

Work Motivation as a Mediator of Compensation and Training Effects on Employee Productivity: A Multi-Plant Study at PT Tri Centrum Fortuna

Jajang Saep^{1✉}, Pras Rendy², Gurawan Dayona³, Kartika Nuradina⁴, Andhika Mochamad Siddiq⁵
(1,2,3,4,5) Master of Management Study Program, Universitas Indonesia Membangun, Indonesia

Abstract: This study examines the role of work motivation in mediating the relationship between compensation, training, and employee productivity at PT Tri Centrum Fortuna Purwakarta and Karawang plants. The research was conducted due to the increasing need to improve employee productivity in the automotive manufacturing industry. A quantitative explanatory approach was employed using Structural Equation Modeling with AMOS (SEM-AMOS). Data were collected through Likert-scale questionnaires distributed to 279 employees consisting of 126 employees from Purwakarta and 153 employees from Karawang. The findings reveal that compensation has no significant effect on work motivation or employee productivity at both plants. In contrast, training has a positive and significant effect on work motivation at both locations, while its effect on productivity is significant only at the Karawang plant. Work motivation significantly improves employee productivity at both plants. Furthermore, work motivation fully mediates the relationship between compensation and productivity and partially mediates the relationship between training and productivity. The study concludes that training and work motivation are more influential than compensation in improving employee productivity. Therefore, companies should strengthen employee training programs and motivational strategies to enhance productivity and organizational performance.

Article history:

Received: 26 May 2026

Revised: 01 June 2026

Accepted: 22 June 2026

Published: 25 June 2026

Keyword:

Compensation, Training, Work Motivation, Work Productivity, Automotive Manufacturing Industry

This is an open-access article under the [CC-BY-SA License](#).



How to cite: Saep, J., Rendy, P., Dayona, G., Nuradina, K., & Siddiq, A. M. (2026). Work Motivation as a Mediator of Compensation and Training Effects on Employee Productivity: A Multi-Plant Study at PT Tri Centrum Fortuna. *Jurnal Ekonomi, Manajemen, dan Bisnis*, 4(2), 490–515. <https://doi.org/10.70716/emis.v4i2.550>

INTRODUCTION

Within the contemporary epoch of worldwide commercial rivalry, the output capacity of personnel has arisen as a paramount factor establishing organizational advantage. Production enterprises, especially entities operating within the Automotive Manufacturing Industry, are compelled to sustain elevated benchmarks of optimization, excellence, and systemic uniformity to ensure survival amidst highly fluid marketplace environments. Employee productivity is not only associated with the quantity of output produced, but also reflects the effectiveness of organizational resource utilization in achieving corporate objectives. At the macroeconomic level, labor productivity also represents a key indicator of national economic growth and industrial competitiveness. According to the Asian Productivity Organization in the Productivity Databook 2023, Indonesia's labor productivity remains relatively lower compared to several other ASEAN countries, indicating that improvements in workforce quality and industrial efficiency remain essential challenges for Indonesia's economic development (Asian Productivity Organization, 2023).

Various systemic dimensions drive the comparatively modest degree of workforce efficiency within Indonesia, namely the prevalence of unregulated employment, disparate employee capabilities, restricted technical integration, and a clustering of low-yield fields. In addition, disparities in productivity across provinces further demonstrate uneven regional economic

✉ Corresponding author: jajang.saep@student.inaba.ac.id

development. Provinces dominated by modern industrial and service sectors generally achieve higher productivity levels compared to regions that still rely heavily on agrarian and informal economic structures. These conditions indicate that efforts to improve productivity must involve not only technological advancement but also strategic human resource management, including compensation systems, employee training, and motivational development (Samosir, 2026).

At the organizational level, similar productivity challenges are also experienced by companies operating in the automotive manufacturing industry, including PT Tri Centrum Fortuna, a company engaged in automotive stamping manufacturing. Based on company production achievement data, the average production realization in 2024 reached only 76.28% for the Purwakarta Plant and 75.63% for the Karawang Plant. In 2025, the productivity level slightly improved to 79.65% for the Purwakarta Plant and 79.18% for the Karawang Plant. However, these achievements still remain below the company's established productivity target of 85%, which had already accounted for machine setting time, problem handling, and operators' basic needs during working hours. Productivity levels below 80% indicate a substantial performance gap and suggest that operational efficiency has not yet reached its optimal level.

This issue becomes increasingly important considering that the automotive stamping industry operates within a highly competitive production environment that demands precision, speed, consistency, and strict quality standards. Low productivity levels may potentially reduce organizational competitiveness, increase production costs, and negatively affect output quality stability. Consequently, companies are required to identify the underlying factors contributing to low employee productivity, particularly factors related to human resource management. Among the various determinants of employee productivity, compensation and training are frequently identified as important organizational instruments for improving employee performance. Adequate compensation can encourage employees to work more effectively by fulfilling economic and psychological needs, while training enhances employee competencies, technical skills, and work efficiency (Yudanegara et al., 2017). However, the effectiveness of compensation and training may not directly translate into improved productivity unless employees possess strong work motivation.

Employee conduct, dedication, and readiness to fulfill corporate objectives are crucially shaped by the strategic function of work motivation. Employees with high motivation tend to demonstrate stronger initiative, better discipline, and greater persistence in completing tasks effectively. In contrast, low motivation may reduce employee engagement and weaken the positive impact of organizational policies such as compensation and training programs. Therefore, motivation can be understood as a mediating mechanism through which compensation and training influence employee productivity (Tumengkol et al., 2025). Such a viewpoint holds distinct salience within workforce-heavy and complex operational sectors like automotive stamping, wherein personnel execution is swayed by psychological and drive-related dynamics alongside technical capabilities (Gunawan et al., 2024).

The associations among compensation, training, work motivation, and work productivity have been scrutinized by multiple prior investigations. Research conducted by (Soetrisno, 2009) concluded that compensation significantly affects employee productivity; however, the study focused only on direct relationships without examining the mediating role of work motivation. Similarly, studies by (Gunawan et al., 2024; Wijayanti & Sugianto, 2024) found that training positively influences employee productivity, yet these studies did not investigate motivational mechanisms underlying such relationships. Additionally, the capacity of work motivation to provide mediation between institutional elements and staff execution was illustrated by (Pratiwi & Rizky,

2024; Rahmawati, 2023) though service-centric fields like banking and hospitality primarily framed those inquiries. Consequently, there remains limited empirical evidence regarding the mediating role of work motivation within heavy manufacturing industries, particularly the automotive stamping sector.

Previous studies mostly examined compensation, training, and work motivation separately in influencing employee productivity, while limited research has analyzed work motivation as a mediating variable in the automotive stamping manufacturing sector. In addition, prior studies generally focused on single-plant organizations, creating limited insight into productivity dynamics across different operational environments.

This study offers novelty by developing an integrated mediation model that examines the effects of compensation and training on employee productivity through work motivation using a multi-plant approach at PT Tri Centrum Fortuna's Purwakarta and Karawang plants. The findings are expected to enrich human resource management studies, particularly in the automotive manufacturing industry.

RESEARCH METHOD

Research Design

This study employed a quantitative approach with an explanatory research design to examine the causal relationships between compensation, training, work motivation, and employee productivity at PT Tri Centrum Fortuna, Purwakarta and Karawang Plants.

Population and Sample

The population consisted of 924 operational employees working in the Production, Quality Control, Maintenance, PPIC, Engineering, and Supporting divisions at PT Tri Centrum Fortuna. Operational employees were selected because they are directly associated with compensation policies, training implementation, work motivation, and productivity achievement within the company.

The sample size was initially determined using the Slovin formula with a 5% margin of error, resulting in 279 respondents. To ensure methodological adequacy for Structural Equation Modeling (SEM), the sample size was further evaluated based on SEM sample size recommendations. According to (Hair Jr et al., 2023) SEM requires a minimum sample size of 200 observations or approximately 5–10 respondents for each observed indicator. Given that this study employed 20 observed indicators across four latent constructs, the recommended sample size ranged from 100 to 200 respondents. Therefore, the final sample of 279 respondents exceeded the minimum SEM requirements and was considered sufficient to ensure stable parameter estimation and reliable hypothesis testing. The respondents included active permanent and temporary employees with a minimum working period of one year to ensure adequate understanding of the company's compensation and training systems.

Sampling Technique

This study applied a probability sampling method using simple random sampling. Sample distribution was conducted proportionally across divisions and plant locations to obtain representative data from both operational environments.

Data Sources and Collection Techniques

This study used primary and secondary data sources. Primary data were collected through questionnaires distributed to respondents, while secondary data were obtained from company documentation such as employee records, productivity reports, and training activity data. Data collection techniques included questionnaires, documentation, and non-participant observation. The questionnaire was used as the main research instrument to measure compensation, training, work motivation, and employee productivity using a 5-point Likert scale. Observation was conducted to examine workplace conditions and employee activities directly within the production environment.

Variable Measurement

The research variables consisted of compensation and training as independent variables, work motivation as the mediating variable, and employee productivity as the dependent variable. The operationalization of variables was conducted by translating theoretical concepts into measurable indicators based on established human resource management theories. Questionnaire items were adapted from previous studies and relevant theoretical frameworks to ensure conceptual validity.

All variables were measured using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The questionnaire instrument was developed based on theoretical indicators and subsequently tested through validity and reliability analysis before the main data collection process. Validity testing was conducted using product-moment correlation and confirmatory factor analysis (CFA), while reliability testing employed Cronbach's Alpha and Construct Reliability (CR). Instruments were considered valid if factor loadings exceeded 0.50 and reliable if Cronbach's Alpha and CR values were greater than 0.70.

