

Unraveling the Performance Mechanism: How Employee Engagement and Hierarchical Culture Foster Employee Performance through Vroom's Expectancy Motivation

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ABSTRACT

Purpose – This study examines the effects of employee engagement and hierarchical culture on employee performance through the mediating role of Vroom's expectancy motivation at PT Metal Hitech Engineering. The study addresses declining production achievement and employee performance by explaining the psychological mechanism through which organizational and behavioral factors enhance performance.

Design/methodology/approach – A quantitative explanatory approach with a descriptive and verificative design was employed. Data were collected from all 250 employees using a total sampling technique and structured questionnaires. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. The measurement model was evaluated through convergent validity, discriminant validity, and reliability tests, while the structural model was assessed using path coefficients, R^2 , Q^2 , and bootstrapping with 5,000 resamples.

Finding/Results – The results indicate that employee engagement and hierarchical culture positively and significantly influence employee performance. Employee engagement significantly affects Vroom's expectancy motivation ($\beta = 0.453$; $p < 0.001$), hierarchical culture positively influences motivation ($\beta = 0.444$; $p < 0.001$), and expectancy motivation significantly improves employee performance ($\beta = 0.465$; $p < 0.001$). Moreover, expectancy motivation partially mediates the relationships between employee engagement and performance ($\beta = 0.211$; $p < 0.001$) and between hierarchical culture and performance ($\beta = 0.207$; $p < 0.001$).

Originality/Value – This study extends Expectancy Theory by integrating employee engagement, hierarchical culture, and Vroom's expectancy motivation into a comprehensive model of employee performance in the manufacturing sector. The findings provide both theoretical insights and practical guidance for organizations seeking to

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improve performance through stronger employee engagement, structured organizational culture, and motivation-based human resource strategies.

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Introduction

Human resources (HR) are productive individuals who work as the main driving force in an organization, both in institutions and companies. Human resources have a function as an important asset that must be managed, trained, and developed in order to be able to face challenges and take advantage of opportunities in the digital era. With proper management, human resources can make maximum contributions to achieving organizational goals (Sapphire) *et al.*, 2024). Human resource management is a set of procedures set to maximize their potential in achieving the company's goals. The success of an organization is largely determined by the ability to develop employees' potential through Hierarchical Culture, motivation, and work involvement (Kurniawati & Mulyanto, 2024).

Companies with qualified human resources will find it easier to carry out their functions optimally, so that it has an impact on improving employee performance in line with the development of modern management, Human Resources (HR) which used to stand alone is now increasingly integrated with other functions in the organization. This change makes the Human Resources (HR) more strategic, especially in the process of planning and achieving company goals (Elvany *et al.*, 2026). Not all organizations are able to maintain consistent employee performance stability. Employee performance is the main thing that companies look at to conduct work assessments and evaluations (Wulandari *et al.*, 2022).

Employee performance levels show the extent to which a company can compete, grow, and maintain the sustainability of its business amid increasingly fierce industry competition (Emphasis added) *et al.*, 2021). Optimal employee performance can be achieved if supporting factors such as work hierarchy culture and *Employee engagement* to a company in order to create Motivation. For this reason, companies must further improve and intensify the provision of a hierarchical culture and *Employee engagement* to all employees (Wulandari *et al.*, 2022).

Motivation is that a person to work is influenced by the expectation that the effort made will produce good performance and ultimately provide the desired results or rewards. In other words, employees will be motivated if they believe that the effort they put in will lead to the achievement of a certain goal (Kurniahadi *et al.*, 2023). There are three main components to vroom motivation, namely expectancy, instrumentality (the relationship between performance and results), and valence (value or attraction of results) (Vroom, 1964 : 17). Employees will show high work motivation if they feel that the effort made is not in vain. Understanding the factors that affect vroom motivation, organizations can increase employee morale which ultimately impacts improving overall performance (Dahrani & Sohiron, 2024).

PT. Metal hitech Engineering is a manufacturing company engaged in steel construction of tank manufacturing such as, Allumunium tank, Stainless Stelltank, and Carco Stelltank. PT. Metal Hitech Engineering is located on Jalan Raya Cerme Gresik, East Java. The company is committed to producing high-quality products as well as developing competent human resources through a culture of hierarchy and continuous development. The phenomenon that occurred in the field shows that the performance of employees at PT Metal Hitech Engineering is still facing various challenges.

Especially in achieving the work targets that have been set by the company. Based on the company's internal secondary data in the last three years, namely 2023 – 2025, the level of achievement of production targets has not shown optimal results.

Table 1. Production Realization of PT Metal Hitech Engineering

Yes	Year	Production Target	Production Realization	Deviation	Percentage Achievement (%)
1	2023	100%	88%	(12%)	88
2	2024	100%	84%	(16%)	84
3	2025	100%	81%	(19%)	81

Source: HRD PT Metal Hitech Engineering

Based on the production table at PT Metal Hitech Engineering, it can be seen that in the last three years 2023 – 2025, the realization of employee production has not been able to reach the target set by the company of 100%. In 2023, the achievement rate is still at 88%, then decreased to 84% in 2024, and decreased again to 81% in 2025. In addition, the value of the deviation that is getting larger from (12%) to (19%) indicates that there is a widening gap between the target and the realization. This indicates that the company's operational performance tends to decline from year to year.

PT Metal Hitech Engineering conducts performance assessments that are carried out every year, performance assessments are carried out to assess employee performance. In the last three years, namely 2022 – 2024, there is a phenomenon of employee performance that is still not stable, this can be seen from the *performance appraisal* data as shown in the table below:

Table 2. Performance Appraisal Data for 2022 – 2024

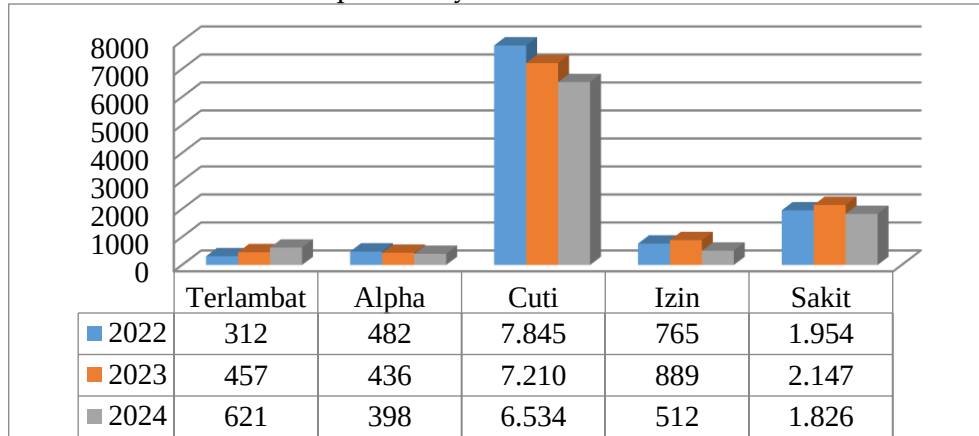
Yes	Year	Total Employees	PA Results
1	2022	120	3,6
2	2023	123	3,45
3	2024	125	3,3

Source: HRD PT Metal Hitech Engineering

Based on Table 2 of the 2022–2024 Performance Appraisal Data at PT Metal Hitech Engineering, it can be seen that the average value of employee performance (*Performance Appraisal/PA*) has experienced a downward trend in the last three years. In 2022, the PA value of 3.60 is included in the Excellent category, then decreases in 2023 to 3.45 (Good category), and decreases again in 2024 to 3.30 which is still in the Good category but close to Fair. This decline shows a tendency to gradually weaken the quality of employee performance, although it is still in the fairly good category.

Employee engagement-related phenomena indicate low levels of engagement, such as a lack of initiative towards work. This has an impact on declining employee performance, so it is

important to increase *employee engagement* through the right strategy. This can be seen from employee absenteeism data over the past few years.



Graph 1. PT Metal Hitech Engineering Attendance Data Recap

Source: HRD PT Metal Hitech Engineering

Based on the 2022–2024 employee absence table at PT Metal Hitech Engineering, it can be interpreted that there are several patterns that reflect the condition of *employee engagement* that is not fully optimal. This can be seen from the consistent increase in the number of delays from 312 cases in 2022 to 621 cases in 2024. This increase indicates a decrease in work discipline, which is often an indicator of low emotional attachment to the organization.

Employees who are less engaged tend to lack a strong drive to show up on time and perform at their best. Furthermore, although the number of alphas (unexplained absences) shows a downward trend from 482 to 398, the figure is still quite high and shows that there are still employees who lack responsibility for their work. On the other hand, the number of leave that has decreased from 7,845 to 6,534 can indicate a change in company policy or an increase in workload that makes employees delay taking leave. Meanwhile, fluctuating permit data and relatively high sickness rates indicate the possibility of work fatigue, stress, or less supportive work environment conditions.

