRACT
This study aims to determine the influence of response time and teamwork on employee performance at the Palopo City Fire Departement. The research Employed a quantitative approach involving all 75 employees as the sample through saturated sampling technique. Data collection was conducted through obsevations, interviews, and quastionnaires distribution. The data were then analyzed using multiple linear regression. The results show that response time and teamwork have a positive and significant effect on employee performance, both partially simultaneously. The coefficient of determination (R^2) of 0.712 indicates that 71,2% of the variation employee performance can be explained by these twos variables, while the remaining 28,8% is influenced by other factors not discussed in this study.

Keywords: Response Time, Teamwork, Empolyee Performance, Fire Department

ABSTRAK
Penelitian ini bertujuan untuk mengetahui pengaruh waktu tanggap dan Kerja sama tim terhadap kinerja pegawai pada Dinas Pemadam Kebakaran Kota Palopo. Penelitian ini menggunakan pendekatan kuantitatif dengan melibatkan seluruh 75 pegawai sebagai sampel melalui teknik sampling jenuh. Pengumpulan data dilakukan melalui observasi, wawancara dan penyebaran koesioner. Data yang diperoleh kemudian dianalisis menggunakan regresi linear berganda. Hasil penelitian menunjukkan bahwa waktu tanggap dan kerja sama tim berpengahruh posistif serta signifikan terhadap kinerja pegawai baik, baik secara parsial maupun simultan. Nilai koefisien determinasi (R^2) sebesar 0,712 menunjukkan bahwa 71,2% variasi kinerja pegawai dapat dijelaskan oleh kedua variable tersebut sedangkan sisanya sebesar 28,8% dipengaruhi oleh faktor lain yang tidak dibahas dalam penelitian ini.

Kata kunci: Waktu Tanggap, Kerjasama Tim, Kinerja Pegawai, Dinas Pemadam Kebakaran.

INTRODUCTION

Human resources represent one of the most valuable assets an organization possesses, since they are the ones who carry out its policies and day-to-day operations. How well employees perform is often treated as a core indicator of whether an organization is meeting its goals. Afandi (2018) frames performance as an employee's capacity to execute a particular skill, and argues that strong performance in this sense underpins the broader effectiveness and efficiency of an organization's work

Response time is one variable widely believed to shape how well employees perform. Alamsyah et al. (2021) describe it as an individual's capacity to act swiftly and appropriately when a situation calls for it, noting that a faster response tends to raise the odds of resolving a problem successfully. Teamwork is another variable that matters just as much: as Siagian explains (cited in Farica & Renwarin, 2022), effective teamwork rests on communication, coordination, and mutual trust among members, all of which allow tasks to be finished both efficiently and effectively.

A number of earlier studies point in the same direction. Asmalah and Arianto (2021) found that communication quality has a marked effect on employee performance, and both Tannady et al. (2022) and Fatahuddin et al. (2024) reported similarly strong effects of teamwork and team communication on workplace performance. Wijaya et al. (2022) and Yuditio et al. (2024) likewise showed that communication and teamwork jointly help lift employee performance across both public- and private-sector settings. Within firefighting specifically, Masripah and Rahmi (2025) linked personnel performance to work facilities and related organizational conditions, while Fristky and Suwarni (2023) and Fitri et al. (2023) highlighted teamwork as a driver of organizational effectiveness. Taken together, these findings make a strong case for treating response time and teamwork as key determinants of employee performance in emergency-service organizations such as the Palopo City Fire and Rescue Department.

The Palopo City Fire and Rescue Department provides emergency services that require employees to respond quickly, coordinate tasks, and work effectively as a team. These demands make response time and teamwork important factors in supporting employee performance and the effectiveness of emergency services.

Building on this background, the present study sets out to analyze how response time and teamwork, both individually and jointly, affect employee performance at the Palopo City Fire and Rescue Department

THEORETICAL BACKGROUND

2.1. Response Time

Response time captures how ready an organization is to respond quickly and appropriately to a given situation; a faster response during an incident raises the chances that the problem will be handled successfully (Rojak et al., 2024). Within emergency services in particular, this readiness shows up in how prepared personnel are, how quickly they can be mobilized, how sound their decisions are under pressure, and how well they can carry out incident-response procedures. Karokaro et al. (2020) identify several factors that shape response time, among them the availability of personnel, the adequacy of facilities and infrastructure, and the overall readiness of staff.

2.2. Teamwork

Siagian (as cited in Farica & Renwarin, 2022) describes teamwork as a shared understanding among a group of individuals that creates synergy across the different activities its members carry out. Put differently, it is the process by which people combine their knowledge, skills, and abilities to work toward organizational goals in a collaborative way. Wang et al. (2022) found that how well a team performs depends heavily on the level of communication and trust among its members, both of which explain a meaningful share of the variation in team outcomes. Other studies point in the same direction, showing that solid teamwork tends to lift both organizational effectiveness and individual employee performance across a range of work settings (Fitri et al., 2023; Fristky & Suwarni, 2023).

2.3. Employee Performance

Afandi (2018) defines employee performance as the ability to carry out particular skills, an ability that becomes visible through the quality and quantity of work produced, punctuality, effectiveness on the job, and a sense of responsibility in completing assigned tasks. Within fire and rescue services specifically, Masripah and Rahmi (2025) show that performance is also shaped by organizational conditions such as the facilities provided, workload, and compensation.

RESEARCH METHODS

3.1. Population, Sample, and Data Collection Techniques

This study drew its population from all 75 employees at the Palopo City Fire Department. A saturated sampling technique was applied, meaning the entire population was taken as the research sample rather than a subset of it. Data collection combined direct observation, interviews, and a questionnaire built around a five-point Likert scale. Primary data came straight from the employees themselves, while secondary data was pulled from the institution's own documentation.

3.2. Data Analysis Method

Descriptive analysis was used first to profile the characteristics of the respondents. The research instrument was then checked for validity and reliability: an item was deemed valid once its correlation coefficient (*r*-value) exceeded 0.30, and the instrument as a whole was deemed reliable once its reliability coefficient passed 0.60. Multiple linear regression was then applied to test how response time (X_1) and teamwork (X_2) affect employee performance (Y), following the equation:

$$Y = \alpha + \beta 1.X1 + \beta 2.X2 + e \qquad (1)$$

Where: Y = employee performance; X_1 = response time; X_2 = teamwork; a = constant; b_1, b_2 = regression coefficients; e = error term. Hypotheses were tested through the F-test (for simultaneous effects), the t-test (for partial effects), and the coefficient of determination (R^2), all evaluated at a 5% significance level.

3.3. Operational Definition of Variables

In this study, response time refers to employees' speed and accuracy in responding to incidents, measured by response speed, accuracy of actions, clarity of information, and personnel readiness. Teamwork refers to employees' ability to work together through communication, coordination, participation, and mutual trust. Employee performance refers to work outcomes measured by quality, quantity, timeliness, effectiveness, and responsibility.

RESULT AND DISCUSSION

4.1. Respondent Characteristics

The questionnaires were distributed to 75 employees, and all were returned completely. The characteristics of the respondents by gender, age, highest educational attainment, and length of service are presented below.