Table 1. Variable Measurement Indicators

Variable	Theoretical Definition	Indicators	Example Items	Measurement Scale	Sources
Compensation	Compensation refers to all forms of financial and non-financial rewards provided by the company to employees in return for their contributions	1. Basic salary 2. Incentives and bonuses 3. Allowances and facilities 4. Compensation fairness 5. Suitability of compensation with workload	"The salary I receive is appropriate for my job responsibilities."	Likert Scale 1–5	(Dessler et al., 2015; Gerhart et al., 2020; Mondy & Martocchio, 2016)
Training	Training is a systematic process aimed at improving employees' knowledge, skills, and abilities through structured learning methods	1. Relevance of training materials 2. Effectiveness of training methods 3. Instructor competence 4. Training frequency 5. Benefits of training	"The training programs improve my work skills and understanding of SOPs."	Likert Scale 1–5	(Armstrong & Taylor, 2023; Mathis & Jackson, 2011; Noe & Peacock, 2008)
Work Motivation	Work motivation is a psychological process that	1. Internal motivation 2. External	"I am motivated to achieve the production"	Likert Scale 1–5	(Herzberg et al., 1959; Maslow,

	influences the motivation 3. targets assigned 1943; direction, and Work readiness to me.” Robbins & intensity, and 4. Persistence Judge, 2019) persistence of and effort 5. Job employee satisfaction behavior at work
Employee Productivity	Employee 1. Work output 2. “I can complete Likert Scale (Gomes & productivity refers to the ability of Quality of work work according to 1–5 Neves, 2011; employees to results 3. the specified Sink et al., produce work Timeliness 4. production 1994; output effectively Work efficiency 5. targets.” Sutrisno, and efficiently Accuracy and 2023) according to SOP compliance organizational standards

The data analysis process was carried out systematically using Structural Equation Modeling (SEM) with the AMOS approach. Before testing the hypotheses, the research instrument was first evaluated through validity and reliability testing. Construct validity was tested using Confirmatory Factor Analysis (CFA) by examining the standardized loading factor value, where indicators with loading factors ≥ 0.70 were considered valid (Hair et al., 2019). Convergent validity was assessed through the Average Variance Extracted (AVE) value, with $AVE \geq 0.50$ indicating that the construct was able to explain more than 50% of the indicator variance. Discriminant validity was evaluated using the Fornell–Larcker criterion, where the square root of AVE for each construct had to be greater than the correlation value with other constructs. Reliability testing was conducted using Cronbach’s Alpha and Composite Reliability (CR), with values ≥ 0.70 indicating good internal consistency and reliability of the research instrument.

Data Analysis Technique

Data analysis was performed using Structural Equation Modeling (SEM) with AMOS 24 software. The analysis stages included validity and reliability testing, Confirmatory Factor Analysis (CFA), evaluation of the Goodness of Fit model, and path analysis. Furthermore, mediation testing was conducted using the bootstrapping method to analyze the indirect effect of work motivation on the relationship between compensation, training, and employee productivity.

RESULTS AND DISCUSSION

Research Results Purwakarta Plant

Construct Validity Test

To ascertain the capacity of investigative metrics to establish the unobserved variables analyzed within this research—specifically compensation, training, work motivation, and work productivity—the construct validity assessment was executed. This verification within the current study applied the Confirmatory Factor Analysis (CFA) approach via the AMOS application. A metric achieved validity provided its Standardized Loading Factor reached a value greater than or equal to 0.50 and its probability value (p-value) remained less than 0.05.

Table 2. Construct Validity Test Results

Variable	Indicator	Standardized Loading Factor	Criteria	Remark
Compensation	X1_1	0.819	> 0.50	Valid
	X1_2	0.854	> 0.50	Valid

	X1_3	0.869	> 0.50	Valid
	X1_4	0.907	> 0.50	Valid
	X1_5	0.545	> 0.50	Valid
Training	X2_1	0.841	> 0.50	Valid
	X2_2	0.929	> 0.50	Valid
	X2_3	0.833	> 0.50	Valid
	X2_4	0.808	> 0.50	Valid
	X2_5	0.834	> 0.50	Valid
Motivation	Y_1	0.702	> 0.50	Valid
	Y_2	0.756	> 0.50	Valid
	Y_3	0.801	> 0.50	Valid
	Y_4	0.784	> 0.50	Valid
	Y_5	0.768	> 0.50	Valid
Productivity	Z_1	0.805	> 0.50	Valid
	Z_2	0.786	> 0.50	Valid
	Z_3	0.887	> 0.50	Valid
	Z_4	0.802	> 0.50	Valid
	Z_5	0.873	> 0.50	Valid

The results of the construct validity test indicate that all research indicators met the validity requirements, as evidenced by standardized loading factor values above 0.50, Critical Ratio (CR) values exceeding 1.96, and significance values below 0.05. This demonstrates that all indicators were capable of accurately representing their respective latent constructs. In the compensation variable, indicator X1_4 showed the strongest contribution with a loading factor of 0.907, while X1_5 had the lowest value at 0.545 but still met the validity threshold. For the training variable, all indicators were valid, with X2_2 providing the highest contribution (0.929). In the work motivation variable, indicator Y_3 showed the strongest representation with a loading factor of 0.801. Meanwhile, for employee productivity, indicator Z_3 had the highest loading factor value of 0.887, indicating its dominant role in reflecting the productivity construct. Overall, all indicators used in this study fulfilled the construct validity criteria and were considered appropriate for further statistical analysis.

Convergent Validity Test

To ascertain how well the items of each analyzed variable could account for their underlying dimensions, a convergent validity assessment was executed. Within this investigation, the evaluation of convergent validity relied on inspecting the factor loadings alongside the Average Variance Extracted (AVE) metrics. Acceptable convergent validity was achieved by a construct if its factor loading reached ≥ 0.50 and its AVE metric was ≥ 0.50 .

Table 3. Convergent Validity Test Results

Variable	Number of Indicators	Loading Factor Range	AVE Value	Cut Off	Remark
Compensation	5	0.545 – 0.907	0.635	≥ 0.50	Valid
Training	5	0.808 – 0.929	0.707	≥ 0.50	Valid
Motivation	5	0.702 – 0.801	0.592	≥ 0.50	Valid
Productivity	5	0.786 – 0.887	0.684	≥ 0.50	Valid

The results of the convergent validity test demonstrate that all constructs and indicators used in this study fulfilled the required validity criteria. This is evidenced by factor loading values above 0.50 and AVE values exceeding 0.50 for all variables. These findings indicate that each latent construct was able to adequately explain the variance of its indicators. Among the variables, the

training construct showed the strongest convergent validity with the highest AVE value of 0.707, while the motivation construct recorded the lowest AVE value of 0.592 but still met the acceptable threshold. Overall, the measurement model can be considered valid and suitable for further structural model analysis using SEM-AMOS.

Discriminant Validity Test (Fornell–Larcker Criterion)

To evaluate the extent to which each latent construct was empirically distinct from other constructs in the model, discriminant validity testing was conducted using the Fornell–Larcker criterion. This approach compared the square root of the Average Variance Extracted ($\sqrt{\text{AVE}}$) for each construct with the correlation values among constructs. A construct was considered to have adequate discriminant validity when its $\sqrt{\text{AVE}}$ value was greater than its correlations with other constructs. The results indicated that all constructs satisfied this criterion, demonstrating that each variable represented a unique concept and did not significantly overlap with other variables in the structural model.

Table 4. Discriminant Validity Test Results

Construct	$\sqrt{\text{AVE}}$	Compensation	Training	Motivation	Productivity	Remark
Compensation	0.797	0.797	0.526	0.366	0.289	Valid
Training	0.841	0.526	0.841	0.663	0.542	Valid
Motivation	0.769	0.366	0.663	0.769	0.672	Valid
Productivity	0.827	0.289	0.542	0.672	0.827	Valid

The results of the discriminant validity test indicate that all constructs in this study fulfilled the Fornell–Larcker criterion, as the square root of AVE ($\sqrt{\text{AVE}}$) for each construct was greater than the correlations with other constructs. This demonstrates that each variable possessed adequate discriminant validity and was empirically distinct from the others. The compensation variable showed a $\sqrt{\text{AVE}}$ value of 0.797, the training variable 0.841, the work motivation variable 0.769, and the employee productivity variable 0.827, all of which exceeded their inter-construct correlation values. Overall, these findings confirm that each construct measured a unique concept without significant overlap, indicating that the measurement model had good discriminant validity and was suitable for further structural analysis.

Reliability Test

To gauge how consistently the metrics evaluate the underlying conceptual frameworks, a reliability analysis was executed. The current investigation utilized the Composite Reliability value to perform this assessment. Dependable execution is established for any variable displaying a Composite Reliability score equal to or greater than 0.70.

Table 5. Construct Reliability Test Results

Variable	Σ Loading	$(\Sigma \text{ Loading})^2$	Σ Error Variance	CR	Cut Off	Remark
Compensation	3.994	15.952	1.725	0.902	≥ 0.70	Reliable
Training	4.245	18.020	1.387	0.929	≥ 0.70	Reliable
Motivation	3.811	14.524	2.090	0.874	≥ 0.70	Reliable
Productivity	4.153	17.247	1.542	0.918	≥ 0.70	Reliable

The reliability test results indicate that all constructs in this study achieved Composite Reliability values above 0.70, demonstrating that all variables met the required reliability standards. The compensation variable obtained a Composite Reliability value of 0.902, the training variable 0.929, the work motivation variable 0.874, and the employee productivity variable 0.918. These findings confirm that all indicators exhibited strong internal consistency and were able to measure their respective constructs reliably. Among the variables, the training construct showed the highest

reliability level, while the work motivation construct recorded the lowest reliability value but still exceeded the acceptable threshold. Overall, the research instrument can be considered reliable and suitable for further structural model analysis.

