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The Impact of Industry-Based Training Programs and Indonesian National Work Competency Standards on Productive Teacher Performance in Ministry of Industry Vocational High School Through Motivation as an Intervening Variable

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This study aims to examine the impact of industry-based training programs and Indonesian national work competency standards on the performance of productive teachers at vocational high schools (SMK) under the Ministry of Industry, using motivation as an intervening variable. Data collection methods included a survey and questionnaire distribution, with a sample of 85 respondents. The analysis method used was structural equation modeling using SmartPLS. The results showed a significant effect of training on work motivation. There was a significant effect of competence on work motivation. There was a significant effect of training on teacher performance. There was a significant effect of competence on teacher performance. There was a significant effect of work motivation on teacher performance. There was a significant effect of training on teacher performance through work motivation. There was a significant effect of competence on teacher performance through work motivation.
Keywords: Training, Competence, Work Motivation, and Teacher Performance

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1. Introduction

Human resources are the most important resource in managing and carrying out functions within an organization. Organizational functions within an organization are fully handled by human resources. Organizations with good human resources will be able to carry out the company's organizational functions well. Organizational functions carried out properly by the existing human resources within the organization will be able to support performance and increase the organization's productivity. Currently, HR management is changing and the stand-alone specialized function has become a function that is integrated with all other functions within the organization, to jointly achieve predetermined goals and has a very strategic planning function within the organization. In other words, the old HR function has become more strategic. All of these HR potentials influence the organization's efforts to achieve its goals. In the process of achieving goals, employee performance evaluation is necessary.

According to[1]Performance is the quality and quantity of work results achieved by an employee in carrying out his duties in accordance with the responsibilities assigned to him. Performance is the work results and work behavior that have been achieved in completing the tasks and responsibilities assigned within a certain period.

Performance is a function of motivation and ability. To complete a task or job, a person should possess a certain degree of willingness and ability. Performance is the work results achieved by employees in developing their tasks and work within the organization. Performance is also the work produced by

individuals through organizational or company processes that can be concretely measured and compared to standards set by the company or organization.[2].

Vocational High Schools (SMK), under the auspices of the Ministry of Industry of the Republic of Indonesia, are vocational secondary education institutions specifically designed to produce competent, skilled, and industrially ready human resources. These vocational schools emphasize not only academic learning but also technical and practical skills that align with the needs of the national manufacturing and industrial sectors. Through an industrial competency-based curriculum, fieldwork practices, and internships at partner companies, students are equipped with relevant skills so that graduates can be directly absorbed into the workforce. This educational program also emphasizes competency certification, both nationally and internationally, so that graduates receive official recognition for their skills. The primary vision of the Ministry of Industry's vocational schools is to produce graduates who are work-ready, able to think practically, adapt to developments in industrial technology, and possess professionalism and collaborative skills. By integrating industry-based learning methods, collaborating with various companies, and focusing on practical competencies, the Ministry of Industry's vocational schools play a strategic role in developing superior human resources in Indonesia's industry, ready to face global challenges. Based on this performance achievement data, it can be concluded that teacher performance is suboptimal, allegedly caused byindustry-based training and competency standardsthrough work motivation.

The factors that influence performance are ability and motivation. According to[3] Factors that influence performance include knowledge, skills, competence, compensation, motivation, leadership, enthusiasm, work environment, organizational commitment, and job satisfaction. Performance is not an individual characteristic, such as talent or ability, but rather a manifestation of that talent or ability itself.

Work motivation is a way to encourage employees to work according to expectations. Providing motivation to employees can improve performance, resulting in high work enthusiasm and completing tasks assigned by management. Every manager's job is to ensure that employees have a high level of motivation by providing monetary and non-monetary incentives. Highly motivated employees have high work productivity and performance. According to[4]states that work motivation is a way to encourage employees to work according to expectations. Providing motivation to employees can improve performance, leading to high work enthusiasm and completing tasks assigned by management.