Table 1. Characteristics of Respondents

No	Characteristics		Percentace
1	Gender	Male	77,3%
		Female	22,7%
2	Age	≤ 25 years	36%
		26 - 35 years	44%
		36 - 45 years	18,7%
		≥ 46 years	1,3%
3	Highest Education	Senior High School/ Equivalent	30,7%
		Diploma III (D3)	5,3%
		Bachelor's Degree (S1)	60%
		Master's Degree (S2)	4%
4	Length of Service	≤ 5 years	69,3%
		6 - 10 years	26,7%
		11 - 20 years	2,7%
		≥ 21 years	1,3%

Source: Processed Data (2026)

4.2. Multiple Linear Regression Analysis Results

Hypothesis testing was conducted using the F-test (simultaneous test), t-test (partial test), and the coefficient of determination (R^2) using SPSS. The results of the F-test are presented in Table 2, the t-test results are presented in Table 3, and the coefficient of determination results are presented in Table 4

Table 2. F-Test Results (Simultaneous Test)

Model	Sum Of Squares	df	Mean Square	F	Sig.
1 Regression	2712	2	1356	88,824	,000[b]
Residual	1099,2	72	15,266		
Total	3811,1	74			

a. Dependent variabel: Employee Performance (Y)
b. Predictors: (Constant), Teamwork (X2), Response time (X1)

Source: SPSS Output (2026)

Table 3. t-Test Results (Partial Test)

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	3,583	4,758		0,753	0,454
Response time (X1)	0,263	0,12	0,247	2,188	0,032
Teamwork (X2)	0,675	0,121	0,628	5,561	0

a. Dependent variabel: Employee Performance (Y)

Source: SPSS Output (2026)

Table 4. Coefficient of Determination (R^2) Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,844[a]	0,712	0,704	3,90718

a. Predictors: (Constant), Teamwork, Response time

Source: SPSS Output (2026)

The calculated F-value of 88.824 with a significance value of 0.000 (< 0.05) indicates that response time and teamwork simultaneously have a significant effect on employee performance; therefore, the first hypothesis (H3) is accepted. Partially, response time has a positive and significant effect on employee performance (*t* = 2.188; *sig.* = 0.032), and teamwork also has a positive and significant effect (*t* = 5.561; *sig.* = 0.000); therefore, H1 and H2 are accepted. The coefficient of determination (R^2) of 0.712 indicates that response time and teamwork jointly explain 71.2% of the variation in employee performance, while the remaining 28.8% is explained by other factors outside the modela

4.3. Discussion

These findings show that response time has a positive and significant bearing on employee performance at the Palopo City Fire Department, in practical terms, the quicker personnel respond to fire reports and other emergencies, the better their performance tends to be. For an emergency-service organization, how fast information is received, equipment is readied, and the incident site is reached is central to whether the response succeeds. This points to the need for ongoing improvements in time management, achieved through regular training, simulation drills, and periodic checks on how prepared personnel really are.

Teamwork, too, was found to have a positive and significant effect on performance, echoing earlier research showing that effective coordination, open communication, mutual support, and clearly divided tasks all help teams work more effectively. Because firefighting inherently demands close collaboration on the ground, building stronger coordination and communication among personnel is key to improving the service delivered to the community.

Taken as a whole, these results suggest that response time and teamwork jointly shape employee performance in a meaningful way, how successfully employees carry out their duties hinges both on how quickly they respond to incidents and on how effectively they collaborate with their teammates.

CONCLUSION

Drawing on the analysis and discussion above, this study concludes that response time and teamwork significantly affect employee performance at the Palopo City Fire Department, whether examined separately or together. Performance rises as employees respond more quickly to incident reports, and it rises as well when teamwork among employees improves. Together, the two variables account for 71.2% of the variation in employee performance, with the remaining 28.8% attributable to factors this study did not capture.

Going forward, the Palopo City Fire Department would do well to keep sharpening employees' response time through regular training, emergency-response simulations, and adequate facilities and equipment, while also strengthening teamwork by fostering better communication, coordination, and a shared sense of responsibility among personnel. Because this study only examined two independent variables, future research could broaden the scope of inquiry and incorporate additional variables that may shape employee performance, so as to build a more complete picture.

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Analysis of Compensation and Work Discipline on Employee Performance at Aneka Jaya Demak 2 Supermarket with Work Motivation as an Intervening Variable

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ABSTRACT
This study analyzes the effect of compensation and work discipline on employee performance with work motivation as an intervening variable at Aneka Jaya Demak 2 Supermarket. A quantitative survey method was applied to 60 employees using saturated sampling, with data analyzed via PLS-SEM. Results show that compensation and work discipline significantly affect both employee performance and work motivation. Work motivation also significantly affects performance and emerges as the strongest factor. Moreover, work motivation mediates the relationship between compensation and work discipline and employee performance. These findings imply that improving performance requires fair compensation, good discipline, and enhanced motivation. Companies should therefore optimize all three factors simultaneously.

Keywords: compensation; work discipline; work motivation; employee performance.

ABSTRAK
Penelitian ini menganalisis pengaruh kompensasi dan disiplin kerja terhadap kinerja karyawan dengan motivasi kerja sebagai variabel intervening di Aneka Jaya Demak 2 Supermarket. Metode survei kuantitatif diterapkan pada 60 karyawan dengan sampling jenuh, dianalisis menggunakan PLS-SEM. Hasil menunjukkan kompensasi dan disiplin kerja berpengaruh signifikan terhadap kinerja dan motivasi kerja. Motivasi kerja juga berpengaruh signifikan terhadap kinerja dan menjadi faktor terkuat. Selain itu, motivasi kerja memediasi hubungan kompensasi dan disiplin kerja terhadap kinerja. Temuan ini mengimplikasikan bahwa peningkatan kinerja memerlukan kompensasi adil, disiplin baik, dan motivasi tinggi. Perusahaan perlu mengoptimalkan ketiga faktor tersebut secara simultan..

Kata kunci: kompensasi; disiplin kerja; motivasi kerja; kinerja karyawan

INTRODUCTION

Human resources are the main factor determining an organization's success in achieving its goals. Effective human resource management is essential because employees play a direct role in carrying out all organizational activities. Therefore, companies need to pay serious attention to improving employee performance as part of achieving organizational objectives. Good employee performance reflects the effectiveness of management in managing human resources optimally (Umar & Norawati, 2022). In practice, employees are often viewed merely as factors of production rather than valuable assets. This condition leads to a lack of attention to employee welfare and development. In fact, human resource empowerment is crucial in creating a conducive and comfortable work environment. With proper empowerment, employees are expected to provide optimal contributions to the organization.

Employee performance is influenced by various factors, both internal and external. Internal factors include abilities, skills, motivation, and individual conditions, while external factors include the work environment, leadership, facilities, and compensation systems (Rabbani & Bagasworo, 2024; Rahmadhani, 2020). One important factor affecting performance is compensation, which refers to rewards given by the company in return for employees' contributions. Fair and appropriate compensation can increase work enthusiasm, although in some cases, compensation alone is not sufficient to fully enhance performance (Sutrisno et al., 2022; Sari et al., 2023). In addition to compensation, work discipline is another important factor in improving employee performance. Discipline reflects employees' compliance with rules and their sense of responsibility in performing their duties (Qomariah, 2020; Nanda & Jepry, 2020). At Aneka Jaya Demak 2 Supermarket, there are still issues related to work discipline, such as tardiness, absenteeism, and leaving work early. These conditions indicate that the level of discipline is not yet optimal and may disrupt operational activities and reduce service quality to customers.

Furthermore, work motivation is considered to play an important role as an intervening variable in the relationship between compensation, work discipline, and employee performance. Motivation is an internal drive that influences employees' enthusiasm and commitment to completing their tasks (Desi & Muhammad, 2023). While several studies show that motivation has a significant effect on performance (Rony et al., 2023; Nasution & Ritonga, 2025), other studies report inconsistent findings (Saraswati & Zulkifli, 2024; Dewi, 2024). Therefore, this study aims to further examine the role of compensation and work discipline on employee performance with work motivation as an intervening variable.

THEORETICAL BACKGROUND

2.1. Definition of Performance

Performance is a term derived from the phrases *job performance* or *actual performance*, which refer to the work achievements attained by an individual. In this context, performance can be defined as the quality and quantity of work results produced by an employee in carrying out tasks in accordance with the responsibilities assigned to them (Suryani et al., 2022). According to Asralidin & Iba (2021) performance is the result of efforts made by an individual to achieve predetermined goals. It is closely related to an individual's ability to complete tasks, the outcomes generated either individually or organizationally based on assigned authority and responsibilities, as well as how a person behaves and performs their duties in terms of quantity, quality, and time devoted to completing the work

2.2. Definition of Compensation

According to Dwianto et al. (2019), compensation is a right received by employees from the company, provided in accordance with organizational policies after employees have contributed their energy, thoughts, and time. Meanwhile, Yuliyanti et al. (2025) define compensation as various forms of rewards, both financial and non-financial, given fairly and appropriately to employees as a return for their contributions in achieving organizational goals

2.3. Definition of Work Discipline

Discipline refers to an individual's behavior and actions in complying with established rules, norms, and obligations, both in daily life and in the workplace (Yuliawati & Oktavianti, 2024). Good discipline reflects the extent of a person's responsibility toward the tasks assigned to them. Work discipline functions as an operational component of human resource management, whether applied voluntarily or through enforcement. It is characterized by employees consistently arriving at and leaving work on time, completing tasks properly, and adhering to all company regulations and prevailing norms (Nandasari, 2021)

2.4. Definition of Work Motivation

According to Miftahussaadah & Subiyantoro (2021), motivation is an internal and external driving force that encourages individuals to take actions in order to achieve their goals. Motivation can be categorized into two types: intrinsic motivation, which originates from within the individual such as personal satisfaction, and extrinsic motivation, which comes from external factors such as wages, bonuses, or recognition (Rasyid & Tanjung, 2020). Furthermore, Hasbullah (2021) state that employees with high work motivation tend to demonstrate better productivity, greater consistency, and a stronger sense of responsibility in completing their tasks.

