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The Effect Of Competency Development And Work Flexibility On Employee Productivity With Artificial Intelligence In Performance Evaluation As A Moderating Variable At PT Cybertrend Intrabuana

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Abstract *- This research aims to examine the influence of: (1) competency development on employee productivity, (2) work flexibility on employee productivity, (3) the moderating role of artificial intelligence in performance evaluation on the relationship between competency development and employee productivity, and (4) the moderating role of artificial intelligence in performance evaluation on the relationship between work flexibility and employee productivity at PT Cybertrend Intrabuana. PT Cybertrend Intrabuana is a company operating in the field of data science and artificial intelligence. The object of this research is the employees working at PT Cybertrend Intrabuana, located in Jakarta. The study involved 83 respondents using a descriptive quantitative approach. Therefore, the data analysis method employed in this study is SEM-PLS through questionnaires. This research shows that competency development has a positive and significant effect on employee productivity, work flexibility has a positive and significant effect on employee productivity, and artificial intelligence in performance evaluation is able to moderate the relationship between competency development and employee productivity. furthermore, artificial intelligence in performance evaluation is unable to moderate the relationship between work flexibility and employee productivity.*

Keywords *: Competency Development, Work Flexibility, Employee Productivity, Artificial Intelligence, Performance Evaluation.*

I. INTRODUCTION

The significant changes brought about by digital transformation have encouraged organizations across various sectors to adopt advanced technologies to improve efficiency and productivity. One of the technologies of primary focus is Artificial Intelligence (AI), which not only acts as an automation tool but also supports data-driven strategic decision-making. Therefore, it is important to understand how AI developments align with global digital transformation and how this technology has the potential to revolutionize human resource management, including the employee performance evaluation process. The following will discuss the dynamics of digital transformation and the development of AI as one of the main foundations of change in the modern era. Companies also play a crucial role in promoting work-life balance by implementing policies and practices that support employees in managing their time effectively, fostering a culture that values personal well-being, and providing resources for managing stress and work-related challenges.

Digital transformation is the integration of digital technology into various aspects of business operations, driving efficiency and innovation. Technologies such as cloud computing, IoT, and Artificial Intelligence (AI) are key drivers of this change. According to Lamarre et al. (2023), digital transformation is a fundamental process of changing the way an organization operates, with the primary goal of creating value through the sustainable and scalable application of technology at scale. This transformation encompasses not only the integration of digital technology but also reflects fundamental changes in the organization's structure, processes, and culture. Similarly, McKinsey estimates that the application of generative artificial intelligence (AI) has the potential to contribute between USD 2.6 and 4.4 trillion annually to the global economy, particularly in sectors such as marketing, research and development (R&D), and customer service (Lamarre et al., 2023).

Artificial Intelligence (AI) is a technology that enables machines to mimic human thought processes, such as machine learning (ML), natural language processing (NLP), and computer vision. AI supports various sectors, including HR management, by automating recruitment, performance evaluation, and competency development. In HR management, AI can increase the objectivity of performance evaluations through real-time and accurate data analysis. Thus, AI helps organizations reduce bias, identify employee development needs, and design more appropriate strategies for increased productivity. AI plays a key role in supporting digital

transformation by increasing process efficiency, task automation, and data-driven decision-making. Through its analytical capabilities, AI helps organizations respond quickly to change and create sustainable innovation.

In line with the government's Making Indonesia 5.0 program, AI is a strategic solution for improving industrial competitiveness in Indonesia. By adopting this technology, organizations can address operational challenges, increase productivity, and ensure sustainable growth in the Industry 5.0 era. Artificial Intelligence (AI) has revolutionized Human Resources (HR) management by supporting processes such as recruitment, training, and performance evaluation. In recruitment, AI enables automated candidate screening using objective algorithms, speeding up the process while reducing human bias. Furthermore, AI also creates more dynamic job descriptions, tailored to current organizational needs, and analyzes historical data to predict future workforce needs (Rathnayake & Gunawardana, 2024).