Job training is a crucial tool for improving the competence, productivity, and professionalism of human resources within a company. Through training, employees are expected to master the technical and non-technical skills needed to support smooth operations and achieve company targets. Job training demonstrates the company's commitment to developing workforce capabilities in their respective fields. Training materials focus on improving technical production skills, quality control, and occupational safety and health (K3).[5].

Competence is the ability to carry out or perform a job or task based on skills and knowledge and supported by the work attitude required by the job.[5]. Competence is an individual's ability to carry out a job correctly and have advantages based on matters relating to knowledge, skills and attitudes. Competence is a person's ability to produce at a satisfactory level in the workplace, including the person's ability to transfer and apply these skills and knowledge in new situations and increase agreed benefits. Competence also shows the characteristics of knowledge and skills possessed or needed by each individual that enable them to carry out their duties and responsibilities effectively and raise professional quality standards in their work.

Based on the results of research conducted by[6] which states that training has a significant influence on work motivation. Research conducted by[7] which states that job training has a significant influence on

work motivation. The research conducted(Harahap, 2022)which states that competence and workload have a positive and significant effect on performance. The research conducted(Ariesta, 2022)which states that competence and workload have a positive and significant effect on performance. The research conducted(Suwandewi, 2022)Competence and workload have a positive and significant influence on performance. Research conducted by[11]which states that work motivation has a significant influence on employee performance. Research conducted by[12]which states that work motivation has a significant influence on employee performance. Research conducted by[13]which states that work motivation has a significant influence on employee performance.

Research conducted by[14]*states that training and competence have a significant influence on employee performance. Research conducted by*[15]*states that training and competence have a significant influence on employee* performance*. Research conducted by*[16]*states that training and competence have a significant influence on employee performance. Research conducted by*[17]*states that training and competence have a significant influence on employee performance*.

2. Method

Structural Equation Modeling (SEM) Analysis

This study used the Structural Equation Modeling (SEM) analysis tool using the SmartPLS program. SmartPLS is a component-based approach for testing structural equation models, commonly called SEM. SmartPLS is based on the idea of having two iterative procedures that use least squares estimation for single and multi-component models. By applying these procedures, this algorithm aims to minimize the variance of all dependent variables, therefore the cause and direction between all variables need to be clearly defined. SmartPLS is divided into measurement models and structural models. SmartPLS is a powerful method because it is not based on many assumptions. Data does not have to be multivariate normal distribution (indicators with categorical, ordinal, interval, and ratio scales can be used in the same model). SmartPLS is also more efficient with algorithmic calculations that are capable of estimating larger and more complex models with hundreds of latent variables and thousands of indicators.[18].

Measurement Model Test (Outer Model)

In data analysis techniques using SmartPLS, there are three criteria for assessing the outer model: Convergent Validity, Discriminant Validity, and Composite Reliability. Convergent validity of a measurement model with reflective indicators is assessed based on the correlation between item scores or component scores estimated using SmartPLS software. An indicator is considered to have good reliability if it has a value above 0.7. We can see this figure by referring to the Outer Loading table in SmartPLS.[19].In this composite reliability test, there are two tables that must be observed: the values contained in the Composite Reliability table and Cronbach's Alpha, which must be greater than 0.7. For the Discriminant Validity test, it can be seen from the cross-loading value. The correlation value of the indicator to its construct must be greater than the correlation value between the indicator and other constructs. There is another way to test Discriminant Validity by comparing the root value of the Average Variance Extracted (AVE) for each construct with the correlation between the construct and other constructs.

1. Measurement Modelor Validity
   The outer model assessment aims to assess the correlation between item or indicator scores and their construct scores, indicating the level of validity of a statement item. Outer model testing is conducted based on the results of a questionnaire trial conducted for all research variables. There are three criteria in the use of data analysis techniques to assess the outer model: Convergent Validity,

Discriminant Validity, and Composite Reliability. In the development stage, a correlation of 0.50 to 0.6 is considered acceptable. In research, the limit for convergent validity is above 0.7.

2. Reliability
   Once the data validity level is known, the next step is to determine the level of data reliability or the level of reliability of each construct or variable. This assessment is done by looking atComposite reliability value and Crombach alpha value. A construct is said to be reliable if it provides a Crombach alpha value > 0.70.
3. R-square
   Next, as explained previously, the inner model assessment will be evaluated through the R-Squared value, to assess the influence of certain exogenous latent constructs on endogenous latent constructs to see whether they have a substantive influence.