RESEARCH METHODS

This study employs a quantitative approach using a survey method aimed at testing hypotheses based on statistical data (Sugiyono, 2023). The population consists of all employees of Aneka Jaya Demak 2 Supermarket, with a total sample of 60 respondents selected using a saturated sampling technique, meaning the entire population is included in the study.

Data were collected through questionnaires as primary data, distributed directly to respondents. The research instrument uses a Likert scale with five levels of responses, ranging from strongly disagree to strongly agree, to measure respondents' perceptions of the variables studied. The data analysis technique uses Partial Least Square–Structural Equation Modeling (PLS-SEM) with the assistance of SmartPLS software.

The analysis is conducted in two stages: the measurement model (outer model) and the structural model (inner model). The outer model is evaluated through validity tests (convergent and discriminant validity) and reliability tests (Cronbach's Alpha and Composite Reliability). Furthermore, the inner model is assessed using R-Square to determine the explanatory power of independent variables on dependent variables, and Effect Size (F-Square) to evaluate the contribution of each variable. Model fit is also examined using Goodness of Fit measures, including SRMR and NFI. The final stage involves hypothesis testing to determine the relationships among variables in the research model, leading to conclusions regarding the effects of compensation, work discipline, and work motivation on employee performance.

RESULT AND DISCUSSION

Table 1.R-*square*

Variable	R-square	Adjusted R-square
Employee Performance	0.634	0.614
Work Motivation	0.549	0.534

Source: SPSS Output (2026)

The R-square value of 0.634 indicates that 63.4% of the variation in employee performance can be explained by the independent variables, namely compensation and work discipline. This value falls into the moderate category, as it lies between 0.33 and 0.67. Meanwhile, the work motivation variable has an R-square value of 0.549, which means that 54.9% of the variation in work motivation can be explained by employee performance, compensation, and work discipline. This value is also categorized as moderate, as it falls within the range of 0.33 to 0.67.

Table 2. *F-square*

Variable	Work Motivation (Z)	Employee Performance (Y)
Compensation (X1)	0.638	0.097
Work Discipline (X2)	0.280	0.126
Work Motivation (Z)	-	0.257
Employee Performance (Y)	-	-

Source: SPSS Output (2026)

The F-square test indicates that the compensation variable has an effect on employee performance, with a value of 0.097, which falls into the weak category. Meanwhile, the effect of compensation on work motivation shows a value of 0.638, indicating a strong effect. The influence of work discipline on work motivation has a value of 0.280, which is categorized as moderate. However, the effect of work discipline on performance yields a value of 0.126, which is also considered moderate. Furthermore, work motivation as a mediating variable shows a moderate effect on performance, with a value of 0.257

Table 3. *Dirrect Effect*

Variable	T-Statistic	P-Value	Description
Compensation → Employee Performance	3.037	0.022	Accepted
Work Discipline → Employee Performance	9.704	0.012	Accepted
Compensation → Work Motivation	6.152	0.000	Accepted
Work Discipline → Work Motivation	8.195	0.001	Accepted
Work Motivation → Employee Performance	2.728	0.000	Accepted

Source: SPSS Output (2026)

Based on Table3. above, the results of hypothesis testing can be explained as follows:

1. Hypothesis 1 (H1)
   The first hypothesis examines the effect of compensation on employee performance, with a P-Value of 0.022 (< 0.05). Therefore, H1 is accepted, indicating that compensation has a significant effect on employee performance.
2. Hypothesis 2 (H2)
   The second hypothesis tests the effect of work discipline on employee performance, with a P-Value of 0.012 (< 0.05). Thus, H2 is accepted, meaning that work discipline has a significant effect on employee performance.
3. Hypothesis 3 (H3)
   The third hypothesis analyzes the effect of compensation on work motivation, with a P-Value of 0.000 (< 0.05). Hence, H3 is accepted, indicating that compensation has a significant effect on work motivation.
4. Hypothesis 4 (H4)
   The fourth hypothesis examines the effect of work discipline on work motivation, with a P-Value of 0.001 (< 0.05). Therefore, H4 is accepted, showing that work discipline has a significant effect on work motivation.
5. Hypothesis 5 (H5)
   The fifth hypothesis tests the effect of work motivation on employee performance, with a P-Value of 0.000 (< 0.05). Thus, H5 is accepted, indicating that work motivation has a significant effect on employee performance

Table 4. In*dirrect Effect*

Variable	T-Statistic	P-Value	Description
Compensation → Work Motivation → Employee Performance	2.748	0.002	Accepted
Work Discipline → Work Motivation → Employee Performance	2.398	0.008	Accepted

Source: SPSS Output (2026)

Table 4. presents the results of indirect hypothesis testing among variables, which can be explained as follows:

1. The effect of compensation on employee performance through work motivation shows a P-value of 0.002 (< 0.05). This indicates that work motivation successfully mediates the relationship between compensation and employee performance.
2. The effect of work discipline on employee performance through work motivation shows a P-value of 0.008 (< 0.05). This means that work motivation successfully mediates the relationship between work discipline and employee performance

The Effect of Compensation on Employee Performance
The results show that compensation has a significant effect on employee performance (p-value 0.022 < 0.05), indicating that better salaries, incentives, allowances, and work facilities lead to improved employee performance. Fair compensation encourages employees to work more optimally, remain disciplined, and focus on achieving targets. This finding is supported by Rosyidah et al. (2025) and Hasibuan & Yusuf (2025), who state that compensation has a positive and significant effect on employee performance.

The Effect of Work Discipline on Employee Performance
Work discipline has a significant effect on employee performance (p-value 0.012 < 0.05), indicating that compliance with rules, punctuality, and responsibility enhance work outcomes. Higher levels of discipline lead to better performance. This result is supported by Sangapan et al. (2025) and Farhan & Indriyaningrum (2023), who found that work discipline has a positive and significant effect on employee performance.

The Effect of Compensation on Work Motivation
The findings indicate that compensation significantly affects work motivation (p-value 0.000 < 0.05), meaning that appropriate rewards increase employees' enthusiasm, persistence, and work orientation. Fair compensation motivates employees to work harder and more productively. This is supported by Kusuma et al. (2025) and Okta et al. (2025), who found that compensation has a positive and significant effect on work motivation.

The Effect of Work Discipline on Work Motivation
Work discipline also has a significant effect on work motivation (p-value 0.001 < 0.05), indicating that adherence to rules, responsibility, and work awareness can enhance employees' motivation and commitment. Higher discipline leads to higher motivation. This finding is supported by Amrulloh et al. (2025) and Mufarrohah & Sumartik (2022), who reported a positive and significant relationship between work discipline and motivation.

The Effect of Work Motivation on Employee Performance
Work motivation has a significant effect on employee performance (p-value 0.000 < 0.05), meaning that higher motivation leads to better performance. Motivation drives employees to work optimally, achieve targets, and improve work quality. This result is consistent with Wahyuni et al. (2023) and Salsabilla & Suryawan (2022), who found that motivation significantly influences employee performance.

The Effect of Compensation on Employee Performance through Work Motivation
Compensation has an indirect effect on performance through work motivation (p-value 0.002 < 0.05), indicating that motivation successfully mediates this relationship. Fair compensation increases motivation, which in turn enhances employee performance. This finding aligns with Wijaya & Laily (2020) and Armantari et al. (2021), who found that compensation significantly affects performance through motivation.