Model Feasibility Test

To ascertain how effectively the hypothesized analytical framework clarifies the interactions among the variables under review, a Goodness of Fit assessment was carried out. This diagnostics process was executed by matching the computed Goodness of Fit benchmarks against established threshold criteria. According to (Ghozali, 2018) a SEM model can be considered feasible if most of the Goodness of Fit criteria are fulfilled, even though one or two indices may still fall within the marginal fit category. A similar view was expressed by (Hair Jr et al., 2023) who stated that SEM model evaluation does not require all fit indices to be perfectly satisfied, but rather emphasizes the fulfillment of the majority of model fit measures.

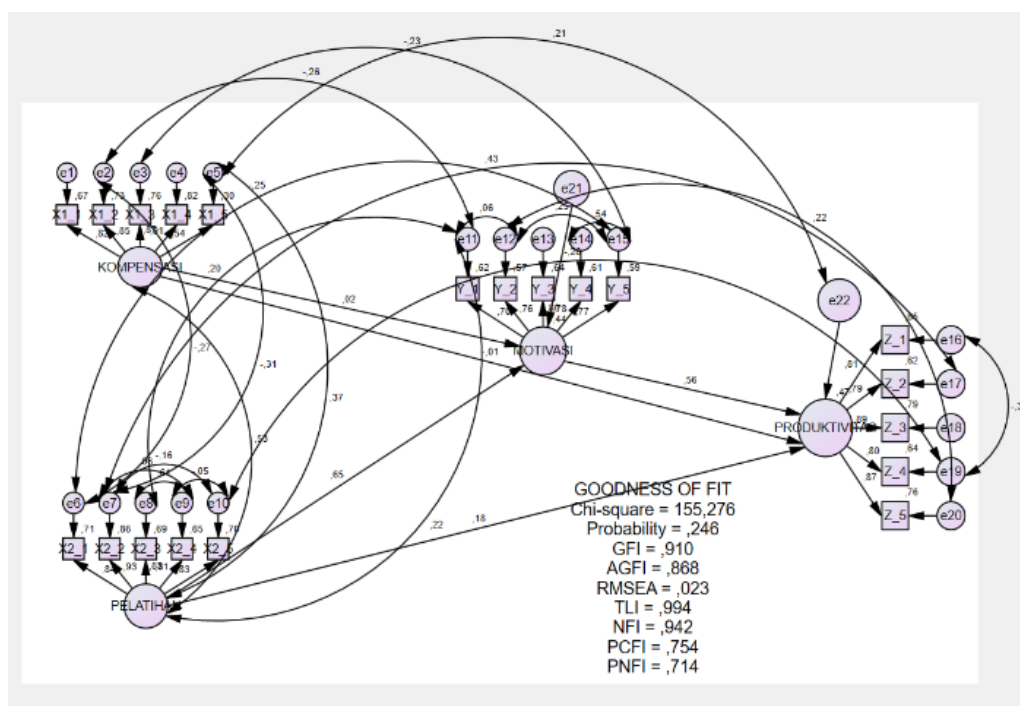


Figure 1. Model Feasibility Test – Purwakarta Plant

Table 6. Model Feasibility Test Results

Goodness of Fit Index	Cut Off Value	Model Result	Criteria
Chi-Square	Expected to be small	155.276	Fit
Probability	≥ 0.05	0.246	Fit
GFI	≥ 0.90	0.910	Fit
AGFI	≥ 0.90	0.868	Marginal Fit
RMSEA	≤ 0.08	0.023	Fit
TLI	≥ 0.95	0.994	Fit
NFI	≥ 0.90	0.942	Fit
PCFI	≥ 0.50	0.754	Fit
PNFI	≥ 0.50	0.714	Fit

The Goodness of Fit test results indicate that the proposed structural model achieved an acceptable level of fit with the observed data. This is evidenced by the Chi-Square value of 155.276 and a probability value of 0.246, which exceeded the minimum requirement of 0.05, indicating that the model fit the data well. The GFI value of 0.910, TLI value of 0.994, and NFI value of 0.942 also surpassed the recommended threshold of 0.90, confirming good model fit. In addition, the RMSEA value of 0.023 was far below the maximum limit of 0.08, demonstrating an excellent level of model approximation. Although the AGFI value of 0.868 was slightly below the recommended cutoff of 0.90, it was still considered acceptable as a marginal fit within SEM analysis. Furthermore, the PCFI value of 0.754 and PNFI value of 0.714 exceeded 0.50, indicating that the model maintained satisfactory parsimony. Overall, these findings confirm that the structural model was feasible, statistically acceptable, and suitable for further hypothesis testing and structural analysis

Path Coefficient Test (Path Analysis)

To ascertain the strength of inter-variable associations within the conceptual framework, encompassing both direct and mediated pathways, an assessment of the path coefficient was executed. Investigators completed this evaluation by carefully scrutinizing the path coefficient parameters (standardized regression weights), Critical Ratio (CR) metrics, and probability values (p-values). Covariation between distinct constructs achieved statistical significance provided that the observed CR metric exceeded 1.96 and the corresponding probability value (p-value) remained below 0.05.

Table 7. Path Coefficient Test Results (Path Analysis)

Path Relationship	Path Coefficient	Direction of Relationship	Interpretation
Compensation → Motivation	0.025	Positive	Very Weak
Training → Motivation	0.650	Positive	Strong
Compensation → Productivity	-0.009	Negative	Very Weak
Training → Productivity	0.177	Positive	Weak
Motivation → Productivity	0.558	Positive	Strong

The structural model test results indicate that training had a positive and significant effect on work motivation, while work motivation also showed a positive and significant influence on employee productivity. This finding demonstrates that effective training programs were able to enhance employees' motivation, which subsequently contributed to higher productivity levels. In contrast, compensation did not show a significant effect on either work motivation or employee productivity, as indicated by p-values greater than 0.05. Similarly, the direct effect of training on employee productivity was positive but not statistically significant. Overall, these results suggest that work motivation played an important mediating role in linking training with employee productivity, whereas compensation was not a determining factor in improving employee motivation or productivity within the research context.

Work Motivation Mediation Test

To evaluate whether the work motivation construct functioned as a mechanism to transmit the collective effects of compensation and training onto employee productivity, a mediation assessment was implemented. Researchers executed this diagnostic procedure by calculating the scale of immediate, unmediated, and cumulative impacts linking the various dimensions within the analytical framework.

Table 8. Results of the Work Motivation Mediation Test

Mediation Path	Direct	Indirect	Total	Type	of
----------------	--------	----------	-------	------	----

	Effect	Effect	Effect	Mediation
Compensation → Motivation → Productivity	-0.009	0.014	0.005	Full Mediation
Training → Motivation → Productivity	0.177	0.362	0.539	Partial Mediation

The mediation test results indicate that work motivation played an important role in mediating the relationship between compensation, training, and employee productivity. The relationship between compensation and employee productivity showed a small negative direct effect (-0.009), while the indirect effect through work motivation was positive (0.014), resulting in a total effect of 0.005. These findings suggest that compensation did not directly improve employee productivity, but its influence could be realized indirectly through increased work motivation. Therefore, work motivation acted as a full mediating variable in the relationship between compensation and employee productivity.

Furthermore, the relationship between training and employee productivity produced a direct effect of 0.177 and a larger indirect effect through work motivation of 0.362, resulting in a total effect of 0.539. Since both direct and indirect effects were present, work motivation functioned as a partial mediating variable in the relationship between training and employee productivity. Overall, these results confirm that work motivation had a crucial role in enhancing employee productivity, particularly by strengthening the effect of training and mediating the influence of compensation on productivity.

Direct Effect Hypothesis Testing

Derived from the statistical processing executed via SEM, the final determinations for the investigative propositions comprise the following:

Table 9. Hypothesis Testing Results

			Estimate	S.E.	C.R.	P
Motivation	<---	Compensation	0.016	0.057	0.279	0.780
Motivation	<---	Training	0.533	0.094	5.650	***
Productivity	<---	Compensation	-0.007	0.064	-0.106	0.916
Productivity	<---	Training	0.176	0.108	1.633	0.102
Productivity	<---	Motivation	0.677	0.138	4.912	***

1. H1 was rejected because compensation did not significantly influence employee work motivation, as indicated by a coefficient value of 0.016 and a p-value of 0.780 (> 0.05).
2. H2 was accepted because training had a positive and significant effect on employee work motivation, as indicated by a coefficient value of 0.533 and a p-value of 0.000 (< 0.05).
3. H3 was rejected because compensation did not significantly affect employee productivity, as indicated by a coefficient value of -0.007 and a p-value of 0.916 (> 0.05).
4. H4 was rejected because training did not significantly affect employee productivity, as indicated by a coefficient value of 0.176 and a p-value of 0.102 (> 0.05).
5. H5 was accepted because work motivation had a positive and significant effect on employee productivity, as indicated by a coefficient value of 0.677 and a p-value of 0.000 (< 0.05).

Indirect Effect Hypothesis Testing

Relying on the outcomes of the indirect pathway evaluation via the bootstrapping technique within the structural model, the following deductions were established concerning the function of work motivation as an intervening asset:

Table 10. Hypothesis Testing Results

Dependent Variable	Training	Compensation	Motivation	Productivity
Motivation	0.000	0.000	0.000	0.000
Productivity	0.360	0.011	0.000	0.000

1. H6 was accepted because work motivation mediated the effect of compensation on employee productivity, as indicated by the indirect effect (0.011) being greater than the direct effect (-0.007).
2. H7 was accepted because work motivation mediated the effect of training on employee productivity, as indicated by the indirect effect (0.360) being greater than the direct effect (0.176).

Research Results Karawang Plant

Construct Validity Test

To ascertain if every metric successfully quantified and illustrated the unobserved variables deployed within this inquiry, the construct soundness evaluation was executed. The Standardized Loading Factor (SLF) baseline of 0.50 was applied to appraise metric accuracy. Metrics displaying loading scores exceeding 0.50 are deemed sound and proficient in mirroring the specific dimension under evaluation.