Path Coefficient and Hypothesis Testing

Testing the inner model or structural model is conducted to examine the relationship between variables, the significance value, and the R-square of the research model. Model assessment using PLS begins by examining the R-square for each dependent latent variable. Changes in the R-square value can be used to assess the influence of a particular independent latent variable on the dependent latent variable and whether it has a substantive effect.

3. Results and Disccusion

Research Description

Table 1. Calculation of Questionnaire Distribution Results

No.	Questionnaire	Amount	Percentage%
1	Distributed questionnaires	85	100
2	Unreturned questionnaires	0	0
3	Incorrectly filled out (defective or damaged) questionnaire	0	0
4	Questionnaires suitable for data processing	85	100

Source: Survey Results, 2026

Research Data Analysis

The data processing technique in this study uses the SEM method based on Partial Least Square (PLS) which requires two stages for the assessment of a research model: the outer model and the inner model. The outer model assessment aims to assess the correlation between item or indicator scores and their construct scores, which indicate the level of validity of a statement item. Outer model testing is carried out based on the results of questionnaire trials that have been conducted for all research variables. There are three criteria in the use of data analysis techniques to assess the outer model: Convergent Validity, Discriminant Validity, and Composite Reliability. In the development stage, a correlation of 0.50 to 0.6 is considered adequate or acceptable. In research, the limit for convergent validity values is above 0.7.

Outer Model (Structural Model) Testing Before Elimination

Based on the resultsTesting the outer model using SmartPLS, obtained the correlation values between the statement items of the research variables as follows:

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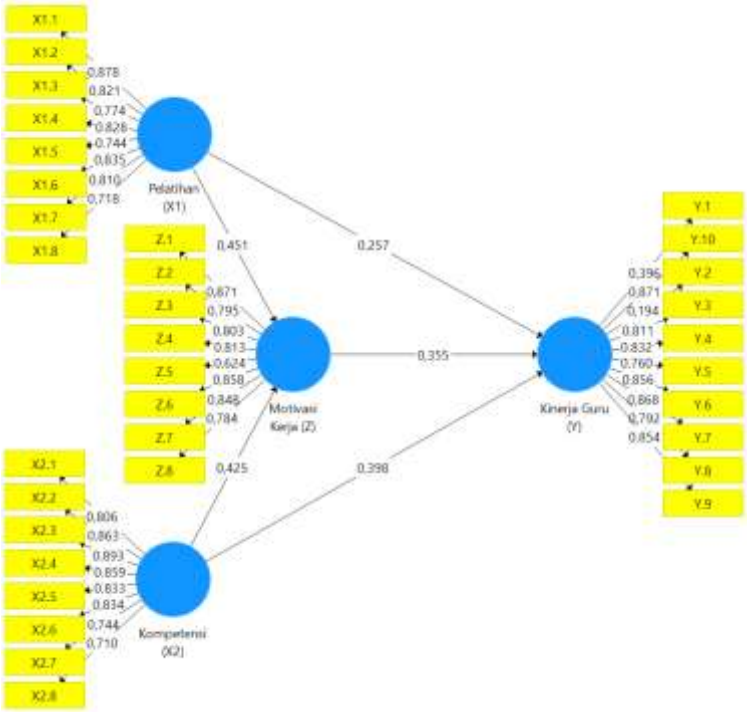
Figure 1. Outer Loadings Before Elimination



In data analysis techniques using SmartPLS, there are three criteria for assessing the outer model: convergent validity, discriminant validity, and composite reliability. Convergent validity of a measurement model with reflective indicators is assessed based on the correlation between item scores or component scores estimated with PLS software. Indicators are considered to have good reliability if they have a value above 0.7. There are three criteria in the use of data analysis techniques to assess the outer model: convergent validity, discriminant validity, and composite reliability. In the development stage, a correlation of 0.50 to 0.6 is considered adequate or acceptable. In research, the limit value of convergent validity is above 0.7.