In performance evaluation, AI can provide a data-driven approach that reduces subjectivity, enables real-time feedback, and predicts future employee performance trends. According to Riaz and Ghanghas (2024), integrating AI into performance evaluations provides a more accurate, fair, and efficient process. AI also enables data-driven strategic decision-making, such as identifying employee potential and recommending relevant training. With these capabilities, AI is a key solution to address the challenges of traditional evaluations, which are often inefficient and influenced by human bias. Performance evaluations at PT Cybertrend Intrabuana are conducted annually on a scale of 1-5, encompassing five dimensions: core competency, technical competency, KPIs, job performance, and leadership competency. This system aims to comprehensively assess employee achievement in supporting organizational goals. However, the evaluations face significant challenges, such as subjective bias from superiors that affects the objectivity of the assessment. Furthermore, time-consuming manual methods hinder the processing of results and the provision of timely feedback.

The traditional performance evaluation system at PT Cybertrend Intrabuana faces several challenges that impact the effectiveness of the employee assessment and development process. The main challenge is subjective bias arising from manual assessments conducted by direct supervisors. This process is often influenced by emotional factors and personal relationships, so assessments are not always objective or reflective of an employee's actual performance. Furthermore, manual annual evaluations are time-consuming and often result in delays in providing the feedback needed for competency development.

The average employee performance score over the past three years has also shown a decline. In 2021, the average performance score was 3.86, the highest during that period. However, in 2022, this figure dropped to 3.56 and then slightly further to 3.55 in 2023. This decline reflects the challenge of maintaining consistent performance across the organization. One reason is the lack of connection between performance evaluation results and relevant development strategies. Furthermore, limitations in providing timely feedback also impacts employee productivity.

Competency development plays a crucial role in increasing employee productivity across various organizations. Competencies, encompassing knowledge, skills, and professional attitudes, can help individuals perform their duties more effectively and efficiently. Research by Alfianto and Nugroho (2024) shows that competency development significantly impacts employee productivity within the National Civil Service Agency (BKN). This finding is reinforced by the findings of Rusilowati and Maulida (2020), who stated that competency development significantly impacts productivity gains within organizations. Kurniawan (2024) also found that competency development through training programs and employee skill enhancement significantly impacted employee productivity. Bakry (2021) echoed this sentiment, emphasizing that competency development is a key factor in creating a productive and competitive workforce. Previous research supports a positive relationship between competency development and productivity , so this study proposes the following hypothesis:

H1: Competency development has a positive effect on employee productivity .

Work flexibility is an organizational policy that allows employees to manage their work time, location, and method to better balance professional and personal life demands. This policy has been shown to significantly increase employee productivity. Research by Ratono *et al.* (2022) shows that flexible work arrangements significantly impact employee productivity by increasing job satisfaction and work-life balance. A similar finding was expressed by Vebrianthy *et al.* (2022), who stated that work flexibility helps reduce stress and increases employee engagement with the organization. Furthermore, research by Harmadi (2024) confirmed that flexible working hours significantly impact employee productivity through more effective workload management. Research by Anakpo *et al.* (2023) also found that work-from-home policies, a form of work flexibility, significantly impact employee productivity, especially when supported by adequate technology. Therefore, the second hypothesis is proposed as follows:

H2: Work flexibility has a positive effect on employee productivity.

research has shown that competency development has a significant impact on employee productivity. Competencies developed through formal and informal training, work experience, and technology-based approaches contribute to improving individual skills and work efficiency. However, the effectiveness of competency development in boosting productivity is often influenced by subjective factors in performance evaluations, such as assessor bias or limited objective data. In this context, Artificial Intelligence (AI) presents a solution to increase the objectivity of performance evaluations. AI enables more accurate, real-time data collection and analysis, free from subjective influences, thereby moderating the relationship between competency development and employee productivity. Research by Riyadus Solihin et al. (2023) shows that implementing AI in performance evaluations helps improve efficiency and accuracy, while providing faster and more relevant feedback to employees. A similar finding was made by Chukwuka & Dibie (2024), who highlighted the strategic role of AI in evaluating HR performance more fairly and transparently, while also encouraging continuous improvement. Thus, AI plays a significant role as a moderating variable that strengthens the impact of competency development on productivity. Therefore, the third hypothesis is proposed as follows:

H3: AI moderates the relationship between competency development and employee productivity.

