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The Effect of Competency Certification on Employee Performance with Competency Testing as a Variable Mediation (Study at PT. X)

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This study aims to analyze the effect of competency certification on employee performance, with competency testing as a mediating variable, at PT. X. The population of this study was 283 operator employees at PT. X, with a sample of 164 employees. The sampling technique used was purposive sampling. The research method used a quantitative approach with Partial Least Squares (PLS) analysis to test the relationship between variables. The results of the study showed the following findings: Competency certification does not have a significant direct effect on employee performance, Competency certification has a positive and significant effect on competency testing, Competency testing has a positive and significant effect on employee performance, Competency testing acts as a significant mediating variable, where competency certification can improve employee performance through competency testing. Overall, this study concludes that although competency certification does not directly affect performance, it becomes effective in improving employee performance when integrated through a rigorous competency testing process.
Keywords: Competency Certification, Employee Performance, Competency, Mediation

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1. Introduction

In the era of globalization and the industrial revolution 4.0, the demand for a workforce with high skills and competencies is increasing, especially with the development of automation and digitalization in various industrial sectors (Schwab, 2019). Competency certification has become an international standard for measuring the quality of the workforce to ensure they have skills that match industry needs (OECD, 2019). According to research conducted by Blömeke et al. (2020), competency certification not only impacts technical skills but also contributes to increasing the professionalism and competitiveness of the workforce in the global market.

Many countries have implemented certification policies as a primary requirement for employees to increase competitiveness in the job market, such as Germany's Dual Apprenticeship system, which combines industry-based training with formal certification (Deissinger, 2021). In Indonesia, policies related to competency certification are also regulated in Law Number 13 of 2003 concerning Manpower and are strengthened by the role of the National Professional Certification Agency (BNSP) in managing workforce certification in various sectors (BNSP, 2022).

Furthermore, competency testing is an important tool in assessing individual readiness before obtaining official certification, ensuring that certification is not merely administrative but demonstrates an employee's actual ability to face work challenges and achieve company targets (Farhansyah, 2024). Research conducted by Tynjälä (2020) confirms that effective competency testing must be based on practical workplace experience and adopt valid and reliable evaluation methods. If the competency testing process is not carried out rigorously, the certification awarded will simply be a formality without having a real impact

on improving the quality of the workforce (Winterton, 2021). Therefore, it is important for companies and certification institutions to ensure that competency testing reflects the skills and knowledge required in the industry, in order to produce a competent workforce ready to compete in the global job market.

In Indonesia, competency certification has become part of the national policy to improve the quality of human resources, as stipulated in Law Number 13 of 2003 concerning Manpower and strengthened by the role of the National Professional Certification Agency (BNSP) in managing workforce certification in various sectors (BNSP, 2022). This certification is expected to increase the competitiveness of the Indonesian workforce in the global market and ensure that certified workers have skills according to industry needs (Miranti, 2024). However, research conducted by Prasetyo & Sutrisno (2020) shows that the effectiveness of competency certification in improving employee performance still faces various obstacles, particularly in terms of employee lack of understanding of the benefits of certification and low company involvement in optimally facilitating competency testing.

In the manufacturing industry, including PT X, the main challenge in implementing competency certification lies in the low-skilled workforce and the need to increase competitiveness through training and competency certification in the workplace (Bappenas, 2021). According to research by Santoso & Hidayat (2019), many certifications are purely administrative in nature, without significantly improving technical skills and employee productivity. This is exacerbated by the low level of monitoring and evaluation of the impact of certification on improving workforce performance (Rahman & Fadilah, 2021).

On the other hand, research by Firmansyah et al. (2023) revealed that when competency testing is implemented using methods more relevant to industry needs—for example, through a project-based approach or real-world work simulations—certification can have a more positive impact on employee productivity. Therefore, for competency certification to be truly effective in improving employee performance at PT. X, synergy is needed between the company, certification bodies, and the workforce to ensure that the implemented competency testing is truly relevant to the needs of the industrial world.

Ideally, competency certification should improve employee performance by providing excellence in technical skills, in-depth job understanding, and increased productivity (Eraut, 2019). Effective certification should not only serve as administrative evidence but also reflect mastery of real skills required in the workplace (Blömeke et al., 2020). According to research by Tynjälä (2021), competency certification based on the evaluation of practical skills and workplace problem-solving has been shown to improve employees' adaptability to industry developments. Furthermore, certification based on international standards can provide added value to the workforce in facing global competition (OECD, 2019).