Table 11. Construct Validity Test Results

Variable	Indicator	Standardized Loading Factor	Cut Off	Description
Compensation	X1_1	0.827	0.5	Valid
	X1_2	0.842	0.5	Valid
	X1_3	0.856	0.5	Valid
	X1_4	0.910	0.5	Valid
	X1_5	0.809	0.5	Valid
Training	X2_1	0.821	0.5	Valid
	X2_2	0.909	0.5	Valid
	X2_3	0.864	0.5	Valid
	X2_4	0.824	0.5	Valid
	X2_5	0.820	0.5	Valid
Motivation	Y_1	0.704	0.5	Valid
	Y_2	0.775	0.5	Valid
	Y_3	0.767	0.5	Valid
	Y_4	0.773	0.5	Valid
	Y_5	0.794	0.5	Valid
Productivity	Z_1	0.846	0.5	Valid
	Z_2	0.804	0.5	Valid
	Z_3	0.803	0.5	Valid
	Z_4	0.832	0.5	Valid
	Z_5	0.830	0.5	Valid

The construct validity test results presented in Table 10 indicate that all indicators fulfilled the required validity criteria, as evidenced by standardized loading factor values above 0.50. This demonstrates that each indicator was able to adequately represent its corresponding latent construct, confirming that all questionnaire items were valid and appropriate for further analysis. In the compensation variable, factor loadings ranged from 0.809 to 0.910, with indicator X1_4 showing the highest contribution in representing the construct. For the training variable, factor loadings ranged from 0.820 to 0.909, where indicator X2_2 emerged as the strongest indicator. Meanwhile, the motivation variable showed factor loadings between 0.704 and 0.794, with indicator Y_5 having

the highest loading factor. In the employee productivity variable, all indicators recorded loading factor values above 0.80, ranging from 0.803 to 0.846, with indicator Z_1 providing the strongest representation of the construct. Overall, these findings confirm that all indicators across the compensation, training, work motivation, and employee productivity variables satisfied the construct validity requirements and were suitable for subsequent reliability and structural model testing using SEM.

Convergent Validity Test

To identify the degree to which items inside a construct maintain elevated levels of correlation when clarifying the observed latent factor, a convergent validity analysis was performed. Within this project, evaluating convergent validity involved examining the Standardized Loading Factor (SLF) benchmarks alongside Average Variance Extracted (AVE) measures. Compliance with convergent validity prerequisites is attained by a construct provided it registers a factor loading ≥ 0.50 and an AVE score ≥ 0.50 .

Table 12. Convergent Validity Test Results

Variable	Number of Indicators	Loading Range	Factor AVE Value	Cut Off	Description
Compensation	5	0.809 – 0.910	0.722	≥ 0.50	Valid
Training	5	0.820 – 0.909	0.719	≥ 0.50	Valid
Motivation	5	0.704 – 0.794	0.583	≥ 0.50	Valid
Productivity	5	0.803 – 0.846	0.678	≥ 0.50	Valid

The convergent validity test results presented in Table 12 indicate that all variables achieved Average Variance Extracted (AVE) values above the required threshold of 0.50, confirming that all constructs satisfied the convergent validity criteria. The compensation variable obtained the highest AVE value of 0.722, demonstrating that its indicators strongly represented the latent construct. The training variable also showed a high AVE value of 0.719, indicating good consistency among its indicators in explaining the construct. Meanwhile, the work motivation variable recorded an AVE value of 0.583, which, although lower than the other variables, still exceeded the minimum criterion and therefore remained valid. The employee productivity variable achieved an AVE value of 0.678, indicating that its indicators effectively represented the productivity construct. Overall, these findings confirm that all constructs were able to explain more than 50% of the variance of their indicators, meaning that the research instrument possessed adequate convergent validity and was appropriate for further structural analysis.

Discriminant Validity Test (Fornell–Larcker Criterion)

To verify that every construct within the investigation maintains unique attributes and avoids conceptual intersection with alternative dimensions, a discriminant validity analysis was executed. The current inquiry appraised discriminant validity via the Fornell–Larcker framework through matching the square root of the Average Variance Extracted ($\sqrt{\text{AVE}}$) against the inter-construct correlation metrics. Compliance with discriminant validity conditions is achieved by a construct provided that its $\sqrt{\text{AVE}}$ measurement remains greater than its correlation coefficients with companion structures.

Table 13. Discriminant Validity Test Results

Construct	$\sqrt{\text{AVE}}$	Compensation	Training	Motivation	Productivity	Description
Compensation	0.850	0.850	0.544	0.390	0.325	Valid
Training	0.848	0.544	0.848	0.646	0.596	Valid

Motivation	0.764	0.390	0.646	0.764	0.682	Valid
Productivity	0.823	0.325	0.596	0.682	0.823	Valid

The discriminant validity test results presented in Table 13 indicate that all constructs fulfilled the Fornell–Larcker criterion, as the square root of AVE ($\sqrt{\text{AVE}}$) for each variable was greater than its correlations with other variables. The compensation construct achieved a $\sqrt{\text{AVE}}$ value of 0.850, exceeding its correlations with training, work motivation, and employee productivity, indicating strong conceptual distinctiveness. Similarly, the training variable recorded a $\sqrt{\text{AVE}}$ value of 0.848, which was higher than its correlations with other constructs, confirming adequate discriminant validity. The work motivation variable obtained a $\sqrt{\text{AVE}}$ value of 0.764, which also surpassed its correlations with compensation, training, and productivity, despite its relatively strong relationship with productivity. Furthermore, the employee productivity variable showed a $\sqrt{\text{AVE}}$ value of 0.823, exceeding all correlation values with the remaining constructs. Overall, these findings confirm that all variables possessed sufficient discriminant validity and represented distinct theoretical concepts without significant overlap, indicating that the measurement model was appropriate for further structural analysis.

Reliability Test

To ascertain the degree of internal consistency features held by the operational metrics when quantifying the hidden dimensions within this inquiry, a construct dependability analysis was performed. Investigators evaluated model consistency using Composite Reliability (CR) metrics, which were derived directly from the Standardized Loading Factor outputs computed via Confirmatory Factor Analysis (CFA). An analyzed dimension is deemed stable provided that its recorded Composite Reliability (CR) magnitude reaches or exceeds 0.70.

Table 14. Construct Reliability Test Results

Variable	Σ Loading	$(\Sigma \text{ Loading})^2$	Σ Error Variance	CR	Cut Off	Description
Compensation	4.244	18.011	1.391	0.928	≥ 0.70	Reliable
Training	4.238	17.961	1.403	0.928	≥ 0.70	Reliable
Motivation	3.813	14.539	2.087	0.874	≥ 0.70	Reliable
Productivity	4.115	16.933	1.612	0.913	≥ 0.70	Reliable

The reliability test results presented in Table 14 indicate that all constructs achieved Composite Reliability (CR) values above the required threshold of 0.70, confirming that all variables met the construct reliability criteria. The compensation and training variables each recorded a CR value of 0.928, demonstrating excellent internal consistency among their indicators. The work motivation variable obtained a CR value of 0.874, indicating satisfactory reliability despite being lower than the other variables. Meanwhile, the employee productivity variable achieved a CR value of 0.913, reflecting a high level of consistency in measuring the productivity construct. Overall, these findings confirm that all constructs were reliable and that the research instrument was stable and appropriate for further structural model evaluation using SEM.

Model Feasibility Test

To ascertain how effectively the structural framework designed within this inquiry clarifies the interactions linking the variables, a model feasibility analysis, or Goodness of Fit (GOF) assessment, was executed. Appraising framework alignment within this investigation involved multiple widely implemented fit metrics from the SEM methodology, specifically Chi-square, Probability, GFI, AGFI, RMSEA, TLI, NFI, PCFI, and PNFI.

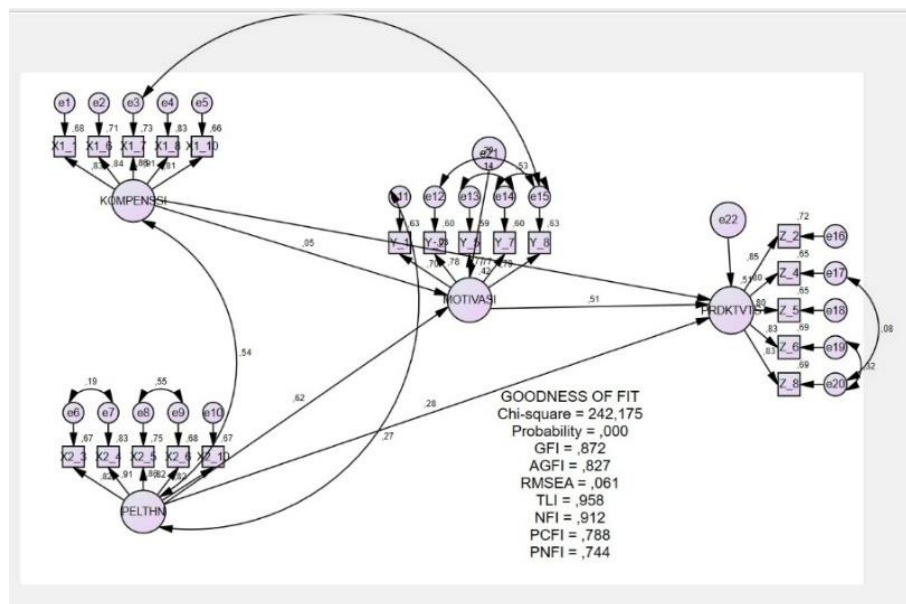


Figure 2. Model Feasibility Test – Karawang Plant

Table 15. Goodness of Fit Test Results

Goodness of Fit Index	Cut Off Value	Model Result	Criteria
Chi-Square	Expected to be small	242.175	Marginal Fit
Probability	≥ 0.05	0.000	Poor Fit
GFI	≥ 0.90	0.872	Marginal Fit
AGFI	≥ 0.90	0.827	Marginal Fit
RMSEA	≤ 0.08	0.061	Fit
TLI	≥ 0.95	0.958	Fit
NFI	≥ 0.90	0.912	Fit
PCFI	≥ 0.50	0.788	Fit
PNFI	≥ 0.50	0.744	Fit

The Goodness of Fit test results presented in Table 15 indicate that the structural model achieved an acceptable level of fit and was suitable for further hypothesis testing. Although the Chi-square value of 242.175 and the probability value of 0.000 did not fully meet the ideal criteria, these results are still considered acceptable because the Chi-square statistic is highly sensitive to sample size. Several other important fit indices demonstrated satisfactory results, including RMSEA = 0.061, which was below the maximum threshold of 0.08, indicating a good approximation of the model to the observed data. In addition, the TLI value of 0.958 and NFI value of 0.912 exceeded the recommended cut-off values, confirming good model fit. The GFI value of 0.872 and AGFI value of 0.827 were categorized as marginal fit because they were slightly below 0.90; however, these values were still considered acceptable due to their proximity to the recommended threshold.