Work flexibility is a policy that gives employees the freedom to manage their work time, location, and method. This policy is believed to help employees maintain a balance between work and personal life demands, ultimately increasing productivity. However, the effectiveness of work flexibility in supporting productivity is often difficult to measure objectively. This is due to the limitations of traditional performance evaluations, which still rely on manual and subjective assessments, resulting in inaccurate results and potential bias. In this context, Artificial Intelligence (AI) plays a moderating role, improving the accuracy of performance measurement in flexible work policies. AI enables more structured, accurate, and real-time data collection and analysis, allowing for a more objective evaluation of the impact of flexible work on productivity. Research by Chukwuka and Dibie (2024) emphasizes that implementing AI in performance evaluations can eliminate subjective bias and provide more transparent and accountable assessments.

Furthermore, Al Naqbi *et al.* (2024) revealed that AI plays a crucial role in flexible work environments by continuously monitoring performance and providing faster feedback. Thus, AI helps moderate the relationship between work flexibility and employee productivity, ensuring these policies can be objectively measured and supporting the achievement of more optimal performance.
Therefore, the fourth hypothesis is proposed as follows:

H4: AI in performance evaluation moderates the relationship between work flexibility and employee productivity.

Based on theoretical studies, previous research, and development of a framework for thinking, this research This study aims to examine the relationships between variables and the moderating role of artificial intelligence (AI). The formulated hypotheses aim to answer the research questions and confirm the influence of relevant variables in the context of increasing employee productivity at PT Cybertrend Intrabuana. Furthermore, the author created a research model as shown in Figure 1:

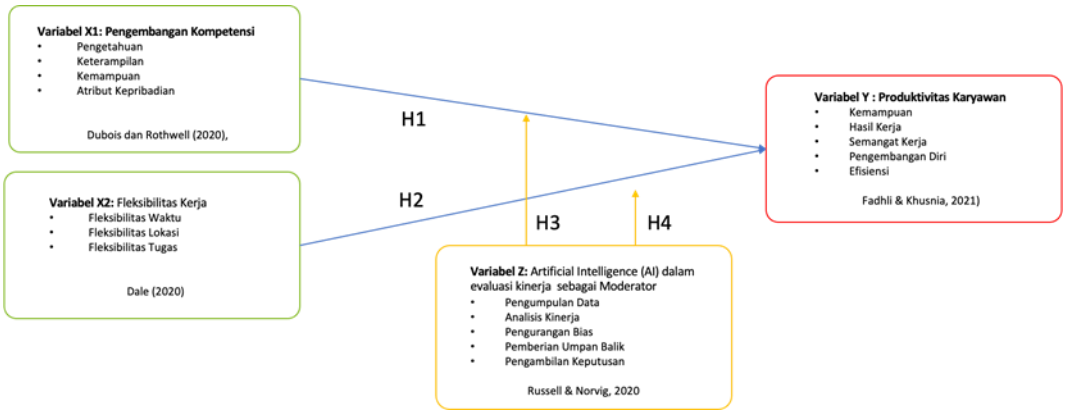

Figure 1. Research Model

I. METHOD

The method used in this study is a quantitative method. Data collection was carried out by distributing questionnaires to every employee at PT. Cybertrend Intrabuana located at Jl. NIS No. 9, East Cilandak, Pasar Minggu, South Jakarta City, Special Capital Region of Jakarta. The approach used is a descriptive approach to determine independent variables, either only on one variable or more (stand-alone variables or independent variables) without making comparisons of the variables themselves and looking for relationships with other variables (Sugiyono, 2017). This approach aims to determine the nature and relationships between variables by observing certain aspects and then processing them further, which ultimately leads to drawing conclusions and using questionnaires as a data collection tool (pre-survey). The population in this study is permanent employees of PT Cybertrend Intrabuana , with the number of population that will The sample studied was 105 employees. The sample was part element the population selected to represent population in a way overall (Sekaran & Bougie, 2016). If population too large and researchers are not able to research in its entirety , then the sample can be used to simplify the research process without reduce validity of the results (Sugiyono , 2017). In this study, the sample was determined using the formula Slovin , which was designed to calculate representative sample size taking into account the margin of error. Formula Slovin is as follows:

$$n = \frac{105}{1+105(0,05)^2} = \frac{105}{1+105X0,0025} = \frac{105}{1,2625} = 83$$

Thus, the number of samples taken was 83 respondents. The sampling technique used in this study was purposive sampling. In this data collection study , the method used was a questionnaire . is a data collection instrument that is carried out by means of give a set question or statement written to respondents to answer (Sugiyono , 2020). In this study, a scale was used Likert , which is scale measurement to assess attitudes , opinions , and perceptions individual towards a phenomenon social (Sugiyono , 2017). Level of agreement respondents to the statements given measured using five categorie, as shown in the following table:

Table 1. Likert Scale

Scale	Information
5	Strongly agree
4	Agree
3	Neutral
2	Disagree
1	Strongly Disagree

This study uses the PLS (Partial Least Square) method using SmartPLS 4.0 to help analyze the data. PLS can be used to confirm the theory. The PLS method is able to describe latent variables (not directly measured) and is measured using indicators (Ghozali, 2016). Based on the PLS method, testing the validity of reflective indicators is carried out in 2 stages. The first stage is the measurement model test / outer model. This model consists of convergent validity, discriminant validity, Average Variance Extracted (AVE), composite reliability and Cronbach alpha tests. In the second stage is the structural model test / inner model. This model consists of collinearity test (VIF), coefficient of determination R2, effect size (f2), Predictive Relevance, Goodness of Fit model and hypothesis.

II. RESULTS AND DISCUSSION

A. Results

There were 83 employees who participated, with the largest number being male (65.1 %). Respondents had different age groups, namely between 17-25 years (22.9 %), between 26-35 years (44.6 %), between 36-45

years (20.5 %), and > 4 6 years (12.0 %). The last education also varies, namely high school (6 %), D3/ equivalent (9.6 %), S1 (69.9 %) and S2 (14.5 %), with the majority of divisions being Business (71.1 %), Operation (16.9 %) and the last is Product Innovation (12 %).

Table 2. Sample Description

Criteria		Total	%
Gender	Man	54	65 , 1 %
	Woman	29	34.9 %
Age	17 - 25 years old	19	22.9 %
	26 - 35 years old	37	44.6 %
	36 – 45 years old	17	20.5 %
	> 4 6 years	10	12.0 %
Last education	Senior High School	5	6.0 %
	D3 / equivalent	8	9.6 %
	S1	58	69.9 %
	S2	12	14.5 %
Division	Business	59	71.1 %
	Operation	14	16.9 %
	Product Innovation	10	12.0 %

Testing of the measurement model was conducted using the Confirmatory Factor Analysis (CFA) technique. Construct CFA is used to examine the validity of each indicator and to test its reliability. In this study, validity criteria can be measured using convergent validity, discriminant validity, Average Variance Extracted (AVE), composite reliability, and Cronbach's alpha.