Competency testing, as part of certification, should serve as a screening tool to ensure that only truly competent individuals receive certification, enabling companies to maintain a high-quality workforce (Winterton, 2021). However, research by Rahman & Fadilah (2021) shows that in some companies, competency testing is still conducted as a formality without accurately measuring employees' technical and non-technical skills. This results in certification having no significant impact on improving workforce performance. Conversely, a study by Firmansyah et al. (2023) confirmed that when competency testing is conducted using a project-based approach or real-world work simulations, the results can better reflect employees' actual competencies and improve their readiness to face industry challenges.

Furthermore, employee adaptability to industrial developments also depends heavily on the effectiveness of the certification and competency testing systems implemented (Miranti, 2024). Certification supported by ongoing training programs and periodic evaluations is more effective in improving employee performance than one-time certification without follow-up (Wicaksono et al., 2022). Therefore, PT X and

other companies implementing competency certification must ensure that competency testing is not merely a formality but truly measures and improves employee capabilities in line with evolving industry demands.

However, in practice, there are still many cases where employees who have obtained competency certification do not show significant performance improvements. Several studies have shown that the effectiveness of certification in improving workforce performance is highly dependent on implementation factors and company support (Rahman & Fadilah, 2021). One major obstacle is the lack of relevant training before taking competency tests, resulting in many employees focusing solely on passing the exam without actually developing the skills necessary for their jobs (Wicaksono et al., 2022). Furthermore, research by Prasetyo & Sutrisno (2020) revealed that in some industrial sectors, certification is more often used as an administrative requirement for recruitment or job promotions, but is not integrated into the company's human resource management system to continuously improve employee competency.

Furthermore, certifications obtained are often merely formalities without any real impact on employee technical skills and productivity (Santoso & Hidayat, 2019). This occurs due to a lack of alignment between competency test materials and industry-specific needs. According to a study by Firmansyah et al. (2023), many competency tests are still based on a theoretical approach without evaluating practical skills that truly reflect workplace tasks. As a result, certifications obtained do not always reflect the level of competency expected by companies.

Furthermore, there are indications that competency tests are not yet fully effective as a selection tool for assessing workforce quality (Winterton, 2019). In some cases, assessment standards for competency tests are still not uniform, resulting in differences in the quality of certified workers (Tynjälä, 2021). Another factor affecting certification effectiveness is the lack of utilization of competency test results in internal company policies, such as in performance evaluation systems or career development (OECD, 2019). Therefore, for competency certification to have a more significant impact on improving employee performance, synergy is needed between companies, certification bodies, and workers to ensure that certification is not merely an administrative document but also a tangible instrument for developing quality human resources.

To address these issues, a more effective strategy is needed to integrate competency certification with employee performance improvement. One key strategy is to ensure that competency tests are conducted rigorously and based on relevant industry standards. According to research by Winterton (2020), competency tests designed with a performance-based assessment approach are more effective in measuring employee abilities than purely theory-based methods. Therefore, companies need to collaborate with professional certification bodies and industry associations to design competency tests that truly reflect the skills required in the workplace. Furthermore, approaches based on real-world work simulations and case studies can be a better alternative for measuring practical skills than simply written tests (Blömeke et al., 2021).

In addition to improving the quality of competency testing, companies also need to implement internal policies that link certification ownership to career development and increased productivity. A study by Miranti (2024) showed that employees who perceive a direct link between certification and career advancement are more motivated to continuously improve their competencies. Companies can implement competency-based promotion policies, where employees with certain certifications are given greater opportunities for promotion or higher responsibilities. Furthermore, incentives such as salary increases or competency-based bonuses can also be implemented as a form of recognition for employees who successfully obtain certification and demonstrate improved performance (Rahman & Fadilah, 2021).

Furthermore, competency certification must be integrated into the overall human resource management system. According to Prasetyo & Sutrisno (2020), companies with ongoing training systems directly linked

to certification tend to be more successful in improving employee performance. Post-certification training programs allow employees to continue developing their skills to stay relevant to industry developments. Furthermore, a regular evaluation mechanism for certification effectiveness is necessary to ensure that the implemented competency standards are truly contributing to improved performance (OECD, 2019).

With this integrated strategy, companies like PT X can ensure that competency certification is not just an administrative document, but also an effective tool for improving the quality of human resources. The synergy between internal policies, improved competency testing, and competency-based incentives will create a more productive and competitive work environment, ultimately positively impacting the company's overall growth.

Most previous studies have focused on the direct relationship between competency certification and employee performance without considering the role of mediating variables, such as competency testing. For example, a study by Wicaksono et al. (2022) showed that competency certification had a positive impact on improving employees' technical skills, but not all certified employees experienced significant performance improvements. This suggests that other factors play a role in linking certification to performance improvement, in this case competency testing. A study by Rahman & Fadilah (2021) also revealed that certification effectiveness is highly dependent on the competency assessment mechanism used prior to certification. If competency testing is not conducted rigorously and in accordance with industry needs, certification tends to be administrative in nature without having a significant impact on employee performance.