Furthermore, the PCFI value of 0.788 and PNFI value of 0.744 indicated that the model maintained adequate parsimony. Overall, based on the multiple fit indices approach and supported by relevant SEM theory, the structural model was considered feasible, theoretically supported, and appropriate for further structural analysis and hypothesis testing.

Path Coefficient Test (Path Analysis)

To evaluate the exact scope of unmediated impacts linking hidden dimensions inside the conceptual framework, path analysis was performed. Within this project, path coefficient parameters were derived from the Standardized Regression Weights output calculated via SEM using AMOS. The orientation and intensity of inter-variable dynamics are reflected by these path coefficient metrics, with elevated estimates pointing to more robust linkages between dimensions. Direct, parallel covariation is denoted by positive scores, whereas negative outcomes indicate an inverse association.

Table 16. Path Coefficient Test Results

Relationship Path	Path Coefficient	Direction of Relationship	Interpretation
Compensation → Motivation	0.05	Positive	Very Weak
Training → Motivation	0.62	Positive	Strong
Compensation → Productivity	0.05	Positive	Very Weak
Training → Productivity	0.28	Positive	Moderate
Motivation → Productivity	0.51	Positive	Strong

The path coefficient analysis results presented in Table 16 indicate that all relationships among variables showed positive coefficients, meaning that improvements in one variable tended to increase the related variable. The relationship between compensation and work motivation produced a coefficient value of 0.05, indicating a positive but very weak effect. This suggests that compensation contributed only slightly to increasing employee motivation. In contrast, training showed a strong positive effect on work motivation with a path coefficient of 0.62, demonstrating that improved training programs significantly enhanced employees' motivation levels. Furthermore, the relationship between compensation and employee productivity also recorded a coefficient value of 0.05, indicating a very weak direct influence on productivity. The effect of training on employee productivity produced a coefficient value of 0.28, reflecting a moderate positive contribution. Meanwhile, work motivation had the strongest positive influence on employee productivity, with a path coefficient value of 0.51, indicating that higher employee motivation substantially improved productivity. Overall, these findings suggest that training was the most influential factor in increasing work motivation, while work motivation became the strongest determinant of employee productivity. Therefore, work motivation can be considered an important mediating variable in strengthening the effects of compensation and training on employee productivity.

Work Motivation Mediation Test

The mediation trial was executed to ascertain if work motivation can provide mediation for the interplay of compensation and training regarding work productivity. Comparing the straightforward, oblique, and cumulative outcome measures within the SEM structural configuration enabled the execution of this mediation analysis. A middle factor achieves mediation for the pathway if the oblique impact via the intermediary element yields a significant input to the criterion variable.

Table 17. Work Motivation Mediation Test Results

Mediation Path	Direct Effect	Indirect Effect	Total Effect	Type of Mediation
Compensation → Motivation →	-0.026	0.028	0.002	Full Mediation

Productivity

Training → Motivation → Productivity 0.279 0.315 0.595 Partial Mediation

The mediation analysis results indicate that work motivation played a significant intervening role in the relationship between compensation, training, and employee productivity. The relationship between compensation and employee productivity showed a negative direct effect (-0.026), while the indirect effect through work motivation was positive (0.028). Since the indirect effect was stronger than the direct effect and changed the relationship into a positive direction, work motivation was proven to function as a full mediating variable. This finding indicates that compensation could improve employee productivity only when it first increased employees' work motivation.

Furthermore, the relationship between training and employee productivity showed both a direct effect (0.279) and a stronger indirect effect through work motivation (0.315), resulting in a total effect of 0.595 . These findings confirm that work motivation acted as a partial mediating variable in the relationship between training and employee productivity. Therefore, training improved employee productivity both directly and indirectly through increased work motivation.

Overall, the results demonstrate that training and work motivation were the strongest determinants of employee productivity at PT Tri Centrum Fortuna. The largest path coefficients were found in the relationship between training and work motivation (0.62) and between work motivation and employee productivity (0.51). These findings indicate that effective training programs enhanced employees' skills and motivation, which subsequently contributed to higher productivity levels in the automotive stamping manufacturing industry.

Direct Effect Hypothesis Testing

Following the data computation executed via SEM, the deductions derived from the investigative propositions are outlined below.

Table 17. Hypothesis Testing Results

Hypothesis	Path Relationship	Path Coefficient	P-Value	Result
H1	Compensation → Work Motivation	0.05	0.554	Rejected
H2	Training → Work Motivation	0.62	< 0.001	Accepted
H3	Compensation → Productivity	0.05	0.754	Rejected
H4	Training → Productivity	0.28	0.012	Accepted
H5	Motivation → Productivity	0.51	< 0.001	Accepted

1. H1 was rejected because compensation did not significantly affect employee work motivation, as indicated by a path coefficient of 0.05 and a p-value of 0.554 (> 0.05).
2. H2 was accepted because training had a positive and significant effect on employee work motivation, as indicated by a path coefficient of 0.62 and a p-value < 0.001 .
3. H3 was rejected because compensation did not significantly affect employee productivity, as indicated by a path coefficient of 0.05 and a p-value of 0.754 (> 0.05).
4. H4 was accepted because training had a positive and significant effect on employee productivity, as indicated by a path coefficient of 0.28 and a p-value of 0.012 (< 0.05).
5. H5 was accepted because work motivation had a positive and significant effect on employee productivity, as indicated by a path coefficient of 0.51 and a p-value < 0.001 .

Indirect Effect Hypothesis Testing

Grounded in the outcomes of oblique impact assessment utilizing the bootstrapping technique within the SEM structure, the subsequent determinations were derived concerning the function of work motivation as a variable for mediation.

Table 18. Indirect Effect Hypothesis Testing Results

Hypothesis	Mediation Relationship	Indirect Effect	Direct Effect	Mediation Type	Result
H6	Compensation → Work Motivation → Productivity	0.023	-0.021	Full Mediation	Accepted
H7	Training → Work Motivation → Productivity	0.335	0.297	Partial Mediation	Accepted

1. H6 was accepted because work motivation fully mediated the effect of compensation on employee productivity, as indicated by the indirect effect (0.023) being able to convert the negative direct effect (-0.021) into a positive overall effect.
2. H7 was accepted because work motivation partially mediated the effect of training on employee productivity, as indicated by the indirect effect (0.335) while the direct effect of training on productivity remained significant (0.297).

Discussion

The Effect of Compensation on Employee Work Motivation at TCF Purwakarta and Karawang Plants

The findings of this study indicate that compensation did not have a significant effect on employee work motivation at either the Purwakarta Plant or the Karawang Plant of PT Tri Centrum Fortuna (TCF). The statistical results showed probability values of 0.780 at the Purwakarta Plant and 0.554 at the Karawang Plant, both exceeding the significance threshold of 0.05. These findings imply that compensation was not the primary factor influencing employee motivation in the automotive stamping manufacturing environment.

From a theoretical perspective, these findings are not entirely consistent with Equity Theory proposed by Adams, which states that employees tend to be more motivated when they perceive compensation as fair and proportional to their contributions. Similarly, expectancy theory suggests that employees will increase their motivation if rewards are considered meaningful and capable of fulfilling their expectations. However, in the context of TCF Purwakarta and Karawang Plants, compensation appeared to function more as a standard employment entitlement rather than as a motivational driver. Employees may have perceived salary, incentives, and allowances as routine obligations provided by the company, reducing their motivational impact.

The findings can also be explained through Herzberg's Two-Factor Theory, which categorizes compensation as a hygiene factor rather than a motivator factor. According to Herzberg, compensation may prevent dissatisfaction, but it does not necessarily create higher motivation or improved enthusiasm at work. In labor-intensive manufacturing industries such as automotive stamping, employees often place greater emphasis on non-financial aspects, including job security, workplace relationships, supervisor support, work safety, and opportunities for skill development. Therefore, psychological and environmental factors may play a stronger role in shaping work motivation than financial compensation alone.

This study differs from the findings of (Ramadhan & Aditya, 2025) who concluded that compensation significantly influenced employee motivation and performance. The difference in findings may be caused by differences in industrial characteristics, organizational culture, and work systems. In the automotive stamping industry, employees are required to work under strict production targets, repetitive operational activities, and high occupational risk conditions. Under these circumstances, employees may prioritize operational support, work stability, and psychological comfort over direct financial rewards.