Theoretically, employee performance is not only influenced by technical ability factors, but also by psychological and behavioral factors, such as *employee engagement*, hierarchical culture, and vroom motivation (Saddawero *et al.*, 2023). A reciprocal relationship between employees and the organization will encourage employees to make their best contribution when they feel valued and their needs met. Therefore, employee attachment and motivation are important aspects that need to be studied more deeply in improving performance (Elvany *et al.*, 2026). Vroom motivation is seen as a key factor that influences employees' attitudes and behaviors at work. Employees who have a high level of motivation tend to show better performance, high loyalty, and commitment to the organization. This shows that there is a theoretical gap (research gap) explained by Wulandari *et al.*, (2022) Related to how *employee engagement* and hierarchical culture influences employee performance, either directly or indirectly through mediation variables

Therefore, this research has an urgency to make theoretical contributions in integrating these various concepts into one comprehensive research model, so as to enrich the literature in the field of human resource management, especially related to the mechanism of improving employee performance through the vroom motivation mediation approach. Thus, this study is important to test and strengthen the role of vroom motivation as a mediating variable in the

relationship. This research has a novelty by integrating the variables of *employee engagement* and hierarchical culture with vroom motivation as a mediation in one research model. This approach is expected to be able to provide a more comprehensive understanding of the factors that affect employee performance. So that researchers have an interest in conducting more in-depth research on

Literature Review & Hypothesis Development

Employee Engagement

Employee engagement can predict employee performance improvement, profitability, employee retention, customer satisfaction, and success for the organization (Sapphire) *et al.*, 2024). *Laughter Engage* has various meanings and many researchers have different understandings about *Commitment*. When an individual cares deeply about what he or she is doing and is committed to doing it to the best of his ability, he or she will feel compelled to do rather than just shut up. This is part of the *Commitment* (Sapphire) *et al.*, 2024). *Employee engagement* is a sense of emotional attachment to the work and the organization, motivated and able to give their best to help succeed from a tangible set of benefits to the organization and the individual (Elvany *et al.*, 2026). David Guest, believes this is helpful to see *Employee engagement* as a way of working designed to ensure that employees are committed to their organization's goals and values, motivated to contribute to the success of the organization, and at the same time to be able to improve their sense of well-being (Elvany *et al.*, 2026). Based on this, the following hypothesis is proposed:

H1: *Employee engagement* has a direct effect on employee performance at PT Metal Hitech Engineering

Hierarchical Culture

Hierarchical culture is determined by structure, established procedures, and level of authority. Employees in this culture know exactly where they stand in the chain of command, who is accountable to them, who they report to, and what the rules are. It is very important in this culture to do the right thing. Tasks are clearly defined, and operations tend to be simplified. Financial institutions, health insurance organizations, and oil and gas companies all have a hierarchy culture (Marhawati, 2022)

In the perspective of organizational culture theory, explain that culture is made up of artifacts, values adhered to, and basic assumptions. In hierarchical cultures, artifacts are reflected in formal organizational structures and standard work procedures, the values of which emphasize discipline and obedience, while the basic assumption is that organizations will run effectively if there is strong order and control (Saddawero *et al.*, 2023). In line with that, the concept of hierarchical culture is also related to the theory of bureaucracy put forward by Max Weber, which emphasizes the importance of clear division of labor, a tiered system of authority, and formal rules in creating rational and efficient organizations (Saddawero *et al.*, 2023).

Hierarchical culture is considered effective in a stable environment because it is able to create consistency and good control over organizational activities (Wiratama & Santoso, 2022). Meanwhile Robbins & Judge (2019) stating that organizational culture, including hierarchical culture, plays a role in shaping employee behavior to be more compliant with rules, procedure-oriented, and tend to avoid risks. Based on this, the following hypothesis is proposed:

H2: Hierarchical culture has a direct effect on employee performance at PT Metal Hitech Engineering.

Vroom's Motivation

Motivation according to Vroom (1964 : 15) explained through *Expectancy Theory* which states that a person's work motivation is influenced by individual expectations of the results that will be obtained from a business carried out. This theory emphasizes that a person will be motivated to act if he believes that his efforts will produce good performance, that performance will lead to certain rewards, and that the reward has value or attraction for him (Dahrani & Sohiron, 2024).

In view Vroom (1964 : 26), motivation is not merely an internal impulse, but rather the result of rational cognitive processes, in which individuals consider the relationship between efforts (*effort*), performance (*Performance*), and results (*Outcome*). This theory consists of three main components, namely expectancy, instrumentality (relationship of performance to results), and Valence (value or attractiveness of results) (Dahrani & Sohiron, 2024). Expectancy refers to an individual's belief that the effort put in will result in the expected performance. Instrumentality is the perception that good performance will be followed by giving *Reward* or a specific result. Whereas valence is related to the extent to which individuals assess *Reward* important or valuable to him (Thu & Van, 2024).

Sutrisno (2020 : 110) explained Motivation is the result of a person's interaction with a particular situation he or she is facing. Therefore, there is a difference in the strength of motivation shown by a person in dealing with the same situation. In fact, a person will show a certain drive in dealing with different situations and at different times. While Sinungan (2016 : 134) Motivation is a state of mental and mental attitude of humans that provides energy, encourages activities or movements and directs or channels behavior towards achieving needs that give satisfaction or reduce imbalances. Based on this, the following hypothesis is proposed:

H3: Employee engagement has a direct effect on vroom motivation at PT Metal Hitech Engineering

Employee Performance

Mangkunegara (2021) explained that performance is the result of work in terms of quality and quantity achieved by an employee in carrying out his duties in accordance with the responsibilities given. Other definitions according to Stuart (2020: 447) Stating performance is a complete display of the state of the company during a certain period, is the result or achievement influenced by the company's operational activities in utilizing the resources it has.

Employee performance can also be interpreted as the result of work and work actions achieved by fulfilling the tasks and responsibilities given within a certain period of time (Kasmir, 2019). In addition, employee performance also includes the results of employee work in carrying out tasks and responsibilities quantitatively and qualitatively, measured by observing the level of achievement or productivity of employees in their duties and work responsibilities (Elvany *et al.*, 2026). Other definitions according to Priansa (2018) Explaining the meaning of employee performance is stated that performance is the result produced by a certain job function or

activities in a certain job during a certain period of time. Based on this, the following hypothesis is proposed:

H4: Hierarchical culture has a direct effect on vroom motivation at PT Metal Hitech Engineering

H5: Vroom motivation has a direct effect on employee performance at PT Metal Hitech Engineering.

H6: *Employee engagement* has an indirect effect on employee performance with vroom motivation as a mediating variable at PT Metal Hitech Engineering.

H7: Hierarchical culture has an indirect effect on employee performance with vroom motivation as a mediating variable at PT Metal Hitech Engineering.

Methodology

In this study, the method to be used is descriptive and verifiable with a quantitative approach. The quantitative approach according to Sugiyono (2022 : 23) is a research approach based on the philosophy of positivism, which is used to research a specific population or sample. Data collection is carried out using research instruments, quantitative or statistical data analysis, with the aim of describing and testing the hypothesis that has been determined.

This study is about the influence of *employee engagement* (X1), hierarchical culture (X2) on employee performance (Y) through vroom motivation (Z) as a mediating variable in the company PT Metal Hitech Engineering. This quantitative method is applied to evaluate populations or large samples, collect data using research instruments, and analyze data with quantitative or statistical techniques, and draw conclusions based on pre-formed hypotheses (Sugiyono, 2021 : 15). The object of research in this study is PT Metal Hitech Engineering. PT Metal Hitech Engineering is located on Jl. Raya Cerme, Metatu KM 4, Dungus Village, Cerme District, Gresik Regency, East Java.

Population is a whole object or subject that has certain characteristics that are the target of research and can generalize the results of the research. In this study, the population is all employees of PT Metal Hitech Engineering. This study uses a *non-probability sampling* method in this study using a total sampling technique, namely all populations are used as a sample of 250 respondents with the criteria as contained in table 3 below:

Table 3. Respondents PT Metal Hitech Engineering

Yes	Department/Parts	Number of Respondents
1	Production	120
2	Engineering	30
3	Quality Control (QC/QA)	20
4	HRD	15
5	Finance & Accounting	15
6	Purchasing / Logistics	15
7	Marketing & Sales	10
8	General & Administration	15
9	Management (Supervisor/Manager)	10
Total		250

The data collection technique carried out by the researcher in this study was a questionnaire. A questionnaire is a tool used to collect data from respondents through a series of questions answered by respondents independently (Sugiyono, 2022 : 185). The data sources in this study are divided into two categories, primary data sources and secondary data sources. The

primary data in this study includes data from the distribution of respondent questionnaires, where the respondents in question are employees of PT Metal Hitech Engineering. Secondary data in this study can be obtained from the administration and HRD of PT Metal Hitech Engineering which is considered to be relevant to this research.