Furthermore, there is still little research specifically addressing how competency testing can strengthen the relationship between certification and employee performance, particularly in the manufacturing sector in Indonesia. A study conducted by Prasetyo & Sutrisno (2020) in the service sector showed that certification based on valid and reliable competency testing can improve workforce effectiveness, but there is still a lack of empirical evidence confirming the same in the manufacturing sector. Meanwhile, according to research by Firmansyah et al. (2023), the manufacturing industry has unique characteristics in terms of technical skill requirements and operational efficiency, which makes the role of competency testing even more crucial in ensuring the workforce possesses skills that align with industry standards.

This research gap serves as the basis for this study to explore how competency testing can act as a mediating variable that clarifies the impact of certification on employee performance at PT X. By incorporating competency testing as a mediating variable, this study seeks to provide a more comprehensive perspective on the effectiveness of certification in a real-world workplace context. This study will also contribute to the human resource management literature by highlighting the importance of integrating certification and competency testing in improving workforce quality in the manufacturing sector. The results of this study are expected to provide recommendations for companies to develop more effective certification strategies based on more rigorous competency assessment mechanisms, thereby sustainably increasing employee productivity.

The novelty of this research lies in the approach used to analyze the relationship between competency certification, competency testing, and employee performance more comprehensively. Most previous studies have focused on the direct relationship between competency certification and employee performance, without considering mediating factors that could potentially explain the mechanism of this relationship (Winterton, 2020). Research by Blömeke et al. (2021) also highlights the importance of a skills-based approach in linking certification to performance improvement, but few have explicitly discussed how competency testing functions as a mediator, clarifying the impact of certification on employee performance. By positioning competency testing as a mediating variable, this study attempts to fill this gap by examining

more deeply how competency testing can function as a screening tool to ensure that the certification received by employees truly reflects the capabilities required to achieve optimal performance.

This approach also contributes to the development of human resource theory, particularly in the context of integrating competency certification and performance evaluation. For example, research by Miranti (2024) shows that competency certification can improve motivation and performance when accompanied by competency-based evaluations that align with industry standards. This study introduces a more holistic model by incorporating competency testing as a mediating variable, which can clarify the relationship between competency certification and employee performance and enhance understanding of the processes that occur between the two.

In the Indonesian context, particularly in the manufacturing sector, this study provides a new perspective relevant to the evolving local industry. Previous research by Prasetyo & Sutrisno (2020) has discussed the importance of certification in improving employee performance, but has paid less attention to how effective competency testing can influence these outcomes. Therefore, this study not only provides new insights into how certification and competency testing interact to improve performance but also contributes to the growing body of literature linking human resource development to higher industry standards.

The results of this study are expected to provide guidance for companies, such as PT X, in designing more effective certification policies based on in-depth competency evaluations. This research is crucial given the increasing competition in the global industry, which demands companies to have a workforce that is not only skilled but also possesses competencies that meet evolving standards. In this context, competency certification is a crucial element in ensuring that employees possess the skills required by the job market. However, if a company does not have the right strategy for managing competency certification and competency testing, the potential for certification to improve employee performance can be limited. This is reflected in the findings of a study by Pande & Sembiring (2019), which stated that although competency certification has the potential to improve performance, these results are highly dependent on how the certification is integrated with the specific needs of the organization and how competency testing is implemented effectively.

Furthermore, a study by Ekwulugo et al. (2020) showed that many companies face challenges in optimizing certification programs due to a lack of understanding of how to align competency assessments with relevant industry standards. Without appropriate competency assessments and an effective implementation strategy, competency certification can become a mere formality without providing a real impact on improving employee performance. Research by Jantan & Zainuddin (2022) also revealed that poor certification management, such as a mismatch between certifications obtained and actual job duties, can hinder employee skill development and impact overall productivity.

In this context, this study aims to provide deeper insights into how companies, specifically PT X, can design better policies in managing employee certification and competency measurement. This study will not only enrich the understanding of how certification and competency testing function synergistically to improve employee performance, but will also provide practical recommendations for companies in designing more effective certification management strategies based on real needs across 9 indicators. The results of this study are expected to assist companies in creating a more structured competency management system oriented towards improving employee quality, which can ultimately strengthen the Company's competitiveness in an increasingly competitive industrial market.