Differences between the Purwakarta and Karawang Plants can also be interpreted from operational and workforce characteristics. Although compensation was insignificant in both plants, the probability value in Karawang (0.554) was relatively lower than in Purwakarta (0.780), indicating that compensation had a slightly stronger influence in Karawang. This condition may occur because employees at the Karawang Plant face higher production intensity, greater living costs, or stronger economic pressures due to the industrial environment surrounding the Karawang area. Consequently, financial compensation may still hold relatively greater psychological importance for employees in Karawang compared to Purwakarta. On the other hand, employees in Purwakarta may place stronger emphasis on workplace stability, social relationships, and organizational comfort rather than compensation issues.

In practical terms, the findings indicate that improving employee motivation at PT Tri Centrum Fortuna cannot rely solely on compensation policies. Management should strengthen non-financial motivational factors such as career development opportunities, supportive leadership, training programs, recognition systems, workplace safety, and employee involvement in organizational activities. In the context of the automotive manufacturing industry, employee motivation tends to emerge more strongly from psychological support and opportunities for self-development than from direct financial rewards alone.

The Effect of Training on Employee Work Motivation at TCF Purwakarta and Karawang Plants

The findings of this study demonstrate that training had a positive and significant effect on employee work motivation at both the Purwakarta and Karawang Plants of PT Tri Centrum Fortuna (TCF). The Purwakarta Plant recorded a coefficient value of 0.533 with a probability value of 0.000, while the Karawang Plant showed a stronger coefficient value of 0.620 with a probability level below 0.001. These results indicate that effective training programs were able to significantly enhance employees' enthusiasm, confidence, and motivation in performing their work responsibilities. The stronger coefficient observed in the Karawang Plant also suggests that training played a more dominant role in motivating employees in Karawang compared to Purwakarta.

From a theoretical perspective, these findings support Human Capital Theory, which explains that training is an organizational investment aimed at improving employee knowledge, technical skills, and competencies. Employees who receive adequate training tend to feel more capable and prepared to complete their work tasks effectively, leading to increased motivation and stronger organizational commitment. In addition, Maslow's Hierarchy of Needs Theory explains that training can fulfill higher-level employee needs, particularly esteem needs and self-actualization needs (Maslow, 1971). Through training opportunities, employees feel recognized, valued, and given opportunities for personal and professional growth, which subsequently strengthens their motivation to work.

The findings are also consistent with Herzberg's Two-Factor Theory, which identifies opportunities for growth, achievement, and self-development as important motivator factors that encourage employees to perform better. In the context of automotive stamping manufacturing, training does not only improve technical competence but also reduces uncertainty and anxiety in performing operational tasks involving production machines, quality control systems, and occupational safety procedures. Employees who understand their work processes more clearly tend to feel more confident and psychologically secure, resulting in higher work motivation.

This study supports previous research conducted by (Hasanah et al., 2023; Herdajanto, 2023; Shefani & Jaya, 2024), which concluded that training significantly influences employee motivation

and performance improvement. However, this study provides additional insight by showing differences in the magnitude of the effect between the Purwakarta and Karawang Plants. The stronger influence of training in Karawang may be associated with higher production intensity, more dynamic industrial competition, and greater operational demands in the Karawang manufacturing environment. Employees in Karawang may perceive training as more essential because it directly supports their ability to achieve demanding production targets and maintain job performance.

Meanwhile, employees at the Purwakarta Plant also experienced increased motivation through training, although the effect was relatively lower. This condition may occur because employees in Purwakarta already possess relatively stable work routines and operational adaptation, causing training to function more as a supporting factor rather than a primary motivational driver. In contrast, employees in Karawang may rely more heavily on training as a means of improving competence, maintaining work confidence, and adapting to operational challenges.

In practical terms, these findings imply that PT Tri Centrum Fortuna should continue strengthening employee training programs, particularly those related to technical skills, occupational safety, production efficiency, and quality control. Training should not only focus on operational competence but also incorporate motivational and career development elements. Furthermore, management should design training programs that are tailored to the operational characteristics and workforce needs of each plant, considering that employees in Karawang and Purwakarta may respond differently to training initiatives. By doing so, training can function not only as a competency development tool but also as a strategic mechanism for increasing employee motivation and organizational productivity.

The Effect of Compensation on Employee Productivity at TCF Purwakarta and Karawang Plants

The findings of this study indicate that compensation did not have a significant effect on employee productivity at either the Purwakarta Plant or the Karawang Plant of PT Tri Centrum Fortuna (TCF). The statistical results showed a probability value of 0.916 at the Purwakarta Plant and 0.754 at the Karawang Plant, both exceeding the significance threshold of 0.05. These findings demonstrate that increases in compensation did not directly lead to improvements in employee productivity within the automotive stamping manufacturing environment.

From a theoretical perspective, these findings provide limited support for Expectancy Theory, which argues that employees will improve their performance when they believe that greater effort will result in valuable rewards. In the context of TCF, compensation may not have been perceived as directly linked to individual productivity achievements. Employees may have viewed compensation as a fixed organizational policy rather than a performance-based incentive capable of encouraging higher productivity. Consequently, financial rewards alone were insufficient to significantly influence employees' work output.

The findings can also be interpreted through Herzberg's Two-Factor Theory. Herzberg categorizes compensation as a hygiene factor that primarily prevents dissatisfaction rather than directly improving performance or productivity. In manufacturing industries characterized by repetitive operational activities and target-oriented systems, productivity tends to depend more heavily on technical competence, operational efficiency, machine readiness, teamwork, and psychological motivation than on financial compensation alone. Therefore, employee productivity at TCF appears to be influenced more strongly by operational and motivational factors rather than by monetary rewards.

This study differs from the findings of (Hasanah et al., 2023; Ramadhan & Aditya, 2025) who concluded that compensation significantly affected employee productivity. The difference in findings may be caused by differences in industrial characteristics and compensation systems. In some organizations, compensation is closely tied to performance targets, productivity bonuses, or achievement-based incentives. However, at PT Tri Centrum Fortuna, the compensation system may function more as a standardized administrative mechanism rather than as a strategic productivity driver. As a result, employees may not perceive direct financial benefits from increasing productivity levels.

Differences between the Purwakarta and Karawang Plants can also be analyzed from operational conditions and workforce characteristics. The negative relationship observed in Purwakarta suggests that compensation had almost no practical role in encouraging productivity. This condition may occur because employees in Purwakarta place greater emphasis on work stability, routine operational systems, and collective teamwork rather than on financial incentives. Meanwhile, although compensation in Karawang also did not significantly affect productivity, the relationship was relatively less negative compared to Purwakarta. Employees in Karawang may still perceive compensation as moderately important due to higher industrial competition, greater living costs, and stronger economic demands in the Karawang industrial area. Nevertheless, compensation alone remained insufficient to substantially improve productivity.

Operationally, employee productivity at TCF was more strongly influenced by technical skills, machine performance, production coordination, and the ability to achieve output targets. In the automotive stamping industry, production outcomes rely heavily on employee precision, machine operation capability, quality control effectiveness, and teamwork efficiency. Therefore, even if compensation increases, productivity may not improve unless supported by adequate training, operational systems, work motivation, and technological readiness.

These findings imply that management at PT Tri Centrum Fortuna should not rely solely on compensation policies to improve employee productivity. Instead, the company should strengthen training systems, improve workplace motivation, ensure operational support, maintain machine reliability, and develop performance-based recognition systems. Integrating compensation with measurable productivity indicators, skill development opportunities, and motivational strategies may create a stronger relationship between employee rewards and organizational productivity outcomes.

The Effect of Training on Employee Productivity at TCF Purwakarta and Karawang Plants

The findings of this study revealed different results between the Purwakarta Plant and the Karawang Plant regarding the effect of training on employee productivity. At the Purwakarta Plant, training did not have a significant effect on employee productivity, as indicated by a probability value of 0.102, which exceeded the significance threshold of 0.05. In contrast, training had a positive and significant effect on employee productivity at the Karawang Plant, with a coefficient value of 0.28 and a probability value of 0.012. These findings indicate that the effectiveness of training differed between the two operational environments, suggesting that organizational context and implementation quality strongly influenced the success of training programs.

From a theoretical perspective, these findings support Human Capital Theory, which explains that training improves employee knowledge, technical competence, and work capabilities, ultimately leading to higher productivity. However, the theory also implies that training effectiveness depends not only on the existence of training programs but also on how successfully employees apply acquired skills in their daily operational activities. In manufacturing industries, training becomes

productive only when it is directly integrated into operational systems, work procedures, and performance targets.

The findings are also consistent with Transfer of Training Theory, which emphasizes that the success of training depends on the extent to which employees can transfer newly acquired knowledge and skills into actual workplace performance. In the Purwakarta Plant, training may not have been fully integrated into daily operational practices, resulting in limited direct influence on productivity. Employees may have received training materials, but organizational support, supervision, or operational opportunities to apply the acquired competencies may still have been insufficient. Consequently, training outcomes were unable to immediately generate measurable productivity improvements.

Conversely, the Karawang Plant demonstrated a significant positive relationship between training and employee productivity. This condition suggests that training implementation in Karawang was more aligned with operational demands and production activities. Employees in Karawang may have experienced more practical and application-oriented training programs, allowing them to directly utilize acquired competencies in machine operations, quality control, and production efficiency processes. As a result, training contributed more effectively to improving employee productivity.

These findings support previous studies conducted by (Al-Hawary & Al-Syasneh, 2020; Kurniawan, 2024) which concluded that training positively influences employee productivity, particularly in industrial and manufacturing sectors. However, this study provides additional insight by demonstrating that the impact of training can vary across different operational units within the same company. Differences in production intensity, organizational climate, managerial supervision, workforce readiness, and training implementation quality may explain why training was more effective in Karawang than in Purwakarta.