Data analysis is also used to test the hypothesis proposed by the researcher, so that the influence between independent variables (X) on dependent variables (Y) can be known through indirect influences (Z). Data analysis in the form of descriptive statistics includes the presentation of data through tables, graphs, diagrams, circles, pictograms, mode calculations, medians, means, decile calculations, percentiles, data distribution calculations through average and standard deviation calculations, percentage calculations. In descriptive statistics, it can also be done to find the strength of a relationship between variables through correlation analysis, make predictions, with regression analysis, and make comparisons of sample or population data (Sugiyono, 2021 : 207).

The measurement of the variables of this study is measured by giving a scoring value, the scale to measure the questions on the questionnaire is the scale *Likert*. Scale *Likert* according to Sugiyono (2021 : 146) It is a scale used to measure the attitudes, opinions and perceptions of a person or a group of people about social phenomena. Each item of the questionnaire has 5 (five) answers with different weights or values. Each answer choice will be given a score, the score is useful to find out the alternative answer chosen by the respondent.

The following are the results of the data recapitulation using the Likert scale range calculation formula to find the average value as follows:

$$NJI \text{ (Interval Level Value)} = \frac{\text{Highest score} - \text{Lowest score}}{\text{Number of answer criteria}}$$

$$B = 5$$

$$R = \text{Highest score} - \text{Lowest score} \\ = 5 - 1 = 4$$

$$NJI = \frac{5 - 1}{5} = 0.8$$

Description :

B : Highest score

R: Interval

NJI : Interval Level Value

Employee engagement variables were measured using the dimensions of vigor, dedication, and absorption developed by Schaufeli and Bakker through the Utrecht Work Engagement Scale (UWES). Hierarchical culture variables were measured based on the Competing Values Framework (CVF) developed by Cameron and Quinn, including the dimensions of coordination, formalization of procedures, organizational stability, control, and work efficiency. Vroom's expectancy motivation variable is measured based on Expectancy Theory proposed by Victor H. Vroom, which consists of three main dimensions, namely expectancy, instrumentality, and valence. Meanwhile, employee performance variables are measured based on indicators of work quality, work quantity, punctuality, effectiveness, responsibility, and ability to work together.

Before being used as a research instrument, the questionnaire first goes through a *content validity* test involving several experts in the field of human resource management and research methodology. Furthermore, a *pilot test* was carried out on a number of respondents outside the

research sample to ensure the clarity of the redaction of each statement item. The validity of the construct was evaluated using the value of outer loading (≥ 0.70), Average Variance Extracted (AVE) (≥ 0.50), and discriminant validity using the Heterotrait-Monotrait Ratio (HTMT) criterion (< 0.90). The reliability of the construct is assessed using the Composite Reliability and Cronbach's Alpha values, which must be greater than 0.70, respectively.

Data analysis was carried out using Structural Equation Modeling based on Partial Least Squares (PLS-SEM) with the help of SmartPLS software version 4. The PLS-SEM method was chosen because it is able to test complex relationships between latent variables simultaneously, accommodate mediation models, and has good predictive capabilities. The analysis is carried out through two main stages, namely the evaluation of the measurement model (outer model) and the structural model (inner model). The evaluation of *the outer model* includes testing for convergent validity, discriminant validity, and construct reliability. After the measurement model meets all criteria, the analysis is continued with the *internal evaluation of the model* which includes testing the Variance Inflation Factor (VIF) to ensure that multicollinearity does not occur, the determination coefficient (R^2) to determine the ability of exogenous variables to explain endogenous variables, effect size (f^2) to determine the amount of contribution of each independent variable, predictive relevance (Q^2) using *the blindfolding* procedure, as well as Standardized Root Mean Square Residual (SRMR) as an indicator of overall model suitability. Hypothesis testing was carried out using the bootstrapping technique with 5,000 subsamples, as recommended in the PLS-SEM analysis. The relationship between variables was declared significant if it had a t-statistical value of > 1.96 and a p-value of < 0.05 at a confidence level of 95%. In addition to testing the *direct effect*, this study also tested the indirect effect through Vroom's expectancy motivation as a mediating variable. The effect of mediation was evaluated based on the significance of the indirect pathway and the Variance Accounted For (VAF) value to determine whether the mediation that occurred was *full mediation* or *partial mediation*.

The conceptual model of the research consists of two exogenous variables, namely employee engagement and hierarchical culture, one mediating variable, namely Vroom's expectancy motivation, and one endogenous variable, namely employee performance. This model was developed to explain the psychological mechanisms of how employee engagement and organizational culture can improve performance through the formation of motivation based on Expectancy Theory proposed by Victor H. Vroom.

Result and Discussion

Results

Respondent Characteristics

The description of the characteristics of the respondents regarding the identity of the respondents in this study was obtained from filling out the questionnaire form of employees at PT Metal Hitech Engineering who were respondents. The number of samples to be studied is 250 respondents. The processing of data describing the characteristics of the respondents is carried out by identifying each of the characteristics of the respondents and continued by making the percentage

a. Characteristics of Respondents by Gender

The characteristics of respondents based on gender can be grouped as shown in the table below:

Table 4. Characteristics of Respondents by Gender

Type	Frequency	Percent	Valid Percent	Cumulative Percent
Male	183	73,2	73,2	73,2
Women	67	26,8	26,8	100,0
Total	250	100.0	100.0	

Source: SPSS 2026 Data Processing Results

Based on the results of the study, it is known that the respondents are dominated by male employees with a total of 183 people or 73.2%, while female respondents are 67 people or 26.8%. The dominance of male respondents shows that the workforce structure at PT Metal Hitech Engineering is more filled by male employees than women.

b. Characteristics of Respondents by Age

The characteristics of respondents based on the age of PT Metal Hitech Engineering employees can be grouped as in the table below:

Table 5. Characteristics of Respondents by Age

Age	Frequency	Percent	Valid	Cumulative
24 – 30 Years	42	16,8	16,8	16,8
31 – 37 Years	76	30,4	30,4	47,2
38 – 44 Years	68	27,2	27,2	74,4
45 – 51 Years	38	15,2	15,2	89,6
52 – 58 Years	20	8	8	97,6
59 – 65 Years Old	6	2,4	2,4	100
Total	250	100.0	100.0	

Source: SPSS 2026 Data Processing Results

Based on the results of the study, the majority of respondents were in the age range of 31-37 years and 38-44 years with a total percentage of 57.6%. This shows that the workforce at PT Metal Hitech Engineering is dominated by employees who are at a productive age and mature in the world of work. Employees at the age of 31–44 typically have a balance between physical ability, work experience, and maturity in decision-making. The number of respondents aged 24–30 years of age at 16.8% shows that companies also have a relatively young workforce. Meanwhile, the age group of 45 years and above reached 25.6% of the total respondents.

c. Characteristics of Respondents Based on Recent Education

The characteristics of respondents based on the last education of employees at PT Metal Hitech Engineering can be grouped as in the following table:

Table 6. Characteristics of Respondents Based on Recent Education

Levels	Frequenc	Percent	Valid	Cumulative
High	162	64,8	64,8	64,8
S1 (Bachelor)	76	30,4	30,4	95,2
S2 (Master)	12	4,8	4,8	100
Total	250	100.0	100.0	

Source: SPSS 2026 Data Processing Results

Based on the results of the study, the majority of respondents had a high school/vocational education level of 162 people or 64.8%. This shows that the workforce at PT Metal Hitech Engineering is dominated by employees with vocational secondary education who generally have technical skills according to the needs of the manufacturing industry. Furthermore, respondents with S1 (Bachelor) education level amounted to 76 people or

30.4%. Meanwhile, respondents with S2 (Master) education level were 12 people or 4.8%. The composition of the respondents' education level shows that PT Metal Hitech Engineering has a fairly good combination of human resources, which is dominated by technical workers who graduated from high school/vocational school and supported by a professional workforce who graduated from S1 and S2.

d. Characteristics of Respondents by Position

The characteristics of respondents based on the division or position of employees at PT Metal Hitech Engineering can be grouped as in the table below:

Table 5. Characteristics of Respondents by Position

Job Genius	Frequency	Percent	Valid Percent	Cumulative Percent
Production Valid	140	56	56	56
Engineering	35	14	14	70
Quality Control (QC/QA)	25	10	10	80
HRD	18	7,2	7,2	87,2
Finance & Accounting	17	6,8	6,8	94
Purchasing / Logistics	15	6	6	100
Total	250	100.0	100.0	

Source: SPSS 2026 Data Processing Results

Production Department with a total of 140 people or 56.0% of the total respondents. The dominance of the Production Department shows that most of the workforce at PT Metal Hitech Engineering is directly involved in the company's main operational processes and activities. This condition is in line with the characteristics of manufacturing companies that require more labor in the production department than other departments.