The results of this study are expected to provide significant contributions in both practical and academic aspects. Practically, the findings of this study can provide valuable insights for PT X and similar industries in designing more effective and targeted competency certification policies. In a study by Zainal et al. (2020),

it was explained that effective competency certification management can improve employee performance by ensuring that the certification provided is truly relevant to industry needs and the tasks to be performed. With these findings, companies can be more prudent in integrating competency testing with employee performance development, so that the impact of competency certification is not limited to the indicator aspect alone, but also increases productivity and operational efficiency. This can be a strategic step in facing the challenges of increasingly fierce indicator competition.

From an academic perspective, this research will enrich the literature on the relationship between competency certification, competency testing, and employee performance. Several previous studies, such as those by Lam & Zha (2020), examined the direct relationship between competency certification and performance, but did not sufficiently highlight the mediating role of competency testing. By incorporating competency testing as a mediating variable, this study provides a new, more comprehensive perspective on how competency certification can influence employee performance. This research is expected to serve as a reference for future research that wishes to further explore the dynamics of competency certification and competency testing management in improving workforce quality across various industrial sectors.

2. Method

This study uses a quantitative approach with the aim of examining the relationships and influences between variables established in the theoretical framework. Quantitative research was chosen because it can provide a more objective and measurable understanding of the effect of competency certification on employee performance through competency testing. This approach allows for the collection of numerical data that can then be analyzed using statistics to determine the relationship between one variable and another. This study is also causal in nature because it aims to examine the cause-and-effect relationship between the independent and dependent variables. The variables tested include competency certification as a variable that influences employee performance. The analysis aims to determine whether competency certification has a direct effect on employee performance through competency testing as a mediating variable.

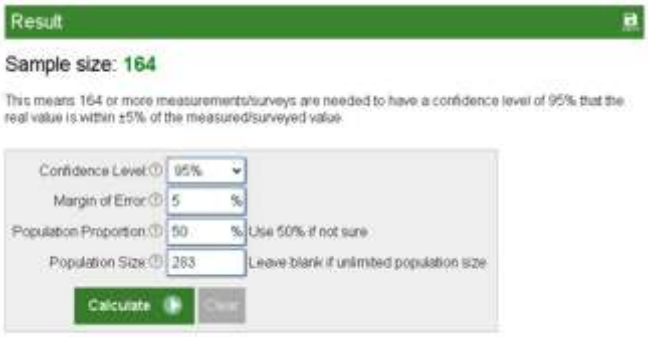
Population and Sample

Population and sample are needed in a study to collect data from the variables being studied. A population is a generalization area consisting of objects/subjects that have certain qualities and characteristics determined by the researcher to be studied and then conclusions drawn (Hair, 2019). The population of this study was 283 employees in the operator division at PT X.

A sample is a portion or representative of the population being studied. A sample is a portion of the population that shares relatively similar characteristics and is considered representative of the population (Hair, 2019). Determining a sample requires an appropriate sampling method to obtain a representative sample that can optimally describe the population. The sampling technique used in this study was purposive sampling. According to Hair (2019), purposive sampling is a sampling technique based on specific considerations. These considerations include:

1. The employees who served as respondents were employees of PT. X, the company's operator division.

2. The employees selected as respondents were those who had worked for more than one year. This is because the first year of employment is considered a probationary period. Sampling must comply with these criteria, as it will impact the variables being studied. The sample size can be calculated from a specific population of known size. To simplify the sampling process, the researchers used a sample size calculator to determine the sample size, resulting in 164 respondents.



Gambar 3.3 Jumlah Sampel

Analysis Techniques

1. Outer Model Measurement

According to Ghozali and Latan (2019), outer model evaluation is conducted to assess the model's validity and reliability. Outer model analysis can be seen from several indicators:

a. Validity Test

Validity testing is a test that determines how well the measuring instrument used measures the research variables (Sekaran & Bougie, 2020). The validity testing in this study consists of:

1. Convergent Validity

   Convergent validity is the factor loading value of a latent variable relative to its indicators. Individual indicators are considered reliable if they have a correlation value above 0.70. However, in scale development research, loadings between 0.50 and 0.60 are still acceptable (Ghozali and Latan, 2019).

2. Discriminant Validity

   Discriminant validityis the cross loading factor value which is useful for determining whether a construct has adequate discriminant, namely by comparing the loading value on the intended construct which must be greater than the loading value with other constructs (Hussein, 2019) or it can also be interpreted as the cross loading factor value which shows that the latent construct predicts indicators in their block better than indicators in other blocks (Ghozali and Latan, 2019).

b. Reliability Test

Reliability testing is a test that determines how consistent the measuring instrument is and how error-free it is (Sekaran & Bougie, 2020). The reliability testing in this study consists of:

1. Composite Reliability

   Composite reliabilityis an indicator for measuring a construct that can be seen in the latent variable coefficients view. Data with a composite reliability > 0.7 can be concluded that the construct has good reliability (Ghozali and Latan, 2019).