Operationally, the Karawang Plant likely faced higher production pressure and more dynamic manufacturing demands, causing employees to rely more heavily on technical competence and training outcomes to achieve production targets. Under such conditions, training became an important strategic tool for improving operational efficiency and productivity. Meanwhile, employees in the Purwakarta Plant may have already adapted to stable operational routines, reducing the immediate observable effect of training on productivity outcomes.

These findings imply that PT Tri Centrum Fortuna should not only provide training programs but also ensure that training outcomes are effectively transferred into operational practice. Management should strengthen follow-up supervision, provide opportunities for skill application, align training content with operational needs, and evaluate training effectiveness regularly. Furthermore, differences between the Purwakarta and Karawang Plants indicate that training programs should be designed according to the specific operational characteristics and workforce conditions of each plant. By implementing more adaptive and practice-oriented training systems, the company can maximize the contribution of training to employee productivity improvement.

The Effect of Work Motivation on Employee Productivity at TCF Purwakarta and Karawang Plants

The findings of this study indicate that work motivation had a positive and significant effect on employee productivity at both the Purwakarta and Karawang Plants of PT Tri Centrum Fortuna (TCF). The Purwakarta Plant recorded a coefficient value of 0.677 with a probability value of 0.000, while the Karawang Plant showed a coefficient value of 0.510 with a probability level below 0.001. These results confirm that work motivation was one of the strongest determinants of employee

productivity in both operational environments. Employees with higher levels of motivation tended to demonstrate greater enthusiasm, discipline, concentration, and persistence in achieving production targets and maintaining operational standards.

From a theoretical perspective, these findings strongly support Maslow's Hierarchy of Needs Theory, which explains that employees who experience fulfillment of psychological, social, esteem, and self-actualization needs are more motivated to perform optimally. Employees who feel appreciated, secure, and supported within the organization are likely to show stronger commitment and higher productivity. In addition, Goal Setting Theory proposed by Locke and Latham explains that motivated employees tend to direct their efforts more effectively toward achieving organizational goals and performance targets. Motivation increases employees' willingness to exert effort, maintain persistence, and improve work quality under demanding operational conditions.

The findings are also consistent with Herzberg's Two-Factor Theory, which identifies motivation factors such as recognition, achievement, responsibility, and opportunities for growth as key drivers of employee performance. In manufacturing industries characterized by repetitive work systems and strict production schedules, employees with strong internal motivation are generally better able to maintain productivity consistency despite operational pressures and physically demanding work conditions.

This study supports previous research conducted by (Alshurideh et al., 2022; Nugraha, 2023; Safitri et al., 2024) which concluded that work motivation plays a crucial role in improving employee productivity. However, this study also reveals differences in the magnitude of the influence between the Purwakarta and Karawang Plants. The stronger coefficient observed in Purwakarta (0.677) compared to Karawang (0.510) indicates that employee productivity in Purwakarta was more strongly dependent on motivational factors.

This difference may be caused by variations in operational culture, managerial approaches, and workforce characteristics between the two plants. Employees at the Purwakarta Plant may rely more heavily on psychological encouragement, interpersonal relationships, and internal work spirit to maintain productivity. In contrast, productivity at the Karawang Plant may be influenced not only by motivation but also by other operational factors such as production technology, machine readiness, technical skills, and tighter industrial competition. As a result, although motivation remained important in Karawang, its relative influence was slightly lower compared to Purwakarta.

Operationally, highly motivated employees at both plants demonstrated stronger self-discipline, better focus on production targets, greater compliance with operational standards, and improved adaptability under high manufacturing pressure. Employees who possessed strong work motivation were also more likely to maintain consistency in performance, reduce operational errors, and contribute positively to teamwork and production efficiency.

These findings imply that PT Tri Centrum Fortuna should prioritize strategies aimed at strengthening employee motivation as part of productivity improvement efforts. In addition to financial rewards, management should enhance recognition systems, provide career development opportunities, strengthen leadership support, maintain a positive work environment, and encourage employee involvement in organizational activities. Furthermore, motivational approaches should be adjusted according to the characteristics of each plant, considering that employees in Purwakarta and Karawang may respond differently to motivational strategies. By strengthening both psychological and organizational support systems, the company can further improve employee productivity and operational performance in the automotive stamping manufacturing sector.

The Role of Work Motivation in Mediating the Effect of Compensation on Productivity at TCF Purwakarta and Karawang Plants

Investigative outcomes demonstrate that a complete mediation process was sustained by work motivation regarding the impact of compensation on employee productivity at both the Purwakarta and Karawang Plants. These observations show that immediate expansions in output were not generated by compensation; instead, enhancing staff work motivation was required initially (Yudanegara et al., 2017). Following an increase in drive, employee productivity was subsequently augmented. Conceptually, this evidence corroborates Expectancy Theory, maintaining that rewards optimize performance by generating psychological stimulation or work motivation (Tumengkol et al., 2025). Under operational realities at both facilities, staff grew more efficient whenever internal sentiments of appreciation, zeal, and organizational devotion were fostered by compensation (Samosir, 2026). Consequently, the firm must ensure its compensation framework transcends a purely administrative nature to actively elevate staff work motivation (Gunawan et al., 2024).

The findings of this study indicate that work motivation fully mediated the relationship between compensation and employee productivity at both the Purwakarta and Karawang Plants of PT Tri Centrum Fortuna (TCF). This means that compensation did not directly improve employee productivity; instead, compensation first influenced employees' psychological conditions, particularly their work motivation, which subsequently contributed to higher productivity levels. Therefore, the effectiveness of compensation in improving productivity depended largely on its ability to strengthen employee motivation.

From a theoretical perspective, these findings support Expectancy Theory proposed by Vroom, which explains that rewards and compensation can improve performance only when employees perceive them as meaningful and capable of increasing motivation. Employees who believe that organizational rewards reflect appreciation for their contributions tend to develop stronger enthusiasm, commitment, and willingness to exert greater effort in achieving organizational goals. In this context, compensation functioned more as a psychological stimulus than as a direct operational driver of productivity.

The findings are also consistent with Herzberg's Two-Factor Theory, which explains that compensation alone may not automatically improve performance unless it is accompanied by motivational factors such as recognition, appreciation, and a sense of achievement. In the operational environment of automotive stamping manufacturing, employees tend to become more productive not merely because they receive financial rewards, but because compensation creates feelings of fairness, organizational support, and work appreciation that strengthen their motivation to perform better.

This study supports previous findings by (Yudanegara et al., 2017) who concluded that work motivation mediates the relationship between compensation and employee performance. Similarly, the findings are in line with (Tumengkol et al., 2025) who emphasized that compensation influences productivity indirectly through psychological motivation mechanisms. In addition (Gunawan et al., 2024; Samosir, 2026) argued that compensation systems become more effective when employees perceive them as a form of appreciation and organizational recognition rather than merely administrative obligations.

Differences between the Purwakarta and Karawang Plants may also explain the varying strength of motivational responses to compensation. Employees in Karawang may experience greater economic pressures and industrial competition due to the surrounding industrial environment, causing compensation to have relatively stronger psychological meaning. Meanwhile,

employees in Purwakarta may place greater emphasis on work stability, social relationships, and workplace comfort, making motivation more dependent on non-financial organizational support. Nevertheless, in both plants, compensation alone remained insufficient to directly improve productivity without the presence of strong work motivation.

Operationally, employees who felt appreciated through fair compensation systems tended to demonstrate higher enthusiasm, stronger discipline, better commitment, and greater willingness to achieve production targets. Motivation became the key mechanism transforming compensation into productive work behavior. Without adequate motivation, compensation functioned merely as a routine employment entitlement and failed to significantly improve productivity outcomes.

These findings imply that PT Tri Centrum Fortuna should develop compensation systems that not only focus on financial distribution but also strengthen employees' psychological attachment and motivational commitment. Management should integrate compensation policies with recognition systems, career development opportunities, supportive leadership, and employee appreciation programs. By creating compensation systems that foster motivation and organizational belonging, the company can maximize the indirect impact of compensation on employee productivity in both the Purwakarta and Karawang Plants.

The Role of Work Motivation in Mediating the Effect of Training on Productivity at TCF Purwakarta and Karawang Plants

The findings of this study indicate that work motivation partially mediated the relationship between training and employee productivity at both the Purwakarta and Karawang Plants of PT Tri Centrum Fortuna (TCF). This means that training was able to directly improve employee productivity through the enhancement of technical skills and work competencies, while at the same time indirectly strengthening productivity by increasing employees' work motivation. Therefore, the effectiveness of training became greater when employees not only acquired new skills but also experienced increased enthusiasm, confidence, and motivation to perform their work responsibilities.

From a theoretical perspective, these findings support Human Capital Theory, which explains that training functions as an organizational investment designed to improve employee competence, knowledge, and operational capability. Employees who possess better technical skills and stronger work understanding are generally more capable of performing tasks efficiently and productively. However, this study also demonstrates that the success of training does not depend solely on technical competency improvement, but also on psychological factors such as work motivation.

The findings are also consistent with Maslow's Hierarchy of Needs Theory, which explains that training can fulfill employees' esteem and self-actualization needs. Employees who receive training opportunities tend to feel recognized, valued, and trusted by the organization. These psychological experiences increase self-confidence, personal pride, and motivation to contribute more effectively to organizational goals. In this context, training not only improved employees' operational skills but also strengthened their internal motivation to achieve better performance outcomes.

Furthermore, the results align with Herzberg's Two-Factor Theory, which identifies opportunities for growth, achievement, and personal development as important motivational factors. Training programs create opportunities for employees to develop themselves professionally, which subsequently encourages stronger work commitment and higher productivity. In labor-intensive manufacturing industries such as automotive stamping, employees who feel competent and

psychologically prepared are generally more capable of maintaining performance consistency under strict production targets and operational pressures.