The Engineering Department ranked second with 35 respondents or 14.0%. The existence of this department is very important because it plays a role in the design, development, maintenance of machines, as well as improving the efficiency of the production process. Furthermore, the Quality Control Department (QC/QA) as many as 25 respondents or 10.0% showed the company's commitment to maintaining product quality in accordance with the standards that have been set.

The HRD, Finance and Accounting, and Purchasing/Logistics departments have a smaller number of respondents than the operational department. Nevertheless, the three departments have a very important role in supporting the smooth running of the company's activities, ranging from human resource management, financial management, to the provision of raw materials and distribution of operational needs.

The distribution of respondents by department shows that the research sample has reflected a company's organizational structure dominated by production functions and supported by technical and administrative functions. This composition provides a representative picture of the condition of human resources at PT Metal Hitech Engineering so that the data obtained can be used to describe the company's condition more accurately.

Structural Equation Modeling-Partial Least Square (SEM-SmartPLS) Schema

Hypothesis testing can be seen in the following conceptual framework drawing model scheme:

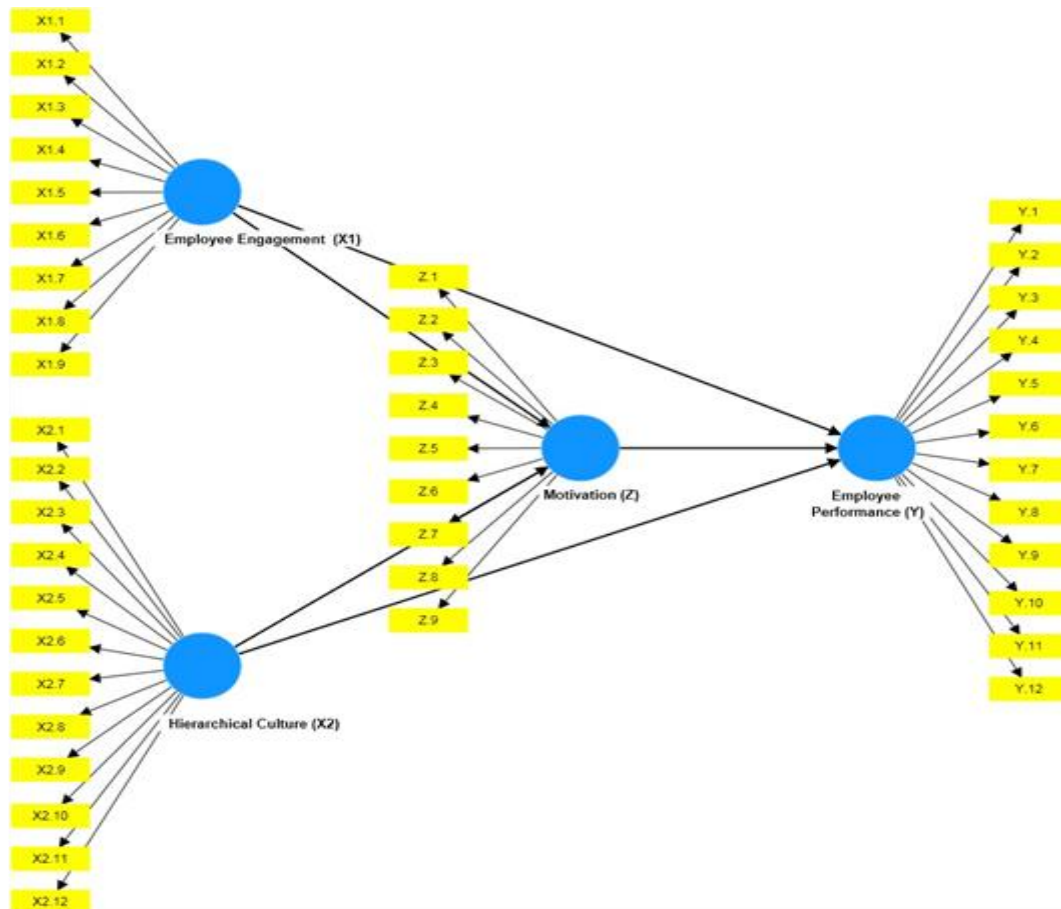
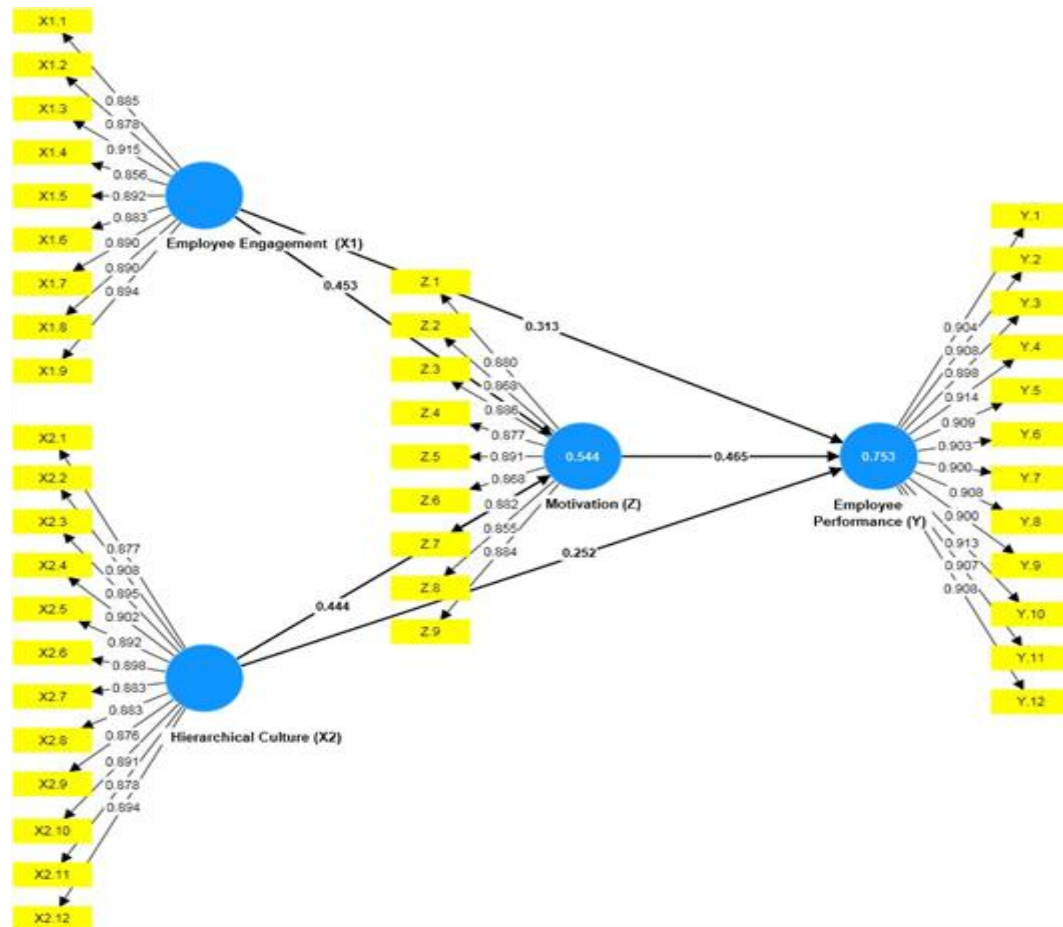


Figure 2. Conceptual Framework Results

Source: Smartpls Report 2026 Data Processing Results

Evaluation of Measurement Model Test or Outer Model

External model analysis is carried out to ensure that the measurement used is feasible to be used as a measurement (valid and reliable). In this model analysis, it specifies the influence between latent variables and their indicators. Based on the results of the PLS analysis in the PLS *Algorithm* for validity and reliability test, the model determination coefficient and the path coefficient for the equation model, have been shown based on the output results of the PLS *SmartPLS Algorithm*, which can be observed in Figure 4.3.