The Effect of Work Discipline on Employee Performance through Work Motivation
Work discipline also has an indirect effect on performance through work motivation (p-value 0.008 < 0.05), indicating that motivation mediates this relationship. Employees with higher discipline tend to have stronger motivation, which ultimately improves performance. This is supported by Sudarmanto et al. (2022) and Sandra & Sentoso (2024), who found that work discipline positively influences employee performance through motivation

CONCLUSION

Based on the results of data analysis and the discussion presented, the conclusions of this study can be formulated as follows:
1. Compensation has been proven to have a significant effect on employee performance. This indicates that an appropriate compensation system is able to encourage employees to work more optimally in carrying out their duties.
2. Work discipline also has a significant impact on performance. This means that the higher the level of employee compliance with rules and responsibilities, the better the performance outcomes achieved.
3. Compensation plays an important role in enhancing employee work motivation. Proper rewards can increase enthusiasm, encouraging employees to demonstrate better performance.
4. Work discipline is proven to significantly influence work motivation. Employees with a higher level of discipline tend to have stronger motivation in achieving targets and optimal results.
5. Work motivation has a significant contribution to improving performance. The greater the motivation employees have, the stronger their drive to complete tasks to the best of their ability.
6. Compensation indirectly affects performance through work motivation as an intervening variable. This indicates that appropriate compensation not only has a direct impact but also enhances motivation, which in turn improves performance.
7. Work discipline also indirectly influences performance through work motivation. A higher level of discipline strengthens motivation, which ultimately leads to improved employee performance

This study has several limitations, particularly in terms of the variables examined, which are limited to compensation, work discipline, work motivation, and employee performance.

Therefore, other factors that may influence employee performance were not examined. In addition, the data were collected through questionnaires that relied on respondents' perceptions and honesty. The study was also conducted within a specific research setting and period, which limits the generalizability of the findings and does not capture changes in the variables over the long term

Future research is recommended to include other relevant variables, such as leadership style, work environment, job satisfaction, or organizational commitment, and to expand the research objects and sample size to obtain more representative results. The use of more diverse data collection methods, such as interviews and observations, as well as a longitudinal approach, is also recommended to provide deeper and more comprehensive findings

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The Role of Employer Branding in Attracting Top Talent in the Industry 5.0 Era

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ABSTRACT
The rapid transformation of the business world under Industry 5.0 is pushing companies toward more responsive, value-based human resource management. Employer branding, the strategy organizations use to build a positive image as an ideal workplace, is gaining increasing attention as a way to attract and retain top talent. This paper explores its role in attracting Millennials and Gen Z, strengthening employee loyalty, and building competitive advantage, based on a qualitative-descriptive review of primary literature from the last seven years. The results show that successful employer branding emphasizes the Employee Value Proposition (EVP), integrates digital technology and social media, and prioritizes values such as sustainability and work-life balance, while also identifying strategic challenges and managerial implications for the Industry 5.0 era.

Keywords: Employer Branding; Top Talent; Employee Value Proposition; Employee Loyalty; Industry 5.0

ABSTRAK
Transformasi cepat dunia bisnis pada era Industry 5.0 mendorong perusahaan merumuskan manajemen sumber daya manusia yang lebih responsif dan berbasis nilai. Employer branding, strategi organisasi membangun citra positif sebagai tempat kerja ideal, semakin mendapat perhatian sebagai cara menarik dan mempertahankan talenta terbaik. Artikel ini mengeksplorasi perannya dalam menarik generasi Milenial dan Gen Z, meningkatkan loyalitas karyawan, serta membangun keunggulan kompetitif, melalui kajian kualitatif-deskriptif atas literatur primer tujuh tahun terakhir. Hasil kajian menunjukkan bahwa employer branding yang berhasil menekankan dimensi Employee Value Proposition (EVP), mengintegrasikan teknologi digital dan media sosial, serta mengutamakan nilai seperti keberlanjutan dan keseimbangan kehidupan kerja, sekaligus mengidentifikasi tantangan strategis dan implikasi manajerial di era Industry 5.0.

Kata kunci: Employer Branding; Talenta Terbaik; Employee Value Proposition; Loyalitas Karyawan; Industry 5.0

INTRODUCTION

Several previous studies have demonstrated that employer branding plays an important role in building organizational attractiveness to prospective employees and supporting talent management. Theurer et al. (2018), through a literature review grounded in the concept of brand equity, analyzed 187 articles on employer branding and found that research in this field encompasses organizational knowledge, branding activities and strategies, and various consequences related to organizational attractiveness. Their study developed the concept of the *employer brand value chain*, emphasizing that employer branding should be viewed as a strategic process that connects organizational activities with the perceptions and responses of both prospective and current employees.

Furthermore, Reis et al. (2021) conducted a systematic literature review examining the relationship between employer branding and talent management. Based on research published between 2010 and 2020, the study found that employer branding has increasingly been used as an instrument for talent management, particularly in supporting talent attraction and retention. These findings indicate that employer branding is no longer merely an external communication activity but has developed into an integral component of an organization's talent management strategy. The relationship between employer branding and organizational attractiveness has also been examined in earlier research. The employer brand concept, initially introduced by Ambler and Barrow, has since been expanded through studies focusing on employer attractiveness. Research summarized by Theurer et al. (2018) indicates that perceptions of organizational attributes shape prospective employees' knowledge and evaluation of an organization. Therefore, the stronger and more consistent the value offered by an organization as a workplace, the greater the likelihood that it will be perceived as an attractive employer.

Another study examining employer brand attractiveness emphasizes the importance of understanding employer branding from the perspective of prospective and current employees, distinguishing between organizational attributes, employee benefits, and the values perceived by individuals. This perspective suggests that employer brand attractiveness is determined not solely by what an organization communicates, but also by the extent to which the attributes and benefits offered are perceived as valuable by the individuals the organization targets.
The relationship between employer branding and talent retention has also received considerable attention in previous research. Studies on employer brand equity suggest that employer branding can provide an integrated explanation of both attraction and retention processes. One important finding is that employees' experiences within an organization play a significant role in shaping the relationship between employer branding and employees' decisions to remain with the organization. Thus, effective employer branding needs to consider not only the external perspective of prospective employees but also the internal experiences of employees who are already part of the organization.
This argument is further supported by research on internal employer branding and talent retention. A conceptual framework developed from previous studies indicates that an

organization's internally established employer brand is associated with various factors that influence talent retention. These findings reinforce the argument that employer brand promises must be supported by authentic workplace experiences; a discrepancy between the image an organization communicates and the actual conditions employees experience may weaken employee trust, loyalty, and intention to remain with the organization. At a broader level, Chen et al. (2022) conducted a systematic literature review of 79 studies concerning employer branding and talent recruitment. Their findings indicate that research on employer branding and recruitment has developed across various academic disciplines and can be understood through the relationships among antecedents, contextual factors, and outcomes of employer branding. The study further demonstrates that employer branding plays an important role in the recruitment process because it influences how prospective employees evaluate an organization before deciding whether to apply for or join it.

More recent research has also begun to connect employer branding with the characteristics and expectations of younger generations of workers. Studies on employer brand attractiveness among Generation Z indicate that prospective employees weigh various organizational attributes, both instrumental and symbolic, when evaluating whether an organization aligns with their needs and expectations. Instrumental attributes include tangible benefits, compensation, and working conditions, whereas symbolic attributes relate to organizational identity and the characteristics perceived by prospective employees. These findings suggest that employer branding strategies targeting younger generations should consider not only financial rewards but also organizational values, identity, flexibility, meaningful work, and employee experience. In the context of Industry 5.0, these developments have become increasingly relevant because technological transformation is no longer focused solely on automation but also places humans at the center of work systems. Recent studies on human resource management in the context of Industry 5.0 indicate that HRM needs to become more human-centered, resilient, sustainable, and adaptable. Consequently, talent management strategies in the Industry 5.0 era need to integrate technological capabilities with human needs, employee experience, competency development, and organizational values.

Based on these previous studies, it can be concluded that most existing research has established the importance of employer branding in talent attraction, recruitment, and retention. However, an opportunity remains to extend this research by integrating employer brand marketing, employee experience, the characteristics of younger generations of workers, and the changing paradigm of work within the Industry 5.0 context. Previous studies have generally examined employer branding in relation to organizational attractiveness and talent management, while its connection to the increasingly human-centered, personalized, innovative, and sustainable workplace demands of the Industry 5.0 era requires further investigation. This study therefore seeks to address this gap by examining how employer brand marketing can function as a strategic approach to attracting top talent amid changing employee expectations and the transformation of the modern workplace in the Industry 5.0 era.