2. Average Variance Extracted (AVE)

   Average Variance Extractedindicates the ability of latent variable values to represent the original data scores. A higher AVE value indicates a greater ability to explain the values of the indicators measuring the latent variables. A model is considered good if the AVE value for each construct is >0.5 (Ghozali and Latan, 2019).

3. Cronbach Alpha
   Cronbach's AlphaThis is a reliability test conducted to strengthen the results of composite reliability. Data with a Cronbach's alpha > 0.7 can be concluded that the construct has good reliability (Ghozali and Latan, 2019).

2. Inner Model Measurement
   According to Ghozali and Latan (2019), inner model evaluation, or structural model evaluation, is conducted to predict the relationships between latent variables. This analysis demonstrates the relationships between variables in accordance with theoretical studies and previous research findings. Inner model evaluation can be seen from several indicators, namely:
   a. Coefficient of Determination/R2 (R-Square).
      The size of the R2 indicates the extent of the influence of exogenous variables on endogenous variables. If the R2 value is 0.75, 0.50, and 0.25, it can be concluded that the model is strong, moderate, and weak, respectively (Ghozali and Latan, 2019).
   b. Predictive Relevance (Q2)
      Predictive relevanceQ2 measures how well the observed values are generated by the model and its parameter estimates. A Q2 value greater than 0 indicates the model has predictive relevance, while a Q2 value less than 0 indicates the model has no predictive relevance. The criteria for model strength and weakness are based on Q2, namely 0.35 (strong model); 0.15 (moderate model); and 0.02 (weak model) (Ghozali and Latan, 2019).
   c. GoF (Goodness of Fit).
      GoF, or Goodness of Fit, was developed to evaluate measurement and structural models and also provides a simple measure of overall model prediction. The GoF coefficient ranges from 0 to 1. The closer it is to 1, the higher the model's accuracy. Conversely, the farther it is from 1 or closer to 0, the weaker the model's accuracy. The GoF measurement categorizes model strength and weakness as 0.36 (large GoF); 0.25 (medium GoF); and 0.10 (small GoF) (Ghozali and Latan, 2019).

3. Hypothesis Testing
   Hypothesis testing can be directly viewed through bootstrapping in Smart PLS 3.3.3 software by selecting bootstrapping to test the hypothesis, selecting bootstrap 500, and then selecting start calculation to perform the calculation. Hypothesis testing can be performed in two ways:
   1. Determine the significance level or critical value (α) which is 5%.
   2. Compare the t-statistic value in the Bootstrapping output of the smart PLS program with the t-table value. If the t-statistic is higher (>1.96) compared to the t-table, it means the hypothesis is supported. The PLS output can also show the path coefficient value for each variable, which can be used to determine the direction of the relationship between the constructs being studied, whether it aligns with the hypothesis proposed in the study or not.

3. Results and Discussion

PLS Model

This study uses SEM-PLS to test a series of hypothetical relationships between the research variables of competency certification (X), competency test (Z), and employee performance (Y) among PT. X employees. The steps of SEM-PLS analysis refer to the procedures developed by Chin (1999) and Hair, et., all. (2020), which include: (1) evaluation of the measurement model (outer model); (2) evaluation of the structural model (inner model), and (3) goodness of fit.and (4) hypothesis testing.

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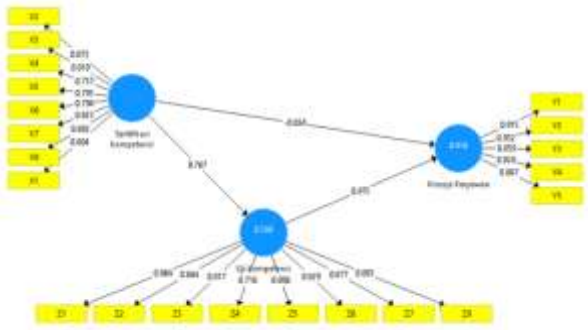

Gambar 4.3.1 Hasil Analisis Data

Outer Model Measurement

*Convergent Validity Test*The convergent validity of reflective indicators using the SmartPLS 3.0 program can be seen from the loading factor value for each construct indicator. The rule of thumb used in this study refers to a loading factor value > 0.70. The discriminant validity test relates to the principle that different manifest construct variables should not be highly correlated. The way to measure discriminant validity is by observing the cross-loading value for each variable, which must be > 0.70.

