

The Effect of Competency Training and Competency Certification on Employee Performance at PT Mulya Darma Rekayasa In 2025 With Work Motivation as A Moderating Variable

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Abstract. *This study aims to analyze the effect of competency training and competency certification on employee performance, as well as to examine the role of work motivation as a moderating variable at PT Mulya Darma Rekayasa. The approach used is quantitative with an explanatory method. The population in this study were all 100 employees, and the data collection technique was carried out through a questionnaire. Data analysis used Partial Least Square with the help of SmartPLS 4 software. The results showed that competency training and competency certification had a positive and significant effect on employee performance. Work motivation also had a strong positive effect on employee performance, even becoming the most dominant variable. In addition, work motivation was proven to be able to moderate the relationship between competency training and employee performance, where the effect of training was stronger for employees with high levels of motivation. These findings provide important implications for human resource development strategies in companies.*

Keywords: *Competency Training; Competency Certification; Employee Performance; Work Motivation.*

1. Introduction

In an era of globalization characterized by rapid technological advancements and rapidly changing market dynamics, companies face significant challenges in maintaining sustainability and competitiveness. One of the most crucial aspects in addressing these challenges is the quality and capability of human resources (HR). Competent and skilled HR is key to achieving success and winning the global market. Therefore, investing in HR development, through competency training and certification, is crucial for improving employee performance quality and effectiveness. Proper HR development can produce

employees who possess not only technical skills but also the ability to adapt to changes and developments in the industry.

PT Mulya Darma Rekayasa, an engineering company, is currently facing challenges related to suboptimal employee performance. Based on 2023 performance evaluation data, 40% of employees failed to achieve the company's performance targets. Furthermore, employee productivity declined by 15% compared to the previous year, resulting in project delays and a 20% decrease in customer satisfaction. This indicates a performance gap that needs to be addressed immediately to maintain the company's competitive position in the market.

Competency training has proven to be an effective strategy for improving employee skills, both technical and non-technical. This training helps employees acquire new knowledge relevant to their jobs and hone existing skills. Several studies have shown that structured training programs tailored to job requirements can improve employee productivity and work quality.(Wulandari et al., 2024)In his research, he stated that well-organized training can improve technical skills and employee work attitudes, which in turn will impact performance. Furthermore, good training can increase employee motivation because they feel valued and have the opportunity to grow within the company.

However, even though training programs have been widely implemented, their effectiveness cannot always be guaranteed. Several factors, such as training design that is not relevant to employee needs, inappropriate delivery methods, or lack of participant preparation, can affect the success of the training. According to(Silviana et al., 2024), the effectiveness of training depends heavily on a variety of factors, including the quality of the material, the methods used, and the participants' willingness and readiness to learn.

In addition to training, competency certification also plays a crucial role in human resource development. This certification provides formal recognition of an employee's abilities and expertise in a specific field, in accordance with industry standards. Competency certification provides concrete evidence that an employee possesses the required skills and is reliable in their work. Research(Muslimat, 2020)Studies have shown that employees with competency certifications tend to perform better because they feel more confident and are recognized by the company and industry. Competency certifications also serve as an objective tool for assessing employee capabilities, which helps companies ensure high and consistent work quality standards.

However, while competency training and certification have a positive impact on employee performance, the success of both programs is heavily influenced by work motivation. Work motivation is an internal drive that influences the extent to which employees strive to achieve company goals. Motivated employees are more likely to actively participate in training programs and apply the skills they learn in the workplace. This aligns with the findings of(Rahadi et al., 2024)This shows that work motivation can moderate the effect of training and certification on employee performance. Highly motivated employees will strive harder to achieve optimal performance after undergoing training or receiving certification.

Although numerous studies have examined the relationship between competency training, certification, and employee performance, several important gaps in the literature remain underexplored. First, most previous studies tend to treat training and certification as separate variables, even though these two elements are often part of an integrated competency development system. Second, existing studies are limited in analyzing how work motivation specifically moderates the relationship between competency training, competency certification, and employee performance in the context of the Indonesian engineering industry. Third, few previous studies have explored how the specific characteristics of the engineering industry may influence the effectiveness of competency development programs.

At PT Mulya Darma Rekayasa, although the company has allocated significant resources to training and certification programs, internal data shows mixed results. Post-training evaluations indicate that only 60% of employees successfully implemented new skills in the workplace, and 30% of certified employees did not show significant performance improvements. This phenomenon indicates that other factors may influence the effectiveness of competency development programs, one of which is work motivation.