Outer Model (Structural Model) Testing After Elimination

Based on the resultsTesting the outer model using SmartPLS, obtained the correlation values between the statement items of the research variables as follows:

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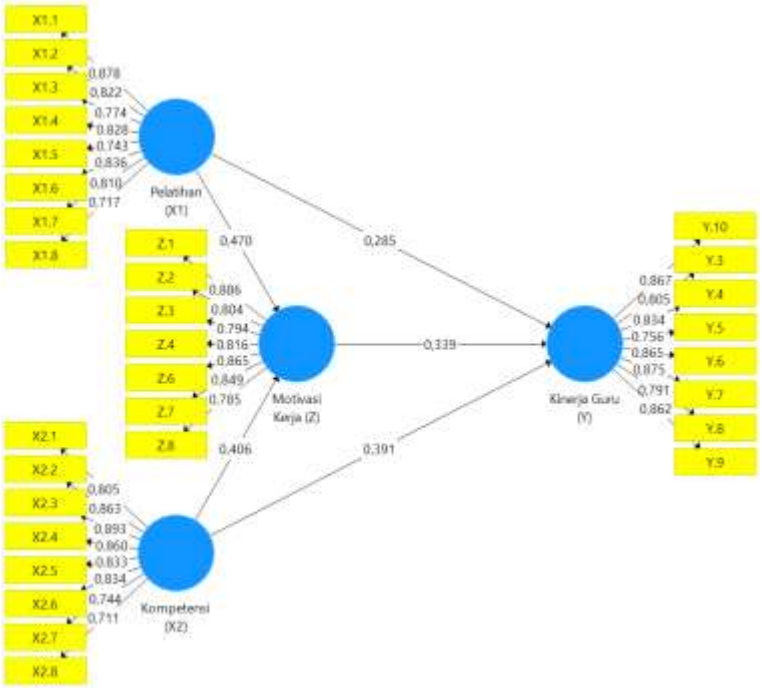
Figure 2. Outer Loadings After Elimination



Average Variance Extracted (AVE) Assessment

The validity criteria for a construct or variable can also be assessed through the Average Variance Extracted (AVE) value for each construct or variable. A construct is considered to have high validity if its value is above 0.50. The AVE values for all variables are presented below.

Table 2. Average Variance Extracted (AVE) Value

	Average Variance Extracted (AVE)
Teacher Performance (Y)	0.694
Training (X1)	0.644
Competence (X2)	0.672
Work Motivation (Z)	0.688

Based on Table 2, it can be concluded that all constructs or variables above meet good validity criteria. This is indicated by the Average Variance Extracted (AVE) value above the recommended 0.50 criterion.

Outer Model Testing (Structural Model)

The next testing process is testing the inner model, or structural model, which aims to determine the relationships between hypothesized constructs. The structural model is evaluated by observing the R-Square value for the endogenous construct and the influence it receives from the exogenous construct.

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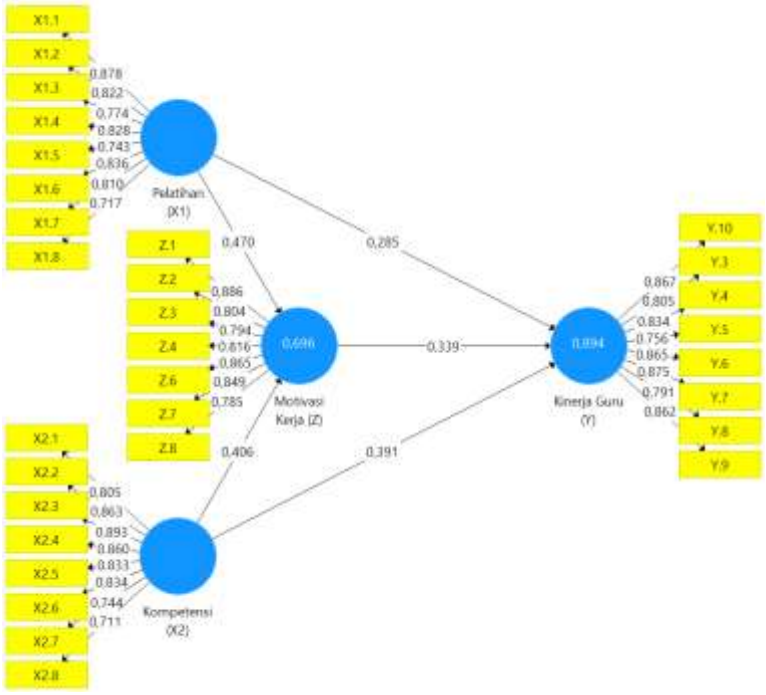
Figure 3. Structural Outer Model