Furthermore, the AVE (average variance extracted) value or average extracted variance must be > 0.5. Conversely, if the AVE value is < 0.5 then it does not meet convergent validity. The PLS-SEM composite reliability test with SmartPLS 3.0 can be done in two ways: (1) by looking at the Cronbach's Alpha (α) value, where for confirmatory research the α value is > 0.70, and (2) by looking at the composite reliability (CR) value > 0.70.

Indikator	Kinerja Karyawan	Sertifikasi Kompetensi	Uji Kompetensi	Cronbach's Alpha	rho_A	Composite Reliability	AVE
X1		**0,804**		**0,922**	0,926	0,936	0,647
X2		**0,873**					
X3		**0,810**					
X4		**0,737**					
X5		**0,785**					
X6		**0,794**					
X7		**0,823**					
X8		**0,802**					
Y1	**0,915**			**0,944**	0,946	0,957	0,818
Y2	**0,932**						
Y3	**0,859**						
Y4	**0,928**						
Y5	**0,887**						
Z1			**0,864**	**0,940**	0,942	0,951	0,707
Z2			**0,844**				
Z3			**0,817**				
Z4			**0,716**				
Z5			**0,886**				
Z6			**0,829**				
Z7			**0,877**				
Z8			**0,883**				

Tabel 4.3.1 Outer Model Estimation

Based on Figure 4.3.1, it can be seen that the Outer Loadings Value in this study indicates how strongly the indicators correlate with the construct being measured. For Competency Certification, which has eight indicators, the outer loadings value is between 0.737 and 0.873. Employee Performance with five indicators shows a value between 0.859 and 0.932. The Competency Test consists of eight indicators with outer loadings values between 0.716 and 0.886. All indicators have values above 0.7, indicating that they are valid in measuring their respective constructs.

Reliability and construct validity were measured using Cronbach's Alpha, rhoA, Composite Reliability (CR), and Average Variance Extracted (AVE). Employee Performance had a Cronbach's Alpha of 0.944, Competency Certification 0.922, and Competency Test 0.940, indicating very high reliability. RhoA was also

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above 0.9 for all constructs. CR for Employee Performance was 0.957, Competency Certification 0.936, and Competency Test 0.951. The AVE value of Employee Performance was 0.818, Competency Certification 0.647, and Competency Test 0.707, indicating that all constructs met the criteria for good reliability and validity.

Fornell-Larcker Criterion

	Kinerja Karyawan	Sertifikasi kompetensi	Uji kompetensi
Kinerja Karyawan	0,905		
Sertifikasi kompetensi	0,725	0,804	
Uji kompetensi	0,957	0,767	0,841

Tabel 4.3.1 Discriminant Validity

Discriminant Validity

Based on Table 4.3.1, it can be seen that the results of discriminant validity referring to the Fornell-Larscher criteria show that the competency certification, competency test and employee performance variables meet discriminant validity.

Structural Model Testing (Inner Model)

Coefficient of Determination (R2)

According to Ghozali and Latan (2019), the size of the R2 indicates the extent of the influence of exogenous variables on endogenous variables. If the R2 value is 0.75, 0.50, and 0.25, it can be concluded that the model is strong, moderate, and weak, respectively.

Koefisiensi Determinan	R Square	R Square Adjusted
Kinerja Karyawan	0.916	0.916
Uji Kompetensi	0.589	0.588

Tabel 4.3.2 Nilai Koefisiensi Determinan

Based on Table 4.3.2, the R Square and R Square Adjusted values, it can be seen that the Performance Employees have an R Square value of 0.916, meaning that 91.6% of the variation in Employee Performance is explained by the independent variables in the model, while 8.4% is influenced by other factors. The Adjusted R Square is also 0.916, indicating the stability of the model. The Competency Test has an R Square of 0.589, meaning that 58.9% of the variation can be explained by the independent variables, and 41.1% by external factors. The Adjusted R Square for the Competency Test is 0.588. This indicates that the independent variables have a strong influence on Employee Performance and a moderate influence on the Competency Test.

Predictive Relevance (Q2)

According to Ghozali and Latan (2015), predictive relevance, or Q2, measures how well the model produces observational values and its parameter estimates. A Q2 value greater than 0 indicates the model has predictive relevance, while a Q2 value less than 0 indicates the model has no predictive relevance. The criteria for determining model strength and weakness are based on Q2, namely 0.35 (strong model); 0.15 (moderate model); and 0.02 (weak model). The calculation of Q2 is as follows:

Q2 value = 1 – (1 – R2) x (1 – R2)
= 1 – (1 – 0.916 x (1 – 0.589)
= 1 – (0.084) x (0.411)
Q2 value = 0.965476

The calculation results show that the Q2 value is 0.96, meaning that the amount of diversity in the research data that can be explained by the structural model is 96%, while the remaining 4% is explained by other factors outside the model.