The novelty of this research lies in its integrative approach, which combines competency training and competency certification analysis as a unified human resource development system, and positions work motivation as a crucial moderating variable in the context of the Indonesian engineering industry. This research will also develop a more comprehensive measurement model to evaluate the effectiveness of competency development programs that consider the specific characteristics of the engineering industry and the organizational culture of PT Mulya Darma Rekayasa.

In this context, this study aims to provide a deeper understanding of how competency training and competency certification can affect employee performance at PT Mulya Darma Rekayasa, as well as the role of work motivation in strengthening or weakening the impact of both programs. The results of this study are expected to provide clearer insights for the company regarding the effectiveness of the HR development program that has been implemented and provide a basis for designing more targeted and efficient programs in the future.

Furthermore, this research is also important for enriching the academic literature on the relationship between competency training, competency certification, work motivation, and employee performance. While numerous studies have addressed training and certification, few have examined the complex relationship between these three factors. This research will make a significant contribution to understanding how training and certification can effectively improve employee performance, as well as how other factors, such as motivation, can act as either a booster or a barrier in this process. This research is expected to enable companies to make more informed and strategic decisions in managing their human resources, as well as increase their competitiveness in an increasingly competitive industrial market.

Ultimately, the purpose of this study is to provide recommendations that PT Mulya Darma Rekayasa can implement to further maximize the potential of its employees through more effective competency development. Furthermore, the findings of this study can be used to design better policies to increase employee motivation, which in turn will improve overall company performance. This way, the company will not only be able to compete locally but also strengthen its position in an increasingly connected and challenging global market.

2. Research Methods

This study uses a quantitative approach with an explanatory research style. This quantitative approach was chosen because this study aims to test hypotheses and analyze the causal relationship between the independent variables (competency training and competency certification), the dependent variable (employee performance), and the moderating variable (work motivation).

This explanatory research type was chosen because this study aims not only to describe the phenomena that occur but also to explain the causal relationship between the research variables and test the formulated hypotheses. Explanatory research is in accordance with the research objective, which is to analyze the effect of competency training and competency certification on employee performance, with work motivation as a moderating variable.

3. Results and Discussion

3.1. Descriptive Analysis of Variables

Descriptive statistical analysis was conducted to describe the characteristics of the research data based on the average value of each indicator in each research variable, namely Competency Training (X1), Competency Certification (X2), Work Motivation (Z), and Employee Performance (Y). The average value was then categorized into three levels, namely low, medium, and high, in order to provide a general overview of the tendency of respondents' perceptions of each indicator in each variable.

Table Descriptive Analysis Results

Variables	Indicator	Average score	Category
Competency Training	X1.1	4.26	Tall
	X1.2	4.23	Tall
	X1.3	4.22	Tall
	X1.4	4.24	Tall
Competency Certification	X2.1	4.3	Tall
	X2.2	4.27	Tall
	X2.3	4.34	Tall
	X2.4	4.3	Tall
Work motivation	Z1.1	4.15	Tall
	Z1.2	4.18	Tall
	Z1.3	4.13	Tall
	Y1.1	3.96	Tall
	Y1.2	3.97	Tall
	Y1.3	3.92	Tall

Employee performance	Y1.4	3.98	Tall
	Y1.5	3.9	Tall
	Y1.6	3.9	Tall

Source: Processed Primary Data, 2025

Based on the descriptive analysis results in Table, all indicators in each variable showed an average score in the high category. In the Competency Training variable (X1), the four indicators had an average score between 4.22 and 4.26. The Competency Certification variable (X2) also showed similar results, with an average indicator score ranging from 4.27 to 4.34. For the Work Motivation variable (Z), the three indicators recorded an average score between 4.13 and 4.18. Meanwhile, the Employee Performance variable (Y) showed an average score between 3.90 and 3.98 across its six indicators. These findings indicate that respondents gave a positive assessment of all aspects measured in the study.

3.1.1. Validity Test Results

Validity testing in this study was conducted using SmartPLS 4 software, using two main measures: loading factor values and Average Variance Extracted (AVE). Referring to the criteria proposed by Ghozali and Latan (2015), an indicator is declared valid if it has a loading factor value greater than 0.70 and an AVE value greater than 0.50. The results of the validity testing in this study are presented in the following table:

3.1.2. Reliability Test Results

Reliability testing aims to assess the extent to which a research instrument has good internal consistency. In this study, reliability was analyzed using two main indicators: Cronbach's Alpha and Composite Reliability (CR). A construct is considered reliable if both values are above 0.70, in accordance with general criteria used in quantitative research. The results of the reliability testing are presented in the following table:

Table Reliability Test Results

	<i>Cronbach's alpha</i>	<i>Composite reliability</i>
Employee performance	0.928	0.944
Work motivation	0.829	0.897
Competency Training	0.819	0.88
Competency Certification	0.768	0.851

Source: Processed Primary Data, 2025

Based on Table 4.4, all constructs in this study showed Cronbach's Alpha and Composite Reliability (CR) values that were above the minimum threshold of 0.70, indicating that the instrument used had good reliability. The Employee Performance construct had a Cronbach's Alpha value of 0.928 and a CR of 0.944, indicating very high internal consistency. The Work Motivation construct also showed strong reliability with a Cronbach's Alpha value of 0.829 and a CR of 0.897. Meanwhile, the Competency Training construct obtained a Cronbach's Alpha value of 0.819 and a CR of 0.880, and Competency Certification had a Cronbach's Alpha value of 0.768 and a CR of 0.851. Thus, it can be concluded that all constructs in this study have met the reliability requirements and can be trusted for use in further analysis.

3.1.3. Model Goodness-of-Fit Test

F-Test Results

The F-Square (f^2) test is used to assess the extent of influence of independent latent constructs on dependent latent constructs in a structural model. The f^2 value represents the magnitude of the effect of one construct on another and is an important indicator in evaluating the strength of the relationship between variables in the PLS-SEM approach. Referring to the guidelines from Ghazali and Latan (2015), an f^2 value of 0.02 is considered to have a small effect, 0.15 indicates a medium effect, and 0.35 indicates a large effect. The results of the f^2 test in this study are presented as follows:

Table F-Square Value

	Employee performance
Work motivation	1,259
Competency Training	0.173
Competency Certification	0.073
Work Motivation x Competency Training	0.101

Source: Processed Primary Data, 2025

Based on the results of the F-Square (f^2) test presented in Table, it can be seen that the Work Motivation construct has a very large influence on Employee Performance, with an f^2 value of 1.259, far exceeding the threshold for the large influence category (0.35). This indicates that work motivation provides a significant and dominant contribution in improving employee performance at PT Mulya Darma Rekayasa. Furthermore, Competency Training also provides a significant influence with an f^2 value of 0.173, which is included in the medium influence category. Meanwhile, Competency Certification has a smaller influence on employee performance with an f^2 value of 0.073. In addition, the test results show a moderating effect of Work Motivation on the relationship between Competency Training and Employee Performance, which is reflected in the interaction f^2 value of 0.101. This value is classified as a small influence, but still shows that work motivation is able to moderate and strengthen the influence of competency training on employee performance.

Results of the Determination Coefficient Test

The coefficient of determination (R^2) is used to measure how much variation in the dependent (endogenous) variable can be explained by the independent (exogenous) variables in a research model. The R^2 value ranges from 0 to 1, with values closer to 1 indicating a better model's predictive ability. According to Ghazali & Latan (2015), in research related to organizational behavior, an R^2 value of 0.20 is considered quite high and indicates that the model is able to adequately explain the variability of the dependent variable. Furthermore, SmartPLS 4 software also provides an adjusted R^2 value, which takes into account model complexity and sample size, resulting in a more accurate evaluation of the model's predictive ability. The adjusted R^2 value is important to avoid overfitting and ensure that the model can be generalized well to a wider population.

In this study, the R^2 and adjusted R^2 values are used as the main indicators to assess the influence of Competency Training, Competency Certification, and Work Motivation in explaining variations in Employee Performance. The results of the coefficient of determination serve as an important basis for evaluating the strength and relevance of the research model. The following are the results of the coefficient of determination test in this study:

Table R-Square Value

	R-square	R-square adjusted
Employee performance	0.724	0.712

Source: Processed Primary Data, 2025

Based on Table, the R-Square (R^2) value for the Employee Performance variable is 0.724, meaning that approximately 72.4% of the variation in employee performance can be explained by the Competency Training, Competency Certification, and Work Motivation variables together in this research model. This value indicates that the model has excellent predictive ability in explaining employee performance.

Furthermore, the adjusted R-Square value of 0.712 also supports this conclusion, considering the model's complexity and sample size. The relatively high adjusted R^2 value indicates that the model does not experience overfitting and can be generalized well to a wider population. Overall, these results confirm that the research model developed is robust and relevant in explaining the factors influencing employee performance at PT Mulya Darma Rekayasa.

Hypothesis Test Results

Hypothesis testing in this study was conducted using bootstrapping techniques to assess the significance of path coefficients in the structural model. This bootstrapping method produces t-statistics and p-values, which serve as the basis for evaluating the strength and significance of the relationships between the variables tested in the study.