This study supports previous findings by (Samosir, 2026) who concluded that training improves employee productivity both directly and indirectly through work motivation. Similarly, (Gunawan et al., 2024) explained that training strengthens employees' confidence and self-development, which subsequently contributes to higher work motivation and productivity. The findings are also in line with (Tumengkol et al., 2025) who emphasized that motivational improvement becomes an important mechanism in maximizing the effectiveness of organizational training programs.

Differences between the Purwakarta and Karawang Plants may also explain the varying intensity of the mediation effect. Employees at the Karawang Plant likely experienced stronger operational pressure and more dynamic industrial competition, causing training and motivation to play a more strategic role in maintaining productivity. In contrast, employees in Purwakarta may already possess relatively stable work routines, so training functioned more as an additional supporting factor rather than as the primary determinant of productivity improvement. Nevertheless, in both plants, work motivation consistently strengthened the impact of training on employee productivity.

Operationally, employees who participated in training programs demonstrated better readiness in carrying out work tasks, deeper understanding of production standards, stronger confidence in operating machinery, and greater discipline in maintaining production quality. These conditions contributed to higher work motivation, which subsequently enabled employees to optimize productivity more effectively. Therefore, motivation became an important psychological mechanism connecting training outcomes with improved employee performance.

These findings imply that PT Tri Centrum Fortuna should continue developing training systems that not only focus on technical competency improvement but also strengthen motivational and psychological aspects of employees. Training programs should incorporate career development opportunities, recognition mechanisms, supportive supervision, and practical operational applications to maximize employee engagement and motivation. Furthermore, management should adapt training strategies according to the operational characteristics of each plant, considering that employees in Purwakarta and Karawang may respond differently to training and motivational interventions. By integrating technical development with motivational support, the company can maximize the contribution of training toward sustainable employee productivity improvement.

CONCLUSION

This study demonstrates that employee productivity at PT Tri Centrum Fortuna's Purwakarta and Karawang Plants is influenced more strongly by training and work motivation than by compensation. The findings reveal that compensation did not significantly affect either work motivation or employee productivity, suggesting that financial rewards alone may not be sufficient to enhance performance in a manufacturing environment where operational competence, technical skills, and employee engagement are critical determinants of productivity.

In contrast, training significantly improved work motivation and contributed to higher employee productivity, both directly and indirectly through motivational mechanisms. Furthermore, work motivation emerged as a key determinant of productivity and served as an important mediating variable linking organizational practices to employee performance outcomes. These findings reinforce the perspective that productivity improvement is not merely an economic issue but also a

behavioral and psychological process shaped by employees' motivation and capability development.

From a managerial perspective, the results indicate that organizations should prioritize continuous training programs, competency development, and motivational strategies rather than relying predominantly on compensation policies. The non-significant effect of compensation also suggests that existing compensation systems may have reached a level perceived as adequate by employees, thereby reducing their ability to generate additional motivational effects.

This study is limited to two automotive manufacturing plants and focuses only on compensation, training, work motivation, and productivity variables. Therefore, the generalizability of the findings remains limited. Future research should examine broader industrial contexts, incorporate objective productivity measures, and explore additional factors such as leadership style, organizational culture, work environment, employee engagement, and job satisfaction to obtain a more comprehensive understanding of productivity determinants.

REFERENCES

- Al-Hawary, S. I., & Al-Syasneh, M. S. (2020). Impact of dynamic strategic capabilities on strategic entrepreneurship in presence of outsourcing of five-star hotels in Jordan. *Business: Theory and Practice*, 21(2), 578–587. <https://doi.org/10.3846/btp.2020.11895>
- Alshurideh, M., Al Kurdi, B., Alshurideh, H., & Alkurdi, S. (2022). Impact of organizational leadership on organizational performance during COVID-19 pandemic. *International Journal of Theory of Organization and Practice*, 2(1), 52–64.
- Armstrong, M., & Taylor, S. (2023). *Armstrong's handbook of human resource management practice: A guide to the theory and practice of people management*. Kogan Page.
- Asian Productivity Organization. (2023). *APO productivity databook 2023*. Asian Productivity Organization.
- Dessler, G., Cole, N. D., & Chhinzer, N. (2015). *Management of human resources: The essentials*. Pearson.
- Gerhart, B., Newman, J. M., & Milkovich, G. T. (2020). *Compensation*. McGraw-Hill Education.
- Ghozali, I. (2018). *Aplikasi analisis multivariate dengan program IBM SPSS 25* (Edisi 9). Badan Penerbit Universitas Diponegoro.
- Gomes, D., & Neves, J. (2011). Organizational attractiveness and prospective applicants' intentions to apply. *Personnel Review*, 40(6), 684–699. <https://doi.org/10.1108/00483481111169634>
- Gunawan, W., Sudaryo, Y., Ismail, G. D., Suryaningprang, A., & Aziz, D. A. (2024). The influence of work motivation, work environment and job satisfaction on employee performance at CV Lanupi Bandung. *Syntax Idea*, 6(5), 2174–2180.
- Hair, J. F., Jr., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2023). *A primer on partial least squares structural equation modeling (PLS-SEM)*. SAGE Publications.
- Hasanah, N., Syarifudin, E., & Qurtubi, A. (2023). Pengaruh kinerja operator dan motivasi kerja operator SMA swasta terhadap mutu layanan pendidikan. *Innovative: Journal of Social Science Research*, 3(5), 6124–6133.
- Herdajanto, T. (2023). The impact of job training, education and work motivation on employee performance. *Journal of Economy, Accounting and Management Science*, 4(2), 176–185. <https://doi.org/10.55173/jeams.v4i2.45>
- Herzberg, F., Mausner, B., & Snyderman, B. (1959). *The motivation to work*. Wiley.

- Kurniawan, D. (2024). Pengaruh pengembangan kompetensi karyawan dan kompensasi terhadap produktivitas karyawan melalui kepuasan kerja pada bank perekonomian rakyat di Bogor. *Jurnal Manajemen dan Pemasaran Digital*, 2(4), 375–388. <https://doi.org/10.38035/jmpd.v2i4.270>
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396.
- Maslow, A. H. (1971). *The farther reaches of human nature*. Viking Press.
- Mathis, R. L., & Jackson, J. H. (2011). *Human resource management* (9th ed.). South-Western Cengage Learning.
- Mondy, R. W., & Martocchio, J. J. (2016). *Human resource management* (14th ed.). Pearson.
- Noe, R. A. (2008). *Employee training and development*. McGraw-Hill.
- Nugraha, E. S. (2023). Pengaruh budaya organisasi dan kompensasi terhadap komitmen organisasi melalui motivasi kerja pada karyawan hotel Halogen Sidoarjo. *Jurnal Ilmu Manajemen*, 623–638.
- Pratiwi, A., & Rizky, M. C. (2024). Analisis gaya kepemimpinan, employee engagement dan kepuasan kerja terhadap kinerja karyawan. *Maneggio: Jurnal Ilmiah Magister Manajemen*, 7(2), 161–171. <https://doi.org/10.30596/maneggio.v7i2.21422>
- Rahmawati, H. T. (2023). Hubungan antara kompensasi dengan motivasi kerja pegawai non-ASN di Dinperintransnaker Kabupaten Purworejo [Undergraduate thesis, IAIN Salatiga]. <http://e-repository.perpus.iainsalatiga.ac.id/18019/>
- Ramadhan, F. F., & Aditya, A. (2025). Pengaruh motivasi kerja dan kompensasi terhadap kinerja karyawan pada PT Madubaru PG-PS Madukismo Yogyakarta. *Jurnal Psikososial dan Pendidikan*, 1(2), 796–815.
- Robbins, S. P., & Judge, T. A. (2019). *Organizational behavior* (18th ed.). Pearson.
- Safitri, L. D., Syahputra, A., Aulia, R. C., Lazumi, S. I., Efiani, E., & Sawitri, N. N. (2024). Pengaruh kompetensi, lingkungan kerja, dan budaya organisasi terhadap kinerja karyawan dan motivasi kerja sebagai variabel intervening. *IJESM Indonesian Journal of Economics and Strategic Management*, 2(4), 2878–2889.
- Samosir, T. S. (2026). The effect of competency, organizational commitment, work environment, and motivation on employee productivity. *International Journal of Science and Society*, 8(1), 27–41.
- Shefani, A. N., & Jaya, R. C. (2024). Pengaruh pelatihan kerja, motivasi kerja, dan komunikasi terhadap kinerja pegawai ASN. *Jurnal Ekonomi Bisnis, Manajemen dan Akuntansi*, 5(3), 1–12.
- Sink, D. S., & Smith, G. L. (1994). *Organizational linkages: Understanding the productivity paradox*. National Academies Press.
- Soetrisno, E. (2009). *Manajemen sumber daya manusia*. Kencana.
- Sutrisno, E. (2023). Telaah dampak positif gaya kepemimpinan transformasional bagi peningkatan produktivitas individu dan organisasi. *Community Development Journal*.
- Tumengkol, J. B., Recky, R., & Setiyani, A. (2025). Pengaruh kompensasi terhadap kepuasan kerja dan kinerja karyawan. *Jurnal Economica: Media Komunikasi ISEI Riau*, 13(2), 411–420.
- Wijayanti, T., & Sugianto, S. (2024). Pengaruh gaya kepemimpinan, disiplin kerja, dan motivasi kerja terhadap produktivitas guru. *Mega Aktiva: Jurnal Ekonomi dan Manajemen*, 13(2), 1–11. <https://doi.org/10.32833/majem.v13i2.455>
- Yudanegara, A., Ismail, G. D., & Syamawati, E. M. (2017). Pengaruh kompensasi terhadap disiplin kerja dan dampaknya terhadap produktivitas kerja karyawan. *Jurnal Indonesia Membangun*, 16(1).