Outer Model Test Results Picture

Source: Smartpls Report 2026 Data Processing Results

Convergent Validity Test

This validity test is related to the principle that the measures of a construct should be highly correlated. Convergent Validity is an indicator that is assessed based on the correlation between item score/component score and construct score can be seen from the loading factor value for each construct indicator. The individual reflexive size is said to be high if it correlates >0.70 with the construct to be measured. However, for the initial stage of research from the development of the measurement scale of the loading value of 0.50 to 0.60 is considered sufficient (Ghozali & Latan, 2020). Attached below are the results of *the outer loading* value of each indicator from the research variable:

Table 6. Outer Loading Convergent Validity

Indicator	Employee Engagement (X1)	Hierarchical Culture (X2)	Employee Performance	Motivation (Z)
X1.1	0.885			
X1.2	0.878			
X1.3	0.915			
X1.4	0.856			
X1.5	0.892			
X1.6	0.883			

X1.7	0.890	
X1.8	0.890	
X1.9	0.894	
X2.1		0.877
X2.10		0.891
X2.11		0.878
X2.12		0.894
X2.2		0.908
X2.3		0.895
X2.4		0.902
X2.5		0.892
X2.6		0.898
X2.7		0.883
X2.8		0.883
X2.9		0.876
Y.1		0.90
Y.10		0.91
Y.11		0.90
Y.12		0.90
Y.2		0.90
Y.3		0.89
Y.4		0.91
Y.5		0.90
Y.6		0.90
Y.7		0.90
Y.8		0.90
Y.9		0.90
Z.1		0.880
Z.2		0.868
Z.3		0.886
Z.4		0.877
Z.5		0.891
Z.6		0.868
Z.7		0.882
Z.8		0.855
Z.9		0.884

Source: Smartpls Report 2026 Data Processing Results

Based on the Table of Results of the convergent validity test on the variables *Employee engagement* (X1), *Hierarchical Culture* (X2), *Motivation* (Z), and *Employee Performance* (Y) with a reflective measurement model, the *loading factor value* of the indicator was obtained of more than 0.700 so that the indicators of the variables had met the convergent validity (Ghozali & Latan, 2020). The results of the above analysis

show that there are no variable indicators that have an *outer loading* value of < 0.5 . So that the indicators can be declared valid for research and can be further analyzed

Discriminant Validity Test

The *Discriminant Validity* test of the indicator measurement model can be observed through *cross loading* between the indicator and its construct. Discriminant validity occurs if two different instruments measuring two predicted uncorrelated constructs produce scores that are indeed uncorrelated. It is expected that the measurement scale of the *cross loading* value of each indicator is more than 0.70. The table below shows the *cross loading* values of each indicator:

Table 7. Cross Loading Discriminant Validity

Indicator	Employee Engagement (X1)	Hierarchical Culture (X2)	Employee Performance (Y)	Motivation (W)
X1.1	0.885	0.2	0.594	0
X1.2	0.878	0.2	0.575	0
X1.3	0.915	0.3	0.652	0
X1.4	0.856	0.3	0.590	0
X1.5	0.892	0.3	0.637	0
X1.6	0.883	0.2		
X1.7	0.890	0.3	0.608	0
X1.8	0.890	0.3	0.625	0
X1.9	0.894	0.3	0.597	0
X2.1	0.289	0.8	0.587	0
X2.10	0.282	0.8	0.587	0
X2.11	0.295	0.8	0.543	0
X2.12	0.301	0.8	0.545	0
X2.2	0.315	0.9	0.572	0
X2.3	0.399	0.8	0.580	0
X2.4	0.268	0.9	0.555	0
X2.5	0.328	0.8	0.581	0
X2.6	0.285	0.8	0.571	0
X2.7	0.365	0.8	0.582	0
X2.8	0.328	0.8	0.605	0
X2.9	0.282	0.8	0.553	0
Y.1	0.593	0.5	0.904	0
Y.10	0.655	0.5	0.913	0
Y.11	0.611	0.6	0.907	0
Y.12	0.620	0.5	0.908	0
Y.2	0.611	0.5	0.908	0
Y.3	0.639	0.5	0.898	0
Y.4	0.613	0.5	0.914	0
Y.5	0.624	0.5	0.909	0
Y.6	0.643	0.5	0.903	0
Y.7	0.614	0.5	0.900	0

Y.8	0.602	0.6	0.908	0
Y.9	0.628	0.5	0.900	0
Z.1	0.543	0.5	0.732	0
Z.2	0.527	0.5	0.720	0
Z.3	0.579	0.5	0.690	0
Z.4	0.582	0.4	0.737	0
Z.5	0.506	0.5	0.701	0
Z.6	0.501	0.5	0.724	0
Z.7	0.500	0.5	0.682	0
Z.8	0.516	0.5	0.672	0
Z.9	0.548	0.5	0.719	0

Based on the data display in the table above, it can be seen that each indicator of the research variable has the largest cross loading value in the variable it forms compared to *the cross loading* value in other variables. Based on the results obtained, it can be said that the indicators used in the following study already have a good *Cross Loading value of the Discriminant Validity Test (Discriminant validity)* in compiling their respective variables. The above data shows that the cross loading value of each construct is evaluated to ensure that the correlation of the construct with the measurement item is greater than that of the other construct. The *expected cross loading* value is greater than 0.7 (Ghozali & Latan, 2020).

Furthermore, in addition to being able to observe from *the cross loading value, discriminant validity* can also be determined through another method, namely observing *the Average Variant Extracted (AVE)* value. Ghozali & Latan (2020) explained that other tests were carried out to assess the validity of the construct through the observation of *the average variance extracted* value. The model is declared good if *the Average Variant Extracted (AVE)* of each construct has a value greater than 0.50.

Table 8. Average Variance Extracted (AVE) Value

Variable	Average Variance Extracted (AVE)
Employee engagement (X1)	0.787
Hierarchical Culture (X2)	0.792
Employee Performance (Y)	0.821
Motivation (W)	0.769

Source: Smartpls Report 2026 Data Processing Results

Based on the data in the Table, it can be seen that each research variable has an *Average Variance Extracted (AVE)* value greater than 0.50. Thus, it can be stated that each variable already has a good *discriminant validity* value. So that further research can be carried out

Composite Reliability Test

The *Composite Reliability* Test is a part used to test a construct to prove the accuracy, consistency, and accuracy of the instrument in measuring constructs. A variable can be said to meet *composite reliability* if it has a composite reliability value of > 0.7 (Ghozali & Latan, 2020). Below is the composite reliability value of each variable used in the following study:

Table 8. Composite Reliability

Variable	Composite Reliability (Rho_a)	Composite Reliability (Rho_c)
Employee Engagement (X1)	0.967	0.971
Hierarchical Culture (X2)	0.976	0.979
Employee Performance (Y)	0.980	0.982

Motivation (W)	0.963	0.968
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Source: Smartpls Report 2026 Data Processing Results

Based on the display of data in the Table, it can be seen that the *composite reliability* value of all research variables is > 0.7 . Constructs are declared reliable if the *composite reliability* value is above 0.70 (Ghozali & Latan, 2020). These results can show that each variable has met the *composite reliability* and in the end a conclusion can be made that all variables have a high level of reliability

Cronbach's Alpha Test

Reliability testing, in addition to using *Composite Reliability*, can also be strengthened through the use of tests from the results of *Cronbach Alpha* values. A variable can be said to be reliable if the result of the *cronbach alpha* value is > 0.7 (Ghozali & Latan, 2020). As in the following table of *cronbach alpha* values:

Table 9. *Cronbach's Alpha Values*

Variable	Cronbach's alpha
Employee Engagement (X1)	0.966
Hierarchical Culture (X2)	0.976
Employee Performance (Y)	0.980
Motivation (W)	0.962

Based on the display of data in the Table, it can be seen that the *cronbach alpha* value of each research variable is > 0.7 . Therefore, based on this, the results of the following study show that each research variable has met the requirements of *Cronbach's alpha* value, in the end a conclusion can be made that all variables have a high level of reliability.

The Cronbach's Alpha values for all variables were above 0.70, indicating good internal consistency. The technostress variable had the highest value (0.839), while teacher performance had the lowest (0.812), yet both remained in the reliable category. Composite Reliability values were also above 0.70 for all constructs. Based on these results, all constructs have a high level of reliability and the measurement model is deemed reliable for subsequent analysis.

Structural Model Test or Inner Model

In this study, a structural test or inner model was used consisting of a path coefficient test, a goodness of fit test and a hypothesis test.

Path Coefficient Test

Based on the description of the results, it shows that all variables in this model have a *path coefficient* with a positive number. This shows that the greater the *path coefficient* value of one exogenous variable against the endogenous variable, the stronger the influence between exogenous variables on that endogenous variable. The categorization of the *Path Coefficient Test* is seen if the test value is more than 0.67, then the Good category, if the result is 0.33 - 0.67, it is classified as Medium and if the result is 0.19 - 0.33, it is classified as Weak.