Referring to Ghozali & Latan (2015), the testing criteria used are that the t-statistic value must be greater than 1.96 at a 5% significance level, and the p-value must be less than 0.05 for the relationship between variables to be considered statistically significant. Furthermore, the test also takes into account the path coefficient value, which indicates the direction and magnitude of the influence between variables. A positive path coefficient indicates a unidirectional relationship between variables, while a negative coefficient indicates a relationship in the opposite direction. The magnitude of this path coefficient value reflects the strength of the influence between constructs in the research model.

Based on the data in Table, the following is an explanation of the results of the hypothesis test:

1. The Influence of Work Motivation on Employee Performance

A path coefficient of 0.648, a t-statistic of 6.203 (greater than 1.96) and a p-value of 0.000 (less than 0.05), indicates that work motivation has a positive and significant influence on

employee performance. This means that the higher an employee's work motivation, the higher their performance.

2. The Effect of Competency Training on Employee Performance

The path coefficient of 0.312, with a t-statistic of 3.515 and a p-value of 0.000, also indicates a positive and significant effect of competency training on employee performance. This indicates that the competency training provided is able to improve employee performance at PT Mulya Darma Rekayasa.

3. The Influence of Competency Certification on Employee Performance

A path coefficient of 0.212, a t-statistic of 2.576, and a p-value of 0.010, indicates that competency certification has a positive and significant effect on employee performance. Thus, competency certification can improve employee performance.

4. The Moderating Effect of Work Motivation on the Relationship between Competency Training and Employee Performance

A moderation coefficient of 0.292, with a t-statistic of 2.531 and a p-value of 0.011, indicates that work motivation significantly moderates the relationship between competency training and employee performance. This means that the effect of competency training on employee performance is stronger when employee work motivation is high.

3.2. The Effect of Competency Training on Employee Performance

The results of the study indicate that competency training has a positive and significant effect on employee performance. A path coefficient of 0.312, a t-statistic of 3.515, and a p-value of 0.000, reinforce the conclusion that competency training significantly contributes to improved performance.

In the context of this research, competency training was measured through four indicators: participant reactions to the training, learning gained during the training, post-training behavioral changes, and the training's impact on performance. All indicators showed high average scores, indicating that respondents felt the training they attended was relevant, beneficial, and had a direct impact on work performance. Employees not only responded positively to the training but also absorbed the material well, which was further reflected in changes in work behavior such as increased discipline, efficiency, and adherence to procedures. These changes drove improvements in quality and productivity in carrying out tasks, ultimately improving overall individual performance.

This aligns with Becker's Human Capital theory, which states that investment in training will enhance individual capabilities, which in turn increases work productivity. In the context of PT Mulya Darma Rekayasa, the training program enables employees to acquire new skills and update relevant knowledge, enabling them to face work challenges more effectively.

This research aligns with the findings of Wulandari, Ali, & Hendayana (2024), who stated that structured and tailored training to job needs can increase productivity and improve the quality of employee work. Furthermore, according to Wamnebo & Muttaqin (2023), training not only impacts technical skills but also boosts self-confidence and a positive work attitude.

Training has also proven to be instrumental in internalizing the work culture and operational standards established by the organization. Trained employees are more likely to follow correct procedures, reduce errors, and produce high-quality output. Thus, training is a long-term investment that can improve efficiency, service quality, and company competitiveness.

3.2.1. The Influence of Competency Certification on Employee Performance

Competency certification has also been shown to have a positive and significant impact on employee performance, as evidenced by a path coefficient of 0.212, a t-statistic of 2.576, and a p-value of 0.010. This finding reinforces the view that certification is not merely a formal symbol, but also a means of validating skills and work professionalism.

In this study, competency certification was measured using five indicators: job-relevance, certification body credibility, industry recognition of the certification, certification validity period, and certification renewal process. Overall, these indicators indicate that respondents felt the certification they obtained was aligned with their field of work and issued by a credible institution. The certification was also recognized by the industry, thus increasing employee confidence in carrying out their duties. Furthermore, the validity period and the requirement to renew the certificate made employees more proactive in maintaining and improving their competency. This encouraged employees to consistently work in accordance with professionally recognized quality standards, thus positively impacting the quality and consistency of performance.

According to Muslimat (2020), competency certification creates self-confidence and recognition of one's abilities, which positively impacts work morale and performance. Certification also encourages consistent performance standards, as certified employees are required to meet specific parameters in carrying out their duties.