Hypothesis Testing

Direct Effect Testing

A direct effect test was conducted to test hypotheses 1, 2, and 3 in this study. This method uses path coefficients and looks for t-statistics values greater than the t-table (1.96). If the p-value is less than 0.05, the hypothesis is accepted. Thus, the direct effect between the tested variables shows positive and significant results.

	Relationship	β	*T*-value	*P*-values	Decision
H1	Sertifikasi Kompetensi > Kinerja Karyawan	-0,024	0,852	0,395	Not Confirmed
H2	Sertifikasi Kompetensi > Uji Kompetensi	0,767	28,048	0,000	Confirmed
H3	Uji Kompetensi > Kinerja Karyawan	0,975	47,765	0,000	Confirmed

Tabel 4.3.3 Direct Effect

Based on Table 4.3.3, it is known that hypotheses 1, 2, and 3 show t-statistics values that are more than the t-table (1.97) and p-values < 0.05 so it can be concluded that hypotheses 1, 2, and 3 are accepted and have a positive effect, which is described as follows:

First hypothesis (H1) tested the effect of Competency Certification on Employee Performance. The analysis results showed that Competency Certification did not have a significant effect on Employee Performance, as the P-value was greater than 0.05. Other factors such as work experience, motivation, or the work environment may play a greater role in determining employee performance.

Second hypothesis (H2) This study examined the effect of competency certification on competency tests. The analysis showed that competency certification had a positive and significant effect on competency tests. The higher the certification, the greater the likelihood of success on the competency test. This indicates that competency certification is relevant and helps individuals prepare for competency tests.

Third hypothesis (H3) tested the effect of Competency Tests on Employee Performance. The analysis results showed a path coefficient (β) of 0.975, with a T-value of 47.765 and a P-value of 0.000. Since the P-value is less than 0.05, this hypothesis is accepted. This means that Competency Tests have a positive and significant effect on Employee Performance. The better a person's competency test results, the higher their performance. These results indicate that competency tests are an important factor in improving employee performance. Individuals who succeed in competency tests have better skills and knowledge.

Indirect Effect Testing

The fourth hypothesis test is as follows:

Direct Effect					Indirect Effect (after bootstapping)				Decision
		β	*T*-value	p-value		β	*T*-value	p-value	

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H4	Sertifikasi Kompetensi > Kinerja Karyawan	- 0.024	0.852	0.395	Sertifikasi kompetensi > Uji kompetensi > Kinerja Karyawan	0.748	21.967	0.000	Mediator

Tabel 4.3.3 Mediating Estimation

The test results show that Competency Certification has no direct effect on Employee Performance, with a β value of -0.024, a T-value of 0.852, and a P-value of 0.395. This means that this relationship is not statistically significant. However, when the Competency Test is included as a mediating variable, the relationship becomes significant. The β value for the indirect effect through the Competency Test is 0.748, with a T-value of 21.967 and a P-value of 0.000. This indicates that the Competency Test acts as a mediator, so that Competency Certification can improve Employee Performance through the Competency Test.

Discussion

This section discusses the research results in depth. The discussion is based on empirical findings, theory, and relevant previous research. Its purpose is to explain the relationship between the dependent and independent variables and to describe the results of testing four hypotheses through path analysis.

	Relationship	β	*T*-value	*P*-values	Decision
H_1	Sertifikasi kompetensi -> Kinerja Karyawan	-0,024	0,852	0,395	Not Confirmed
H_2	**Sertifikasi kompetensi -> Uji kompetensi**	0,767	28,048	0,000	Confirmed
H_3	**Uji kompetensi -> Kinerja Karyawan**	0,975	47,765	0,000	Confirmed
H_4	Sertifikasi kompetensi -> Uji kompetensi -> Kinerja Karyawan	0,748	21,967	0,000	Mediasi

Tabel 4.4 Perhitungan Persamaan Struktural

a. The Influence of Competency Certification on Employee Performance at PT. X Indonesia
   Research shows that competency certification has no direct impact on employee performance at PT. X. This aligns with previous studies that found that competency and training also had no significant impact elsewhere. However, some studies have shown the opposite, such as the positive impact of employee certification at the PT. Sucofindo laboratory. These differences in results may be due to the industry context, organizational culture, or the way certification is implemented. At PT. X, certification may not have been implemented optimally, so it needs to be re-evaluated to ensure it is relevant to employee tasks.
b. The Influence of Competency Certification on Competency Tests at PT. X
   The results of the study indicate that competency certification significantly influences competency testing at PT. X. This finding aligns with previous studies showing that certification improves instructor professionalism and teacher competency. However, there are also studies that do not fully support this finding, indicating that the relationship between certification and competency improvement is not always significant. The difference in results may be due to variations in certification program implementation and training quality. At PT. X, certification is likely implemented with stringent standards, making it important for the company to monitor and evaluate the effectiveness of the certification program.
c. The Influence of Competency Tests on Employee Performance at PT. X