Table 10. *Path Coefficients*

Hypothesis	Original Sample	Categori
Employee Engagement (X1) → Employee Performance (Y)	0.313	Weak
Hierarchical Culture (X2) → Employee Performance (Y)	0.252	Weak
Employee Engagement (X1) → Motivation (Z)	0.453	Mediu
Hierarchical Culture (X2) → Motivation (Z)	0.444	Mediu
Motivation (Z) → Employee Performance (Y)	0.465	Mediu

Source: Smartpls Report 2026 Data Processing Results

In the result table of *path coefficients* that have results in the Medium category, the influence of *Employee engagement* (X1) on Motivation (Z), the influence of Hierarchical Culture (X2) on Motivation (Z), and the influence of Motivation (Z) on Employee Performance (Y). The result of the *path coefficient* that has a result with the Weak category is the influence between *Employee engagement* (X1) on Employee Performance (Y) and the influence between Hierarchical Culture (X2) on Employee Performance (Y).

Model Goodness Test (*Goodness of Fit*)

Based on the data processing that has been carried out in *Smartpls 4.0*, the *R-Square value* is obtained as follows

Table 11. R-Square Value

Endogenous Variable	R-Square	Category
Work-Family Conflict	0.534	Moderate
Burnout	0.617	Strong
Teacher Performance	0.658	Strong

The R^2 value for work-family conflict was 0.534 (moderate category), indicating that 53.4% of its variance is explained by workload and technostress. The burnout variable has an R^2 value of 0.617, meaning 61.7% of its variation is explained by work-family conflict. The teacher performance variable has an R^2 value of 0.658, demonstrating that the research model has strong explanatory power for all endogenous variables.

$$\begin{aligned}
 Q\text{-Square} &= 1 - [(1 - RY) \times (1 - RZ)] \\
 &= 1 - [(1 - 0.750) \times (1 - 0.540)] \\
 &= 1 - (0.25 \times 0.46) \\
 &= 1 - 0.115 \\
 &= 0.885
 \end{aligned}$$

Based on the results of the calculation above, it was obtained that the *Q-Square* value was 0.885, which means that it shows the amount of diversity of research data that can be influenced by the research model, which is 88.5%. Meanwhile, the remaining 11.5% were explained by other factors outside the research model. The *value of R - Square* Employee Performance (Y) 0.750 is more than the *R-Square* value of Motivation (Z) 0.540, then it is stated that this model is acceptable.

Direct Impact Test

In the hypothesis test, it can be observed based on the t-statistical value and the probability value For the hypothesis test, namely through the use of statistical values so that for alpha 5% the statistical t-value used is 1.96. What makes the criteria for acceptance or rejection of the hypothesis is that H_a is accepted and H_0 is rejected when the t-statistic > 1.96. In order to reject or accept the hypothesis using probability so that H_a is accepted if the *P value* < 0.05. The table of hypothesis test results obtained in the following study uses the *inner model*

Table 12. Direct Effect Test

Hypothesis	Original Sample	T-Statistic	P Values
Employee Engagement (X1) → Employee Performance (Y)	0.313	7.604	0.000
Hierarchical Culture (X2) → Employee Performance (Y)	0.252	6.105	0.000
Employee Engagement (X1) → Motivation (Z)	0.453	10.687	0.000
Hierarchical Culture (X2) → Motivation (Z)	0.444	8.940	0.000
Motivation (Z) → Employee Performance (Y)	0.465	10.052	0.000

Source: *Smartpls* Data Processing Results 2026

Based on the table above, it shows that of the seven hypotheses, 7 hypotheses are immediately accepted.

H1: Employee Engagement (X1) vs. Employee Performance (Y)

The hypothesis of the effect between Employee Engagement (X1) and Employee Performance (Y) obtained an Original Sample value of 0.313 which has a positive value because it is above zero. The T-Statistic value of 7.604 is greater than the T-Table ($7.604 > 1.960$) and the P-Values of 0.000 is less than 0.05. Thus, Employee Engagement (X1) has a positive and significant effect on Employee Performance (Y). This means that the higher the Employee Engagement that employees have, the higher the Employee Performance produced. The results show that the hypothesis is accepted.

H2: Hierarchical Culture (X2) to Employee Performance (Y)

The hypothesis of the influence between Hierarchical Culture (X2) on Employee Performance (Y) obtained an Original Sample value of 0.252 which has a positive value because it is above zero. The T-Statistic value of 6.105 is greater than the T-Table ($6.105 > 1.960$) and the P-Values of 0.000 is less than 0.05. Thus, Hierarchical Culture (X2) has a positive and significant effect on Employee Performance (Y). This means that the better the implementation of the hierarchical culture in the organization, the more employee performance will increase. The results show that the hypothesis is accepted.

H3: Employee Engagement (X1) vs. Motivation (Z)

The hypothesis of the influence between Employee Engagement (X1) and Motivation (Z) obtained an Original Sample value of 0.453 which has a positive value because it is above zero. The T-Statistic value of 10,687 is greater than the T-Table ($10,687 > 1,960$) and the P-Values value of 0.000 is smaller than 0.05. Thus, Employee Engagement (X1) has a positive and significant effect on Motivation (Z). This means that the higher the Employee Engagement that employees have, the higher the Motivation felt by employees. The results show that the hypothesis is accepted.

H4: Hierarchical Culture (X2) vs. Motivation (Z)

The hypothesis of the influence between Hierarchical Culture (X2) and Motivation (Z) obtained an Original Sample value of 0.444 which has a positive value because it is above zero. The T-Statistic value of 8,940 is greater than the T-Table ($8,940 > 1,960$) and the P-Values of 0.000 is less than 0.05. Thus, Hierarchical Culture (X2) has a positive and significant effect on Motivation (Z). This means that the better the hierarchical culture that is implemented in the organization, the higher the motivation that employees have. These results show that the hypothesis is accepted

H5: Motivation (Z) to Employee Performance (Y)

The hypothesis of the influence between Motivation (Z) on Employee Performance (Y) obtained an Original Sample value of 0.465 which has a positive value because it is above zero. The T-Statistic value of 10.052 is greater than the T-Table ($10.052 > 1.960$) and the P-Values of 0.000 is smaller than 0.05. Thus, Motivation (Z) has a positive and significant effect on Employee Performance (Y). This means that the higher the Motivation that employees have, the higher the Employee Performance produced. The results show that the hypothesis is accepted.

Indirect Influence Test

Indirect influence hypothesis testing using *the bootstrapping resampling technique*. Before looking at the effect of mediation on the mediator variable, it must first be seen whether there is a significant influence on the endogenous variable. If the effect of the mediator variable is done after *bootstrapping* to first see the significance of the effect. If there is no significance of the effect, no further mediation effect test will be conducted.

- 1 Full mediation (*full/perfect mediation*) occurs if the influence of exogenous variables on endogenous variables is directly significant, but the effect becomes insignificant when it involves mediating variables.
- 2 Partial mediation (*Partial Mediation*) occurs if the influence of exogenous variables on endogenous variables either directly or indirectly is significant. However, the regression coefficient of exogenous endogenous influences is reduced, when the mediating variable is included.

The following are attached the results of data processing for testing from the indirect influence hypothesis:

Table 13. Indirect Effect Test

Hypothesis	Original Sample	T-Statistic	P Value
Employee Engagement (X1) ⊗ Motivation (Z) ⊗ Employee Performance (Y)	0.211	7.156	0.000
Hierarchical Culture (X2) ⊗ Motivation (Z) ⊗ Employee Performance (Y)	0.207	7.002	0.000

Source : Smartpls Report 2026 Data Processing Results

H6: Employee engagement (X1) to Employee Performance (Y) through Motivation (Z)

The hypothesis of the influence of Employee Engagement (X1) on Employee Performance (Y) through Motivation (Z) obtained an Original Sample result of 0.211 which has a positive value because the value is above zero and below one. The T-Statistic value is 7.156 and the P-Value is 0.000. Based on these results, the T-Statistic value was greater than the T-Table ($7.156 > 1.960$) and the P-Value was less than 0.05 ($0.000 < 0.05$), thus indicating a positive and significant influence. Thus, it can be stated that Employee Engagement (X1) has a positive and significant effect on Employee Performance (Y) through Motivation (Z). These results suggest that the H6 hypothesis is accepted.

H7: Hierarchical Culture (X2) on Employee Performance (Y) through Motivation (Z)

The hypothesis of the influence of Hierarchical Culture (X2) on Employee Performance (Y) through Motivation (Z) obtained an Original Sample result of 0.207 which has a positive value because the value is above zero and below one. The T-Statistic value is 7.002 and the P-Value is 0.000. Based on these results, the T-Statistic value was greater than the T-Table ($7.002 > 1.960$) and the P-Value was smaller than 0.05 ($0.000 < 0.05$), thus indicating a positive and significant influence. Thus, it can be stated that Hierarchical Culture (X2) has a positive and significant effect on Employee Performance (Y) through Motivation (Z). These results show that the H7 hypothesis is accepted

Discussions

The Effect of Employee Engagement on Employee Performance

The test results showed that Employee Engagement had a positive and significant effect on Employee Performance with an Original Sample value of 0.313, T-Statistic of 7.604, and P-Value of 0.000. A T-Statistic value greater than 1.960 and a P-Value smaller than 0.05 indicate

that the hypothesis is accepted. This result indicates that the higher the Employee Engagement that employees have, the higher the Employee Performance produced.