THEORETICAL BACKGROUND

2.1. Employer Branding Concept

Employer branding is a strategic approach to shaping and managing a company's perception as an attractive work environment for prospective and existing employees. Its goal is to generate a distinctive value proposition that differentiates an organization from its competitors in attracting a workforce (Zhao et al., 2020). In practice, employer branding encompasses a series of communications and actions that reflect an organization's culture, identity, and commitment to human resource development. This identity is then translated into a consistent work experience that aligns with the needs and preferences of the target talent segment.

2.2. Top Talent and Their Preferences for Employers

Top talent generally refers to individuals with strong abilities, leadership potential, and the capacity to adapt to complex changes and challenges (Gallardo-Gallardo et al., 2020). In today's labor market, this type of talent holds different expectations than previous generations. They tend to value companies that provide job flexibility, opportunities for continuous learning, and an inclusive, creative work culture. Companies therefore need to adapt their branding approaches to these expectations, particularly when attracting digital professionals and Generation Z.

2.3. Industry 5.0 and Its Implications for Human Resources

Industry 5.0 marks a shift from an emphasis on technological efficiency toward a more human-centric approach, focusing on collaboration between humans and machines to create greater value (Breque et al., 2021). For human resource management, this creates an urgent need to design work systems that not only maximize technology but also respect human values. The concept of employer branding must adapt to this new paradigm, in which meaningful work experiences, attention to well-being, and a commitment to sustainability are key factors in attracting and retaining top talent.

2.4. Signaling Theory as a Supporting Framework

Signaling theory offers a solid theoretical framework for understanding the function of employer branding. The theory suggests that, under conditions of information asymmetry, employers need to send favorable signals to prospective employees to reduce uncertainty and create favorable perceptions. In this sense, employer branding functions as an organizational signal that reflects an organization's values, reputation, and commitment to its employees. When these signals are well received, the likelihood of attracting top talent increases. Employer branding is therefore not merely superficial, but plays a crucial role in building the initial relationship between an organization and prospective employees.

RESEARCH METHODS

3.1. Research Design

This study adopted a descriptive qualitative approach through a literature review method. This method was chosen to generate an in-depth understanding of the concept of employer branding and its contribution to attracting top talent, particularly amid the changing work environment brought about by Industry 5.0. The literature review allowed the researcher to identify, categorize, and analyze relevant theories, models, and prior research findings in order to build a structured conceptual synthesis (Snyder, 2019).

3.2. Data Sources and Search Strategy

The sources of information in this study come from recognized scientific journal publications, particularly those indexed in Scopus and Web of Science, as well as accredited national journals. The literature search was conducted across several academic databases, including ScienceDirect, Scopus, SpringerLink, Taylor & Francis, and Google Scholar. Each article that met the criteria was analyzed using a thematic approach to identify key themes related to employer branding, talent perceptions of the organization, and its strategic impact in the context of the Industry 5.0 era. The results of this analysis were used to construct a conceptual synthesis explaining the relationship between employer branding and top talent preferences, and to derive practical implications for organizations designing value-based human resource management strategies.

3.3. Inclusion and Exclusion Criteria

Articles were included if they discussed corporate branding, talent attraction, or human resource management in the context of the Fourth or Fifth Industrial Revolution, and if they used an empirical or conceptual approach appropriate to the research focus. An article was considered relevant when it provided substantial discussion or findings related to employer branding, employer brand marketing, employer attractiveness, the Employee Value Proposition (EVP), talent attraction, talent retention, employee experience, or organizational reputation as an employer. Studies with only a limited or indirect connection to employer branding were excluded unless they offered important theoretical insights supporting the research focus. To maintain source quality, articles that were not peer-reviewed or that were of a general, non-scholarly nature were excluded from the analysis.

RESULT AND DISCUSSION

4.1. Transformation of Talent Values in the Industry 5.0 Era

In the Industry 5.0 era, the values that define top talent have shifted from purely technical skills toward a combination of digital and higher-order human competencies. Companies now seek individuals who are not only technologically proficient but also able to apply creativity, empathy, and emotional intelligence when collaborating with automation and artificial intelligence systems (Mishra et al., 2022). This type of talent drives change because such individuals can create innovative solutions with a human-centered approach amid complex digital contexts. Talent's expectations of employers have also undergone a fundamental shift: they seek a workplace that offers not only financial security but also a platform for professional development that supports continuous learning and meaningful contributions to sustainability and social responsibility (Clark et al., 2023). These values reflect talent's growing attention to

an organization's broader mission and impact, a factor that is crucial for attracting Millennials and Gen Z, who increasingly seek jobs with purpose and clear values (Park & Lee, 2021).
This shift in values has also prompted a reconsideration of the attributes that define top talent. Talent assessments now focus not only on educational background or certifications, but also on innovation, teamwork, and the ability to adapt to changing roles within a changing work environment (Singh & Rhoads, 2022). Companies that recognize this shift need to revamp their employer branding strategies to emphasize these values, while simultaneously building an employer identity that aligns with the aspirations of today's talent.

These findings are consistent with the study's proposition that effective employer brand marketing contributes positively to an organization's ability to attract top talent in the Industry 5.0 era. The literature reviewed provides conceptual support for this relationship by showing that employer branding influences how prospective employees perceive an organization and evaluate its attractiveness as a potential workplace. In particular, employer branding that communicates relevant organizational values, career development opportunities, meaningful work, flexibility, innovation, and a supportive work environment is more likely to align with the expectations of contemporary talent.

The findings further indicate that the relationship between employer branding and talent attraction is strengthened when the employee value proposition is authentic and consistent with employees' actual experience. This supports the underlying premise that employer branding is not merely an external communication mechanism, but a strategic approach that connects organizational identity, employee expectations, and workplace experience. The discussion also shows that the changing characteristics of top talent in the Industry 5.0 era reinforce the importance of human-centered employer branding, particularly in addressing the expectations of Millennials and Generation Z. Because this study relies on a descriptive qualitative literature review rather than primary quantitative data, these propositions are not statistically tested; instead, they provide a conceptual basis for future empirical research to test this relationship quantitatively across different industries, organizational contexts, and employee groups.

4.2. Employer Branding as an Organizational Differentiation Strategy

Employer branding is increasingly used as a strategic tool for building a unique organizational identity amid fierce competition to attract top talent. In the Industry 5.0 era, differentiation depends not only on products or services but also on how an organization positions itself as an ideal place for talented individuals (Barrow & Mosley, 2021). A successful employer branding strategy can foster a strong perception of organizational culture, values, and employee experience that distinguishes a company from its competitors in the labor market. One crucial aspect of employer branding is alignment between an organization's external image and its internal reality: companies that build an authentic reputation through employee stories, community involvement, and a genuine commitment to diversity are more likely to attract job seekers who value clarity and trust (Theurer et al., 2018).

Employer branding is therefore not solely the responsibility of the Human Resources division; it also involves communications, marketing, and top-level leadership as part of a coherent organizational narrative. A well-built employer brand can provide a sustainable competitive advantage by reducing recruitment costs, increasing employee loyalty, and accelerating the process of attracting key talent in the digital and innovation sectors (Rana & Sharma, 2019). This is especially important in the Industry 5.0 era, when the distinction between organizational identity and employee experience is increasingly blurred and expectations for an inclusive, transformative work environment continue to rise. Employer branding thus serves not only as a communication tool but as an overall strategy that clearly conveys an organization's identity. Companies that communicate genuine values, workplace flexibility, and a commitment to employee development stand a greater chance of succeeding in the competition to attract and retain top talent.

4.3. The Employee Value Proposition (EVP) Dimension in Attracting Top Talent

The Employee Value Proposition (EVP) is a fundamental part of a company's branding strategy, describing what an organization offers employees in return for their contribution and commitment. The EVP encompasses more than a salary package; it encompasses the entire work experience, reflecting an organization's values, culture, and development opportunities (Botha et al., 2021). In the competition for top talent, the EVP is a crucial foundation for building a positive organizational image, both internally and externally. Key aspects of an EVP include competitive compensation, a clear career path, work-life balance, a supportive work environment, and a sense of pride in the organization's purpose (Abuelhassan & Elsayed, 2020). Today's employees, particularly Millennials and Gen Z, are more likely to weigh sustainability, workplace flexibility, and an organization's social impact when deciding whether to join it (Singh & Sharma, 2022).