Research shows that competency testing significantly impacts employee performance at PT. X. This finding aligns with previous research that suggests competency testing can improve employees' ability to complete tasks effectively. Several studies have noted that systematic competency testing can improve productivity and work quality. However, some research is inconsistent, revealing that the success of competency testing is highly dependent on ongoing training and management support. Intrinsic motivation and the work environment also influence employee performance. Success at PT. X may be influenced by a structured evaluation system and the company's commitment to developing employee skills. Companies need to ensure that test results are followed by appropriate development programs.

d. Competency Certification has a positive and significant indirect effect through Competency Tests on Employee Performance at PT. X
Research shows that competency certification positively impacts employee performance at PT. X through competency testing. This certification increases employee readiness and confidence during job evaluations, which positively impacts productivity. However, several other studies have shown that certification does not always improve performance without relevant training. The impact of certification also depends on implementation and management support. Work experience and on-the-job training are sometimes more important than certification. While competency certification has a positive effect, its success depends on other factors such as company support and the relevance of the material. Companies must ensure that certification programs are high-quality and aligned with industry needs.

4. Conclusion

Based on the research results and discussions as described in the previous chapters, several conclusions can be drawn: The Effect of Competency Certification on Employee Performance Based on the research results, competency certification does not have a direct influence on employee performance at PT. X. This finding indicates that although certification can improve workforce competitiveness, it is not always directly proportional to increased performance. The difference in research results that support and do not support it indicates that the effectiveness of certification in improving performance is highly dependent on implementation factors, relevance to the job, and integration within the company's performance appraisal system. Therefore, PT. X needs to ensure that the certification provided is not only administrative in nature, but is truly able to improve employee skills and productivity in the work environment.

The Effect of Competency Certification on Competency Tests The results of the study indicate that competency certification has a significant influence on competency tests at PT. X. This finding indicates that competency certification can help employees prepare for more systematic and standardized skills evaluations. However, several studies also show that certification does not always guarantee significant competency improvements, as other factors such as the quality of training and program implementation also play an important role. Therefore, for certification to be truly effective, companies need to ensure that the certification materials and methods are aligned with the competency standards tested in the competency test.

The Effect of Competency Tests on Employee Performance The results of the study indicate that competency tests have a significant effect on employee performance at PT. X. This finding indicates that competency tests can improve employees' technical skills, which impacts work effectiveness and efficiency. However, several other studies have shown that the effect of competency tests on employee performance is not always significant if not supported by ongoing training and other motivational factors. Therefore, PT.

X needs to ensure that competency tests not only function as an evaluation tool, but are also accompanied by skills development programs that are appropriate to employee needs.

The Indirect Effect of Competency Certification on Employee Performance through Competency Tests The results of the study indicate that competency certification has a positive and significant effect on employee performance indirectly through competency tests at PT. X. This finding indicates that certification can improve employee readiness in facing competency tests, which ultimately has a positive impact on improving their performance. However, several other studies have shown that the effectiveness of certification is highly dependent on the relevance of the material to the job, company support, and the sustainability of training after certification is awarded. Therefore, PT. X needs to ensure that the certification and competency tests implemented are truly able to improve employees' practical skills and provide a sustainable positive impact on their performance.

Based on the descriptions of the conclusions and implications above, the following suggestions can be made by the researcher: For PT. X, PT. X needs to re-evaluate the effectiveness of its competency certification program, ensuring that the certification provided is relevant to employees' duties and responsibilities. Furthermore, the company should integrate the certification program with ongoing training and a more comprehensive evaluation system to optimize the benefits of certification. Employee performance improvement can also be supported by ensuring that competency test results are followed by development programs tailored to individual and organizational needs. Furthermore, management can consider providing incentives or awards to employees who successfully improve their competencies as a form of motivation to continue developing.

For Further Research: Further research is recommended to further explore other factors that may influence the relationship between competency certification, competency testing, and employee performance, such as motivational factors, the work environment, and managerial support. Furthermore, future studies could be conducted with a broader approach, for example by comparing the effectiveness of certification across various industrial sectors to obtain a more comprehensive picture. Qualitative research could also be conducted to delve deeper into employees' experiences and perceptions regarding the benefits of competency certification for career development and performance improvement.

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