Based on the results of the questionnaire, Employee Engagement was measured through the dimensions of vigor (enthusiasm), dedication (dedication), and absorption (appreciation). The majority of respondents gave positive assessments on statements related to work morale, commitment to the company, pride in being part of the company, and ability to focus on getting work done. This condition shows that PT Metal Hitech Engineering employees have a good attachment to the job and the organization where they work. Employee Engagement is a positive psychological condition that is shown through passion, dedication, and full involvement in work. Employees who have high engagement will show great energy at work, have a strong commitment to the organization, and are able to devote full attention to the tasks at hand. These conditions will encourage an increase in quality, quantity, effectiveness, and punctuality in work.

The results of this study show that employee attachment to the company is an important factor in improving performance. In a manufacturing environment such as PT Metal Hitech Engineering, work often requires precision, discipline, and the ability to work according to production targets. When employees feel proud of the company, have a high commitment, and enjoy their work, they will be encouraged to provide the best work results so that the performance produced becomes more optimal.

These findings are supported by Astuti (2023), Fiqlly (2024), Kurniawati & Mulyanto (2024), Rustina *et al.*, (2025) and Safitri *et al.*, (2024) who alsoThe findings of this study offer more than a confirmation that workload and technostress negatively affect teacher performance. They reveal the specific psychological and relational pathway through which digital work demands erode performance — a pathway that runs through the disruption of family roles and the depletion of emotional resources, rather than operating as a simple direct effect. Understanding this mechanism matters because it reframes digital fatigue not as a technical problem to be solved through better platforms or faster internet, but as a fundamentally human problem rooted in how teachers experience the collision between professional demands and personal responsibilities.

Workload emerged as the stronger predictor of work-family conflict ($H1, \beta = 0.431, f^2 = 0.247$ — medium effect) compared to technostress ($H2, \beta = 0.264, f^2 = 0.143$ — small effect), consistent with Setyaningsih, Abadiyah, and Kusuma (2024) and Creagh *et al.* (2025). This difference in magnitude is theoretically meaningful. Workload operates through time — every hour spent completing PMM modules or *e-performance* documentation is an hour unavailable for family. Technostress, by contrast, operates primarily through strain: it exhausts cognitive and emotional capacity, leaving teachers depleted even during time nominally designated for family. Both mechanisms generate role conflict, but through fundamentally different channels. The fact that workload produces a stronger effect suggests that among married teachers in Kebomas, the time dimension of work-family conflict is more immediately disruptive than the psychological spillover from technostress alone—a finding with direct implications for intervention prioritization.

Work-family conflict significantly predicted burnout ($H3, \beta = 0.503, f^2 = 0.274$ — medium effect), consistent with Li *et al.* (2024) and Moreira, Esfolá, Pozuelo, Pinto, Carvalho, and Esteves (2024). This relationship reflects a process of progressive resource depletion. When married teachers consistently cannot fulfill family responsibilities because professional

demands have colonized their domestic time and energy, they lose access to the recovery and restoration that family life can provide. The home, rather than serving as a buffer against occupational stress, becomes an additional arena of unmet obligation. Over time, this sustained depletion manifests as emotional exhaustion, which then extends into depersonalization and diminished personal accomplishment as protective psychological distancing mechanisms take hold.

Burnout demonstrated the strongest effect on teacher performance in the model ($H4$, $\beta = -0.467$, $f^2 = 0.321$ — large effect), and this finding deserves more than simple confirmation. The magnitude of burnout's effect relative to workload and technostress reveals something important about how digital fatigue operates: its most damaging consequences are not felt at the point of technological overload, but downstream, after psychological damage has already accumulated. By the time burnout manifests, a teacher's capacity for instructional quality, student engagement, and administrative completion has already been systematically eroded. This temporal gap between cause and consequence is precisely why digital fatigue is so difficult to address reactively — interventions that target visible symptoms like platform complexity miss the deeper psychological deterioration that has already taken root. Tu et al. (2025) confirm this pattern, identifying burnout as the dominant mediating mechanism between digital work demands and performance decline.

The complete serial mediation from workload through work-family conflict and burnout to performance ($H5b$, $\beta = -0.101$, $p = 0.001$) confirms that workload does not directly diminish teacher performance but operates entirely through the relational and psychological chain identified in this model. This finding suggests that workload reduction alone, without attention to its downstream effects on role conflict and emotional exhaustion, may not restore performance if burnout has already taken hold. Recovery requires active intervention beyond workload management — including psychological support and organizational conditions that permit genuine disengagement from professional demands during non-working hours.

The non-significant serial mediation from technostress to performance ($H6b$, $\beta = -0.062$, $p = 0.075$) is the most theoretically interesting finding in this study. Technostress does significantly influence work-family conflict ($H2$) and the WFC-burnout chain is significant ($H6a$), yet the cumulative indirect effect across three sequential path coefficients fails to reach significance. This attenuation reflects a structural characteristic of serial mediation: when individual path coefficients are modest, their product can fall below significance thresholds even when each link is individually significant. This does not mean technostress is inconsequential — its contributions to work-family conflict and the WFC-burnout pathway are confirmed. Rather, it suggests technostress affects performance through more proximal pathways not fully captured in this model, pointing toward the need for future research examining direct technostress-performance relationships and potential moderating variables such as organizational support and digital self-efficacy.

The Kebomas context adds an important dimension to these findings. As a peri-urban industrial district where national digitalization policies have been implemented with particular intensity, Kebomas represents a theoretically informative setting for examining digital fatigue at the intersection of occupational and domestic life. The finding that married teachers in this context report role conflict and burnout patterns consistent with international literature suggests that the mechanisms of digital fatigue identified here have cross-contextual validity, while simultaneously pointing to the need for locally responsive policy interventions

that account for the dual-role burdens that Indonesian married teachers carry. reveals that *employee engagement* has a significant influence on employee performance. The consistency of the results of the study shows that employee involvement is an important factor in improving work performance.

The Influence of Hierarchical Culture on Employee Performance

The test results showed that Hierarchical Culture had a positive and significant effect on Employee Performance with an Original Sample value of 0.252, T-Statistic of 6.105, and P-Value of 0.000. This value shows that the hypothesis is accepted so that the better the implementation of the hierarchical culture in the company, the higher the employee performance.

Based on the research questionnaire, Hierarchical Culture is measured through the indicators of integrity, professionalism, satisfaction, and exemplary. Most respondents agreed that employees work according to SOPs, carry out their duties according to their responsibilities, work professionally, and get clear directions from their superiors. In addition, a structured work system and clear division of tasks are also considered to be able to help smooth work. Hierarchical culture is an organizational culture that emphasizes rules, procedures, coordination, control, and organizational stability. This culture aims to create an orderly work environment so that each individual understands their respective roles and responsibilities.

These results show that a hierarchical culture is very suitable for manufacturing companies that have structured work processes and strict operational standards. The existence of clear SOPs, good supervision, and examples from leaders can help employees work more purposefully and disciplined. Thus, the work can be completed effectively and result in better performance. The results of the study were reinforced by Ma'ruf *et al.*, (2023), Imam & Gunistiyo (2024), Marhawati (2022) and Matutu (2025) who showed that hierarchical culture has a significant effect on employee performance. The consistency of these findings confirms that the existence of clear rules, supervision systems, and structured command flows are able to encourage employees to work more disciplined and directed.

The Influence of Employee Engagement on Motivation

The test results showed that Employee Engagement had a positive and significant effect on Motivation with an Original Sample value of 0.453, T-Statistic of 10.687, and a P-Value of 0.000. This coefficient value is one of the largest in the study, which shows that Employee Engagement has an important role in increasing employee work motivation.

Based on the Employee Engagement indicator, high work morale, pride in the company, commitment to work, and ability to concentrate on work indicate that employees have a strong emotional connection with the company. This condition encourages the emergence of higher motivation in carrying out work.

Engaged employees tend to have high energy, enthusiasm, and dedication at work. This attachment will foster an internal drive to achieve better work results so that work motivation increases. When employees feel valued, engaged in work, and have pride in the company, they will be more motivated to make their best contributions. Therefore, increasing Employee Engagement is one of the important strategies for companies to increase employee work motivation. These findings are strengthened by Abadi (2022), Aponno (2024), Astuti (2023), Rustina *et al.*, (2025) and Safitri *et al.*, (2024) who also show that *employee engagement* has a

significant effect on motivation. The consistency of the results of this study confirms that employee involvement is an important factor in building work morale and enthusiasm

The Influence of Hierarchical Culture on Motivation

The test results showed that Hierarchical Culture had a positive and significant effect on Motivation with an Original Sample value of 0.444, T-Statistic of 8.940, and P-Value of 0.000. These results show that the better the hierarchical culture that the company implements, the higher the employee motivation at work.