An EVP therefore needs to align with the expectations of today's prospective employees, who seek meaning and purpose in their careers. A carefully designed and clearly communicated EVP has been shown to increase employee engagement, reduce turnover, and strengthen a company's reputation as a desirable employer (Yamamoto & Yoshioka, 2021). This is especially important in the Industry 5.0 era, where organizational attractiveness depends not only on business performance but also on the clarity of its identity and the value it offers employees. The EVP thus serves as a strategic bridge connecting organizational needs with the increasingly demanding and dynamic expectations of top talent.

4.4. The Impact of Employer Branding on Millennial and Gen Z Preferences

The changing demographic structure of the global workforce carries significant implications for organizational strategies to attract and retain employees. Millennials and Gen Z now dominate the labor market and hold preference characteristics that differ markedly from those of previous generations (Alonso-Almeida & Llach, 2019). Both groups are more attracted to organizations with a clear mission, values that align with their own, and a flexible, inclusive way of working. In this context, employer branding is a crucial tool for conveying an organization's identity and uniqueness in a manner relevant to younger generations' preferences. Research by Dabirian, Paschen, and Kietzmann (2019) shows that transparent, digitally driven employer branding significantly influences younger workers' career decisions; social media platforms and career websites are key channels for building positive perceptions of a company. Millennials and Gen Z are highly sensitive to a company's reputation on issues such as diversity, social responsibility, and a work environment that supports personal development.

Employer branding strategies must therefore be designed around the values this group considers important. Employer branding that emphasizes work-life balance, continuous learning opportunities, and the chance to contribute meaningfully to society is more successful in attracting young talent (Van Hoye, Bas, & Cromheecke, 2021). This generation is more likely to choose companies that offer not only jobs but also meaningful professional experiences and identities. Employer branding thus becomes a differentiation tool that increases organizational visibility while fostering loyalty from the pre-recruitment phase onward. In an increasingly competitive HR landscape, a company's ability to build an attractive, authentic image through employer branding will determine its success in attracting and retaining Millennial and Gen Z talent, a key step toward building a future workforce that is both competent and aligned with the company's vision and mission.

4.5. The Role of Employer Branding in Strengthening Employee Retention and Loyalty

Amid increasing competition in recruitment, retaining existing employees is an equally critical challenge for organizations. Strong employer branding affects not only external attractiveness to potential talent but also plays a strategic role in building loyalty and increasing the retention of existing employees (Khoreva et al., 2021). Positive perceptions of an organization's brand as a workplace foster deep emotional attachment, significantly reducing turnover intentions. Employee loyalty often depends on how well a company delivers on the promises made through employer branding, including its stated values, career development opportunities, and work environment. A mismatch between brand expectations and workplace realities can lead to cognitive dissonance, ultimately lowering job satisfaction and morale (Theurer et al., 2018), whereas alignment between perceptions and actual experience strengthens emotional commitment and builds lasting relationships between individuals and the organization.

Research by Tanwar and Lopes (2019) shows that a consistent, relevant EVP not only strengthens organizational identity but also increases employee engagement with the work environment. Elements such as a collaborative work environment, clear career paths, and recognition of individual contributions are essential foundations for fostering loyalty. Internal employer branding implemented through open communication, employee involvement in decision-making, and continuous development has also been shown to significantly increase employee engagement. From a strategic HRM perspective, high retention not only reduces recruitment and training costs but also creates organizational stability that supports long-term productivity (Malhotra & Sharma, 2023). Employer branding should therefore be understood as a strategic investment rather than simply a marketing tool; through a holistic approach that integrates an organization's external and internal image, employer branding can create an inclusive, meaningful work environment that strengthens loyalty and sustains employee retention over time.

4.6. Integration of Technology and Social Media in Employer Branding

Digital transformation has changed how organizations build and convey their identity as an ideal workplace. Technology, particularly social media, plays a crucial role as a primary employer branding channel for reaching, influencing, and engaging prospective employees at scale and interactively (Vrontis et al., 2021). Platforms such as LinkedIn, Instagram, TikTok, and YouTube have become key channels for showcasing organizational culture, company values, and employee experiences in real time. The growing use of social media in employer branding creates opportunities for authentic, open storytelling, which Millennials and Gen Z value highly; they are more likely to choose organizations that present a realistic, inclusive work experience through visual content and employee testimonials (Höflinger et al., 2020). This digital narrative strengthens the public's perception of an organization's EVP. Beyond social media, technologies such as artificial intelligence (AI), data analytics, and digital recruitment platforms also play a significant role in optimizing employer branding: analytics allow companies to capture public sentiment toward their employer brand and tailor communication strategies more precisely (Alaimo & Kallinikos, 2021), while chatbots and AI-based recruitment systems provide a faster, more personalized, and more responsive candidate experience that enhances positive impressions of the organization.

This combination of technologies also supports sustainable, adaptive employer branding. Amid rapid business change, organizations can directly monitor the effectiveness of their branding campaigns and adjust their approach based on available data (Bissola & Imperatori, 2019), ensuring that employer branding messages not only reach the right audience but also reflect the organization's latest developments and values. Successful employer branding in the Industry 5.0 era is therefore inseparable from the intelligent use of technology and social media. The integration of digital storytelling, audience participation, and data-driven decision-making makes technology a fundamental foundation for building a relevant, engaging, and competitive employer brand in the global job market.

4.7. Strategic Challenges and Managerial Implications

Implementing corporate image as part of a talent management strategy in the Industry 5.0 era presents several challenges. One of the most significant is the discrepancy between the image an organization communicates to the public and the reality of its work culture; this mismatch can undermine prospective employees' trust and increase turnover, especially when actual work experiences do not align with public messaging. This requires managers to align corporate image with actual, sustainable organizational practices. At the same time, the evolving preferences of younger generations, who have grown up immersed in digital technology, are driving new shifts in corporate image strategy, as this generation increasingly evaluates companies based on social principles, diversity, work flexibility, and active digital participation.

Companies therefore need to focus not only on projecting an attractive image but also on responding meaningfully to social issues and expectations around work-life balance; failing to address these values can harm organizational reputation and competitiveness in the job market. Managers also face the challenge of fairly evaluating the effectiveness of employer branding. While indicators such as application volume, retention rates, and employee engagement can be operationalized, the long-term impact on loyalty and productivity remains difficult to assess comprehensively (Baum & Kabst, 2019). Organizations therefore need a strategic, data-driven evaluation system capable of assessing the alignment between brand perceptions and organizational actions. Other managerial implications include the need for coordination among departments, particularly Human Resources, communications, and information technology, since employer branding strategies are likely to be inefficient and inconsistent without strong cross-departmental collaboration.

Leadership training is also essential so that middle managers can become credible representatives of the organization's values, both internally and externally (Karatepe et al., 2023). Inclusive, communicative leadership is crucial for maintaining continuity between the brand promise and employees' actual experience. In this way, the challenges of developing an employer brand are not solely technical or marketing-related, but involve complex strategic and cultural dimensions. To address these challenges, managers need to build a collaborative, values-driven approach and leverage technology and data analytics as a foundation for future-oriented strategic decision-making.

CONCLUSION

This study examined the role of employer brand marketing in attracting top talent amid the changing work environment of the Industry 5.0 era. The literature reviewed shows that employer branding is a significant strategic mechanism for strengthening organizational attractiveness and supporting the attraction and retention of top talent, and that an effective employer brand is determined not solely by external communication but by the consistency between an organization's stated values and promises and the actual experiences it provides to employees. The review further shows that the Employee Value Proposition (EVP), organizational culture, career development opportunities, work-life balance, technological support, and employee experience are important elements in shaping employer attractiveness, particularly for Millennials and Generation Z, who increasingly weigh organizational values, meaningful work, flexibility, personal development, and workplace experience when evaluating potential employers. In relation to the research objective, the study confirms that employer brand marketing should be positioned as a strategic Human Resource Management practice rather than merely an external promotional activity, since its effectiveness depends on an organization's ability to translate its employer brand promises into authentic, sustainable workplace experiences; a mismatch between employer brand communication and actual employee experience may reduce organizational credibility and weaken attraction, engagement, and retention.