Based on the image above, the structural model above can be formed into the following model equation:

a. Equation model I, is a description of the magnitude of the influenceconstructtraining andcompetence towardswork motivation with the existing coefficients plus the error rate which is an estimation error or which cannot be explained in the research model.

$$Z = 0.470X1 + 0.406X2$$

b. Equation model II, is a description of the magnitude of the influence construct training, competenced work motivation on teacher performance with each coefficient for each construct plus an error which is an estimation error.

$$Y = 0.285X1 + 0.391X2 + 0.339\ Z$$

Next, as explained previously, the inner model assessment will be evaluated through the R-Squared value, to assess the influence of certain exogenous latent constructs on endogenous latent constructs to see whether they have a substantive influence. The following is the R-Square estimate:

Table 3. Evaluation of R Square Value

	R Square	*R Square Adjusted*
Teacher Performance (Y)	0.894	0.890
Work Motivation (Z)	0.696	0.689

Source: SmartPLS Outer Model Test Results, 2026

In the table above, the r-square value for the teacher performance variable is 0.894 or 89.4%, so the contribution of the training and competency variables is 0.894.danwork motivationtoTeacher performance was 89.4%, the remaining 10.6% was influenced by other variables outside this research, such as job satisfaction, workload and leadership style.

The R-Square value of the work motivation variable is 0.696 or 69.6%, so the contribution of the training and competency variables to work motivation is 69.6%, the remaining 30.4% is influenced by other variables outside this research such as job satisfaction, workload and leadership style.

PenHypothesis test

TestingThe hypothesis aims to answer the problems in this study, namely the influence of certain exogenous latent constructs on certain endogenous latent constructs, either directly or indirectly through mediating variables. Hypothesis testing in this study can be assessed from the magnitude of the t-statistic or t-count compared to the t-table of 1.96 at 5% alpha. If the t-statistic/t-count < t-table 1.96 at 5% alpha, then Ho is rejected and if the t-statistic/t-count > t-table 1.96 at 5% alpha, then Ha is accepted. The following SmartPLS output results illustrate the estimated output for testing the structural model.

Table 4. Results for Inner Weights Direct Affect

	Original Sample (O)	*Sample Mean (M)*	*Standard Deviation (STDEV)*	*T Statistics (|O/STDEV|)*	*P Values*
Training (X1) -> Work Motivation (Z)	0.470	0.462	0.110	4,267	0,000
Competence (X2) -> Work Motivation (Z)	0.406	0.405	0.103	3,929	0,000
Training (X1) -> Teacher Performance (Y)	0.285	0.286	0.095	3,010	0.003
Competence (X2) -> Teacher Performance (Y)	0.391	0.390	0.108	3,619	0,000
Work Motivation (Z) -> Teacher Performance (Y)	0.339	0.339	0.073	4,639	0,000
Training (X1) -> Work Motivation (Z) -> Teacher Performance (Y)	0.159	0.158	0.054	2,962	0.003
Competence (X2) -> Work Motivation (Z) -> Teacher Performance (Y)	0.137	0.138	0.046	2,958	0.003

4. Conclusion

There is a significant influence of training on work motivation. There is a significant influence of competence on work motivation. There is a significant influence of training on teacher performance. There is a significant influence of competence on teacher performance. There is a significant influence of work motivation on teacher performance. There is a significant influence of training on teacher performance through work motivation. There is a significant influence of competence on teacher performance through work motivation.

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