Based on the results of the questionnaire, respondents gave a positive assessment of the implementation of SOPs, clarity of duties, supervision system, and leadership examples. This condition provides certainty and a sense of security for employees in carrying out their work so that it can increase work motivation. A work environment that has clear rules and a structured system is able to reduce uncertainty in work. Employees will better understand what to do and how to achieve the goals that have been set. Work motivation is not only influenced by individual factors, but also by organizational conditions. When the company has a clear work system, an orderly division of tasks, and leadership that sets a positive example, employees will be more motivated to work optimally and achieve the targets set by the company.

These results are reinforced by the research of Putri & Kasmiruddin (2025), Kurniahadi *et al.*, (2023), and Anjeli *et al.*, (2024) which shows that hierarchical culture has a significant effect on motivation. The consistency of these findings confirms that clarity of rules, supervision systems, and good command flows can improve employee discipline and morale.

The Effect of Motivation on Employee Performance

The test results showed that Motivation had a positive and significant effect on Employee Performance with an Original Sample value of 0.465, T-Statistic of 10.052, and P-Value of 0.000. This coefficient value is the largest in the direct relationship to Employee Performance, thus showing that motivation has a very important role in improving employee performance. Motivation in this study was measured through the dimensions of expectancy, instrumentality, and valence. The results of the questionnaire showed that most respondents believed that the work effort made would improve performance, work performance would get awards, and bonuses and promotions were important to them.

According to Vroom in Expectancy Theory, motivation arises when individuals believe that the effort made will result in good performance, good performance will earn an award, and the award has value for the individual. The higher the belief, the higher the motivation a person has. PT Metal Hitech Engineering employees will show better performance if the company is able to provide a fair reward system and clear career development opportunities. When employees feel that their efforts and achievements are valued by the company, they will be encouraged to work more effectively, productively, on time, and produce better quality work. Therefore, motivation is a very important factor in improving Employee Performance in the company.

The findings are supported by research by Abadi (2022), Saddawero *et al.*, (2023), Ma'ruf *et al.*, (2023) and Kurniahadi *et al.*, (2023) which also states that motivation has a significant effect on employee performance. The consistency of the results of this study confirms that motivation is one of the main factors in increasing productivity and work effectiveness.

The Influence of Employee Engagement on Employee Performance through Motivation

The results of the indirect effect test showed that the influence of Employee Engagement on Employee Performance through Motivation obtained an Original Sample value of 0.211, a T-Statistic of 7.156, and a P-Value of 0.000. The T-Statistic value is greater than 1.960 and the P-Value is less than 0.05, thus indicating that the indirect influence is positive and significant. Thus, the hypothesis that Employee Engagement affects Employee Performance through Motivation is accepted. Based on the results of the direct effect test, it is known that the direct influence of Employee Engagement on Employee Performance is also significant with a T-Statistic value of 7.604 and a P-Value of 0.000. Therefore, Motivation plays the role of partial mediation, because direct and indirect influences are equally significant. This shows that Employee Engagement is not only able to increase Employee Performance directly, but also through increasing employee motivation.

Employee Engagement is measured through the dimensions of vigor, dedication, and absorption. Employees who have high enthusiasm for work, are proud of the company, have a strong commitment, and are able to focus on carrying out their duties tend to have higher motivation to achieve work targets. This motivation then encourages employees to work more effectively, productively, and produce better performance. Employee Engagement is a positive psychological condition characterized by passion, dedication, and full involvement in work. Employees who have high engagement will be more motivated to make maximum contributions to the organization. Meanwhile, according to Vroom, motivation arises when individuals are confident that the effort made will result in good performance and obtain valuable rewards. Therefore, high work attachment will increase motivation, which further impacts improved performance.

The results of this study show that Motivation is an important mechanism that bridges the relationship between Employee Engagement and Employee Performance. Although Employee Engagement has been able to improve performance directly, this influence will be stronger if employees are also highly motivated. In other words, the higher the enthusiasm, dedication, and attachment of employees to the company, the greater the motivation they have to work optimally so that the resulting performance will be better. Therefore, Motivation acts as a partial mediator that strengthens the influence of Employee Engagement on Employee Performance. These findings are strengthened by research by Astuti (2023) and Rustina *et al.*, (2025) who also explain that there is an indirect influence between *employee engagement* on employee performance through motivation. The consistency of the results of this study confirms that motivation plays a mediator that bridges the relationship between employee engagement and performance.

The Influence of Hierarchical Culture on Employee Performance through Motivation

The results of the indirect effect test showed that the influence of Hierarchical Culture on Employee Performance through Motivation obtained an Original Sample value of 0.207, T-Statistic of 7.002, and P-Value of 0.000. The T-Statistic value is greater than 1.960 and the P-Value is less than 0.05, thus indicating that the indirect influence is positive and significant. Thus, the hypothesis that Hierarchical Culture affects Employee Performance through Motivation is accepted. Based on the results of the direct effect test, it is known that the direct influence of Hierarchical Culture on Employee Performance is also significant with a T-Statistic value of 6.105 and a P-Value of 0.000. Therefore, Motivation plays the role of partial mediation, because direct and indirect influences are equally significant. This shows that

Hierarchical Culture can improve Employee Performance directly or through increasing employee motivation.

Hierarchical Culture is measured through integrity, professionalism, satisfaction, and exemplarity. The existence of clear work rules, consistent implementation of SOPs, structured division of tasks, and examples from leaders create an orderly and directed work environment. This condition makes employees better understand their roles and responsibilities so as to increase motivation to work optimally. Hierarchical culture emphasizes stability, control, coordination, and adherence to organizational rules. A structured culture can create job certainty and assist employees in carrying out their duties effectively. On the other hand, Vroom's theory of expectation explains that motivation will increase when individuals are confident that the effort put in can result in good performance and earn the expected rewards. The results of this study show that the hierarchical culture applied at PT Metal Hitech Engineering not only functions as an organizational control system, but is also able to increase employee work motivation. Clarity of procedures, work standards, and direction from superiors make employees feel more confident in carrying out their work. This condition encourages the emergence of higher motivation to achieve work targets and produce optimal performance. Therefore, Motivation acts as a partial mediator that strengthens the influence of Hierarchical Culture on Employee Performance. Thus, improving employee performance can be achieved through the implementation of a good hierarchical culture and supported by high work motivation.

These findings are strengthened by the research of Putri & Kasmiruddin (2025), Ma'ruf *et al.*, (2023) and Marsela (2024) who explain that there is an indirect influence between hierarchical culture on employee performance through motivation. The consistency of the results of this study confirms that motivation plays a role as an intervening variable that bridges the relationship between hierarchical culture and employee performance

Conclusion

This study concludes that employee engagement, hierarchical culture, and Vroom's expectancy motivation are important determinants of employee performance at PT Metal Hitech Engineering. The findings confirm that employee engagement has a positive and significant direct effect on employee performance, indicating that employees who demonstrate higher levels of vigor, dedication, and absorption are more likely to achieve superior work outcomes. Similarly, hierarchical culture positively and significantly influences employee performance, suggesting that clearly defined organizational structures, standardized procedures, and effective coordination create a disciplined work environment that enhances employees' ability to achieve organizational objectives. The results further demonstrate that both employee engagement and hierarchical culture significantly increase Vroom's expectancy motivation. Employees who feel emotionally connected to their work and operate within a well-structured organizational culture are more confident that their efforts will lead to better performance and meaningful rewards. In turn, expectancy motivation exerts the strongest direct influence on employee performance among the structural relationships examined, highlighting the importance of aligning employee effort, organizational rewards, and performance expectations. Furthermore, this study confirms that Vroom's expectancy motivation partially mediates the relationships between employee engagement and employee performance as well as between hierarchical culture and employee performance. These

findings indicate that employee engagement and hierarchical culture improve performance not only through direct organizational mechanisms but also indirectly by strengthening employees' motivational beliefs regarding the relationship between effort, performance, and rewards. Therefore, motivation serves as an essential psychological mechanism that amplifies the effectiveness of organizational practices in improving employee performance. From a theoretical perspective, this study extends the application of Vroom's Expectancy Theory by integrating employee engagement and hierarchical culture into a comprehensive structural model that explains employee performance in the manufacturing sector. From a practical perspective, the findings suggest that organizations should simultaneously strengthen employee engagement initiatives, maintain an effective hierarchical culture characterized by clear procedures and leadership support, and develop fair reward systems that reinforce employees' expectancy, instrumentality, and valence. Implementing these strategies will contribute to sustainable improvements in employee motivation and organizational performance.

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