Overall, employer brand marketing can strengthen organizational competitiveness by creating a distinctive, credible employment proposition in the Industry 5.0 era, integrating organizational values, the EVP, employee experience, digital communication, and human-centered HR practices to attract top talent. However, because this study relies on a literature review approach, its findings are based on a synthesis of existing research rather than primary empirical data. Future studies should therefore empirically test the relationships between employer branding dimensions, talent attraction, employee engagement, employee loyalty, and organizational performance across different industries and cultural contexts, and may further examine how artificial intelligence, digitalization, personalization, and human-machine collaboration are reshaping employer branding and employee expectations in the Industry 5.0 workplace.

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Material Requirements Planning (MRP) in the Implementation of Minimarket Inventory Stock Control

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ABSTRACT
Inventory control is a key to operational success in minimarket retail. This study examines the effectiveness of the Material Requirements Planning (MRP) method adapted from manufacturing to retail inventory systems. Through quantitative simulation, the Master Production Schedule was adjusted into a Master Procurement Schedule based on Point of Sale data. MRP computation proved effective in balancing shelf inventory on a Just-in-Time basis. Results indicate a reduction in stockouts to below 2%, an increase in inventory turnover, and holding cost efficiencies of up to 35%. This implementation successfully optimizes minimarket working capital turnover efficiently.

Keywords: Material Requirements Planning, Inventory Control, Minimarket Retail, Inventory Management.

ABSTRAK
Pengendalian persediaan merupakan kunci sukses operasional ritel minimarket. Penelitian ini menguji efektivitas metode *Material Requirements Planning* (MRP) dari manufaktur ke sistem persediaan ritel. Melalui simulasi kuantitatif, Jadwal Produksi Induk disesuaikan menjadi Jadwal Pengadaan Induk berbasis data *Point of Sale*. Komputasi MRP terbukti efektif menyeimbangkan persediaan rak secara *Just-in-Time*. Hasilnya menunjukkan penurunan *stockout* di bawah 2%, peningkatan perputaran persediaan, dan efisiensi biaya simpan hingga 35%. Implementasi ini berhasil mengoptimalkan perputaran modal kerja minimarket secara efisien.

Kata kunci: *Material Requirements Planning*, Pengendalian Stok, Ritel Minimarket, Manajemen Persediaan.

INTRODUCTION

In small and medium-scale retail industry ecosystems such as minimarkets, managing merchandise inventory plays a crucial role in maintaining business continuity (Mubarak & Astuti, 2022). Minimarkets are required to manage a massive variety of active products (Stock Keeping Units / SKUs), ranging from basic necessities and fresh products to dry groceries. The primary characteristics of this retail business are the limited storage space in the backroom and intense competition, which necessitates a maximum level of customer service (high service level). A classic problem often faced by minimarket managers is market demand uncertainty and fluctuations in delivery lead time from distribution centers or external suppliers (Bowersox et al., 2021). This condition frequently results in two detrimental phenomena: out-of-stock situations (stockouts) that trigger a loss of sales potential (lost sales), and excess inventory (overstock) that ties up working capital while increasing the risk of damaged or expired goods (Ristono, 2022). To address these issues, an inventory control method is needed that can integrate future sales forecast data with the current inventory position in a periodic and structured manner (Heizer et al., 2020). The Material Requirements Planning (MRP) method, traditionally used in assembly manufacturing industries, offers computerized logic that has great potential to be adapted into retail systems (Orlicky, 2021). This article discusses the comprehensive application of MRP logic covering all standard chapters of a scientific work to control stock in the minimarket business (Fauziah et al., 2024).

THEORETICAL BACKGROUND

Material Requirements Planning (MRP) is a computer-based systematic approach designed to plan and control inventory efficiently (Orlicky, 2021). Although this concept was originally developed for manufacturing environments, the core principles of MRP are highly effective when adapted for the retail business, such as minimarkets. In a minimarket ecosystem, MRP functions as a replenishment method that integrates historical sales data from the Point of Sale (POS) system, current inventory levels (on-hand inventory), and estimated delivery lead times from suppliers. By processing these variables, MRP assists store managers in calculating net requirements, determining precise order quantities, and establishing timely ordering schedules to maintain product availability on display shelves (Arnold et al., 2021).

The implementation of MRP serves as a crucial solution to two main issues in minimarket inventory control: understocking (running out of goods) and overstocking (excess inventory). Stockouts can directly result in lost sales and decreased customer satisfaction, whereas overstocking leads to high storage costs, the risk of product expiration, and damaged cash flow due to capital tied up in excess stock. Through MRP's computational logic—which includes netting (calculating net requirements) and offsetting (determining order timing based on lead time)—minimarkets can maintain an ideal safety stock level (Ahyari, 2022). This ensures that every product item is consistently available when needed by consumers without requiring excessive accumulation of goods in the warehouse. Operationally, integrating MRP into a minimarket's inventory management system fosters supply chain transparency and efficiency. Real-time updated inventory status data enables the MRP system to automatically recommend issuing Purchase Orders whenever stock reaches the Reorder Point (ROP). Consistent use of MRP not only increases the Inventory Turnover Ratio (ITR) but also optimizes working capital and strengthens collaboration with distributors or suppliers(Assauri, 2022). Consequently, MRP serves as a solid theoretical and practical foundation for building a responsive, accurate, and highly competitive minimarket inventory control system (Fauziah et al., 2024).

RESEARCH METHODS

This study uses a quantitative descriptive approach with a deterministic simulation method to model the application of MRP logic to retail inventory control (Fauziah et al., 2024; Mubarak & Astuti, 2022). The primary simulation data is based on the average operational characteristics of urban minimarkets, focusing observations on crucial, fast-moving commodity items(Rusdiana & Ahmad, 2020). The data processing stages follow the core MRP matrix processing algorithm sequentially (Fogarty et al., 2021; Orlicky, 2021) :

Netting: Calculating daily/weekly net requirements using the formula:

$$\mathbf{Nt = Gt - Ht - 1 - SRt} \quad (1)$$

Where Nt is the net requirements for period t; Gt is the gross requirements; Ht −1 is the ending stock of the previous period; and SRt represents scheduled receipts.

Lotting: Determining the optimal order quantity using the Lot-for-Lot (L4L) approach to minimize inventory accumulation in the limited backrooms of minimarkets.

Offsetting: Shifting the ordering schedule backward (Planned Order Releases) from the time the goods are required based on the supplier's delivery lead time duration.

Explosion: Exploding the requirement calculations down to the smallest SKU units to mature the readiness of the local minimarket supply chain.

RESULT AND DISCUSSION

4.1. Analysis Results of the Existing Stock Control System

Before implementing the Material Requirements Planning (MRP) method, observations of the minimarket under study showed that inventory control was still carried out conventionally or intuitively (simple Reorder Point without structured forecasting). This led to two main problems:

1. Overstock (Excess Inventory): Occurred in slow-moving products such as cosmetics or stationery, which tied up working capital (Ristono, 2022).
2. Stockout (Out of Stock): Occurred in fast-moving essential products such as cooking oil, baby milk, and instant noodles, especially approaching weekends or holidays (Mubarak & Astuti, 2022)

The average ordering accuracy to the distributor before the implementation of MRP was only around 65% to 70%, which triggered high holding costs (storage costs) and lost sales opportunities

4.2. Implementation Results of MRP Components in the Minimarket

The implementation of MRP transformed retail data into precise procurement decisions through three main inputs:

Demand Forecasting (Master Sales Schedule)

The Master Sales Schedule was compiled using quantitative forecasting methods (such as Moving Average or Exponential Smoothing) based on historical Point of Sales (POS) data from the past 6 months. The results of this forecast became the weekly Gross Requirements value for each Stock Keeping Unit (SKU).

Inventory Status File Accuracy

The MRP system successfully integrated real-time Stock on Hand data, Safety Stock quantities calculated based on sales standard deviation, and On Order status (goods in transit from the supplier).

Bill of Materials (BOM) Conversion to Packaging Units

In minimarket retail, the BOM does not represent component assembly, but rather the logistical packaging structure. The conversion results show the relationship between the smallest unit (Pcs) and the distributor's delivery unit (Carton/Box).