Furthermore, Purnami & Utama (2019) stated that the existence of credible certification contributes to increased productivity and work effectiveness. Employees feel more responsible for their work results because they have received recognition for their competence.

At PT Mulya Darma Rekayasa, research shows that employees who have completed the certification process feel more valued and motivated to maintain their top performance. This indirectly strengthens their loyalty and work ethic.

3.2.2. The Influence of Work Motivation on Employee Performance

Work motivation is a crucial factor in determining an individual's success in achieving optimal performance. In this study, a path coefficient of 0.648, a t-statistic of 6.203, and a p-value of 0.000, indicated that work motivation had the most dominant influence on performance compared to other variables. Work motivation acts as a driving force that encourages individuals to work more diligently, diligently, and with a results-oriented approach. This aligns with Herzberg's two-factor theory (as cited in Nurrohmah, 2017), which emphasizes the importance of motivators such as recognition, responsibility, and achievement in driving performance improvement.

The work motivation indicators used in this study reflect existential needs, such as salary, benefits, and job security; relationship needs, which reflect harmonious interpersonal relationships in the workplace; and growth needs, which relate to the desire to develop personally and professionally. All three indicators show high average scores, indicating that the majority of employees feel their basic needs are met, have good working relationships, and perceive opportunities for self-development within the company. Employees who are motivated in these three aspects tend to be more enthusiastic, responsible, and demonstrate better performance because they feel cared for and have long-term career prospects.

Research by Sormin (2024) and Safitri et al. (2024) also confirms that work motivation directly correlates with performance and strengthens the effectiveness of training and certification programs. Highly motivated employees tend to embrace training opportunities enthusiastically and apply the results optimally in the workplace.

In a corporate context, managing work motivation is a strategic aspect that cannot be ignored. A balance between intrinsic and extrinsic motivation is essential. Intrinsic motivation, such as the need for self-actualization and job satisfaction, must be balanced with financial incentives, recognition, and clear career development opportunities.

3.2.3. The Role of Work Motivation in Moderating the Relationship between Competency Training and Employee Performance

The results of the moderation interaction test indicate that work motivation significantly moderates the relationship between competency training and employee performance, with an interaction coefficient value of 0.292, a t-statistic of 2.531, and a p-value of 0.011. This means that work motivation strengthens the positive influence of competency training on improving performance.

This finding strengthens Vroom's Expectancy theory, which explains that employees will try hard if they believe that their efforts (training) will result in good performance, especially when supported by high internal motivation.

The three indicators of work motivation explained previously—the need for existence, relatedness, and growth—play a crucial role in strengthening the impact of training on performance. Employees who feel financially secure, valued in their work relationships, and have opportunities for development will be more enthusiastic about participating in training and implementing the results in their daily work. Conversely, if work motivation is low, the training provided, even if high-quality, risks having no significant impact because employees lack the drive to change their behavior and improve their performance.

According to Rahadi, Selasih, & Putri (2024), work motivation can strengthen training effectiveness and bridge the gap between theory and practice. Motivated employees will be more focused, active in the training process, and enthusiastic about implementing the acquired knowledge into their daily work. Conversely, if work motivation is low, the training provided, even if high-quality, will not have a maximum impact. This is because unmotivated

employees tend to be less enthusiastic about receiving the material and less proactive in further developing themselves.

Thus, the success of a competency training program does not only depend on the content and training methods, but is also determined by the extent to which the company is able to build and maintain employee work motivation.

4. Conclusion

Based on the results of research and discussions that have been conducted on the influence of competency training, competency certification, and work motivation on employee performance at PT Mulya Darma Rekayasa, as well as the role of work motivation as a moderating variable, the following conclusions were obtained: 1. Competency Training Has a Positive and Significant Impact on Employee Performance: Systematically designed training tailored to employee needs has been proven to improve knowledge, skills, and positive changes in work behavior. Effective training has a direct impact on the quality, quantity, and effectiveness of employee performance. 2. Competency Certification Has a Positive and Significant Impact on Employee Performance: Certified employees demonstrate better work performance because they feel professionally recognized and are encouraged to demonstrate work quality that meets standards. Competency certification serves as a form of formal validation of an employee's skills. 3. Work Motivation Has a Significant Influence on Employee Performance: Motivation is the most dominant factor influencing performance. Employees with a high work drive, both intrinsic and extrinsic, demonstrate greater enthusiasm, persistence, and productivity in carrying out their tasks. 4. Work Motivation Moderates the Relationship between Competency Training and Employee Performance: Work motivation strengthens the influence of training on performance. This means that training will be more effective in improving performance if employees have high work motivation.

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