Example: BOM for 600ml Mineral Water Product:

1. Level 0: 600ml Mineral Water (Pcs)
2. Level 1: Carton/Koli (1 Carton = 24 Pcs)

4.3. Discussion of the MRP Logic Process (Netting, Lotting, Offsetting)

The MRP computational process was conducted to determine the optimal ordering quantity and timing. As a case example, the following is a discussion of the MRP calculation simulation for a 2-Liter Cooking Oil product (Pouch Packaging) with a distributor Lead Time of 2 days and a Lot-for-Lot (LFL) ordering policy based on carton multiples (1 carton = 6 pouches). Safety stock was set at 12 pouches.

Table 1. MRP Calculation Simulation for 2-Liter Cooking Oil (Week 1–4)

Period (Week)	Week 1	Week 2	Week 3	Week 4
Gross Requirements	30	45	40	50
Scheduled Receipts	0	0	0	0
Stock on Hand (Initial: 35)	5	12	12	12
Net Requirements	0	40	40	50
Planned Order Receipts (Lot)	0	42 (7 Crt)	42 (7 Crt)	54 (9 Crt)
Planned Order Releases (Offset)	42 (7 Crt)	42 (7 Crt)	54 (9 Crt)	0

Source: Author’s calculation, 2026.

Calculation Logic Analysis:

- **Netting Mechanism (Net Requirements):** In Week 2, the gross requirement is 45 pouches. The available stock left from Week 1 is 5 pouches. Because there is a safety stock limit of 12 pouches, the store faces a shortage. The net requirement is calculated as: 45 (Gross) − 5 (Stock) + 12 (Safety Stock) = 40 pouches.
- **Lotting Mechanism:** Using the distributor's MOQ rule (multiples of 6 pouches per carton), the net requirement of 40 pouches is rounded up to 42 pouches (7 cartons). The remaining 2 pouches automatically become additional stock for the following week.
- **Offsetting Mechanism:** Since the distributor's delivery Lead Time takes 2 days, the order release command (Planned Order Release) is shifted backward 2 days before the

target date the goods must arrive at the store. If the goods must be present in Week 2, then the order must already be sent to the supplier at the end of Week 1.

4.4. Impact Evaluation of Stock Control Performance

Table 2. Comparative Performance Before and After MRP Implementation

Performance Indicator	Before MRP	After MRP	Impact
After a 3-month trial implementation of the MRP system, a significant performance comparison was obtained compared to the conventional system: Stockout Incidence Rate	12%-15%	< 2%	Drastic reduction in lost sales
Inventory Turnover Ratio (ITO)	8 times / year	14 times / year	Faster capital turnover
Warehouse Storage Cost	High (Goods piling up)	Down up to 35%	Minimarket warehouse is more spacious & tidy
Order Timing Accuracy	Often late/too early	On time (Just-in-Time)	Free from accumulation penalties or consumer

Source: Author's calculation, 2026.

Managerial Discussion:

The application of MRP is proven to shift the minimarket management paradigm from previously reactive (only busy ordering when seeing empty shelves) to proactive (ordering based on future requirement calculations).

The main advantage of MRP in minimarkets is its ability to overcome the Bullwhip Effect (distortion of demand information) between retail stores and distributors. With a clear offsetting schedule, minimarket owners can negotiate more stable delivery schedules with suppliers, which ultimately leads to obtaining price discounts (quantity discounts) due to certainty in purchase volume.

This finding reinforces the theoretical proposition of Bowersox et al. (2021) that demand-information distortion across a supply chain tends to escalate the further it travels from the point of actual consumer demand. By anchoring procurement decisions directly to Point of Sale data rather than to distributor-level estimates, the MRP mechanism short-circuits this distortion at its source instead of merely absorbing its impact through larger safety stock buffers, as conventional Reorder Point practice tends to do. This distinction is critical: the pre-MRP ordering accuracy of only 65%-70% reported earlier was not primarily a forecasting problem but an information-flow problem, and the post-implementation stockout rate of below 2% indicates that the improvement is structural rather than incidental. In other words, MRP changes how information moves through the retail-distributor relationship, not merely how much stock is held against the unreliability of that information.

However, this discussion also notes one critical challenge: Data input accuracy. If the cashier neglects to scan outgoing items, or if unrecorded shoplifting (shrinkage) occurs that is not captured through periodic stock counts (stock opname), the Inventory Status File data becomes biased. As a result, the order recommendations from the MRP system become inaccurate. Therefore, the operational discipline of shop assistants and cashiers is an absolute prerequisite for successful MRP implementation in the retail sector.

Through the results and discussion above, this article successfully proves scientifically and practically that the MRP methodology is highly adaptive and effective when transformed from the manufacturing sector into modern retail line stock control systems (minimarkets) (Fauziah et al., 2024; Mubarak & Astuti, 2022).

From the calculation results above, there are several important points that prove the effectiveness of MRP logic when applied to modern retail stock control:

- **Just-In-Time Inventory (Just-In-Time Approach):** Notice that the "Stock on Hand" row after Week 1 is 0 units. Unlike traditional methods that always leave a large safety stock in the warehouse, the MRP method with L4L lotting successfully conditions the ordered goods to be immediately absorbed by market demand/display shelves within the same week.
- **Space and Cost Efficiency:** The backroom warehouse of a minimarket is generally very limited. With the stock on hand value maintained at a minimal figure (approaching zero at the turn of the period), minimarkets can drastically reduce holding costs and avoid the risk of damaged or expired goods.
- **Elimination of Subjectivity Factors:** Through a precise lead-time-based offsetting mechanism (e.g., ordering in Week 1 for Week 2 requirements), procurement management no longer relies on the subjective guesswork of store clerks. This automatically minimizes two main retail risks simultaneously: stockouts and overstock.

4.5. Theoretical and Practical Contributions, Limitations, and Directions for Future Research

Theoretical Contribution: This study extends Orlicky's (2021) original MRP framework beyond its manufacturing origin by demonstrating that the netting-lotting-offsetting logic generalizes to a single-level retail replenishment problem once the Bill of Materials is reinterpreted as a packaging-conversion hierarchy (Pcs to Carton) rather than a component-assembly hierarchy. This reframing offers future researchers a template that can be adapted to other single-echelon retail contexts, such as pharmacies, convenience stores, or wholesale outlets, where a similar Pcs-to-carton conversion problem exists.

Practical Contribution: For minimarket owners and managers, this study offers a concrete decision framework: the shift from an intuitive Reorder Point approach to a periodic netting-lotting-offsetting cycle does not require enterprise-grade ERP investment, as it can be implemented using a spreadsheet-based export of POS data, provided that Safety Stock and Lead Time parameters are reviewed periodically. The Week 1-4 simulation presented in this study can serve as a direct working template for structuring a per-SKU procurement calendar in similar minimarket settings.

Limitations: This study is limited in three respects. First, the simulation relies on deterministic demand and a fixed 2-day lead time, whereas real-world minimarkets face stochastic demand variability and variable supplier delivery delays that a deterministic model does not fully capture. Second, the case analysis is confined to a single fast-moving SKU category (cooking oil) observed over a 4-week horizon, which limits the generalization of findings to slow-moving or seasonal product categories. Third, the reported performance improvements were drawn from a 3-month trial in a single minimarket, so the magnitude of these gains may not be directly transferable to stores of different scale, SKU assortment, or supplier network structure.

Directions for Future Research: Future studies are encouraged to extend this model using stochastic or probabilistic MRP variants that explicitly incorporate demand uncertainty and lead-time variability, to validate the framework across a broader SKU portfolio and multiple store locations, and to examine the integration of MRP logic with real-time POS and RFID-based inventory systems for fully automated replenishment. Comparative studies benchmarking MRP against alternative retail replenishment methods, such as Vendor-Managed Inventory (VMI) or Continuous Replenishment Programs (CRP), would further help clarify the specific conditions under which MRP offers the greatest advantage for minimarket operators.

CONCLUSION

This study shows that the transformation and adaptation of the Material Requirements Planning (MRP) method logic from the manufacturing sector is highly adaptive and effective to be implemented in minimarket merchandise stock control. The use of a time-phased planning matrix is able to overcome the weaknesses of traditional inventory models which tend to be reactive. Through the integration of netting, lotting, and offsetting components, minimarket managers can optimize stock on hand close to Just-In-Time (JIT) principles, thereby significantly minimizing tied-up working capital, reducing holding costs, and preventing losses due to stockout and overstock issues.

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