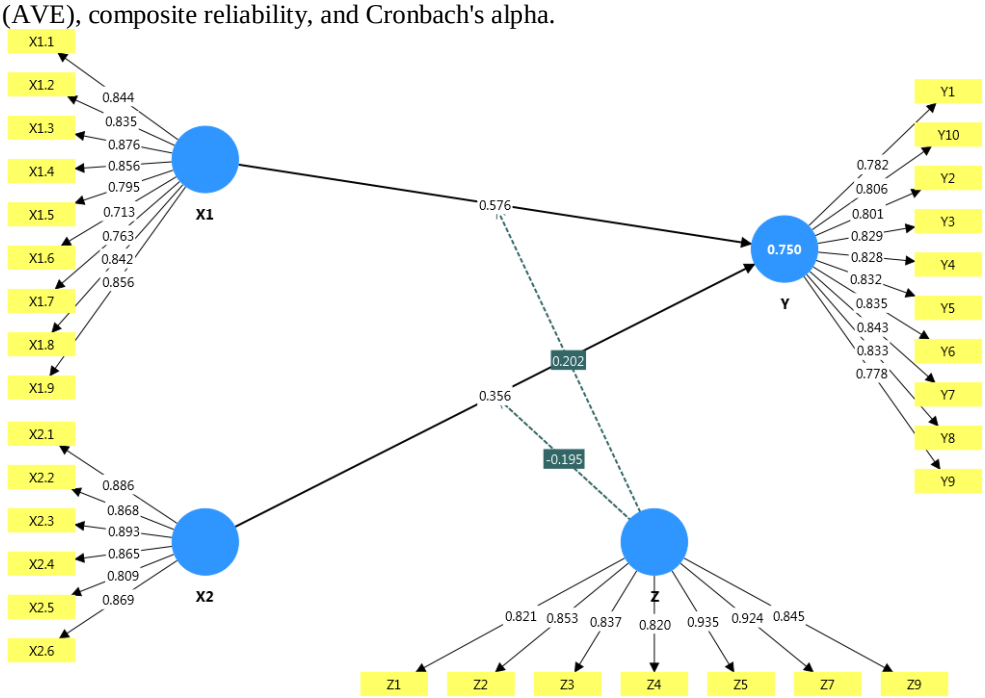

Figure 2. Valid Research Model

Source: SmartPLS 4.0 processing results (2025)

Table 3. Item Loadings , Cronbach's Alpha, Composite Reliability, and Average Variance Extraction (AVE)

Variables	Indicator	Outer Loading Value	Cronbach's Alpha	Composite Reliability	AVE
Competency Development (X1)	X1.1	0.844	0.940	0.949	0.675
	X1.2	0.835			
	X1.3	0.876			

	X1.4	0.856			
	X1.5	0.795			
	X1.6	0.713			
	X1.7	0.763			
	X1.8	0.842			
	X1.9	0.856			
Flexibility of the belt (x2)	X2.1	0.886	0.933	0.947	0.749
	X2.2	0.868			
	X2.3	0.893			
	X2.4	0.865			
	X2.5	0.809			
	X2.6	0.869			
Kerja Products (Y)	Y1	0.782	0.945	0.953	0.667
	Y2	0.801			
	Y3	0.829			
	Y4	0.828			
	Y5	0.832			
	Y6	0.835			
	Y7	0.843			
	Y8	0.833			
	Y9	0.778			
	Y10	0.806			
AI (Z)	Z1	0.821	0.943	0.953	0.745
	Z2	0.853			
	Z3	0.837			
	Z4	0.820			
	Z5	0.935			
	Z7	0.924			
	Z9	0.845			

Source: SmartPLS 4.0 processing results (2025)

Convergent validity testing is conducted by examining the factor loading values of each indicator on the construct. In most references, factors with a weighting of at least 0.7 are considered to have good validity. to explain latent constructs (Ghozali, 2014). In this study, the minimum acceptable loading factor limit is 0.7, provided that the AVE score for each construct is > 0.5 (Ghozali, 2014). After data processing with SmartPLS 4.0 , items Z6, Z8 , and Z10 were invalid. The fit or valid model in this study can be seen in Figure 2. Thus, the convergent validity of this research model has met the requirements. The loading factors, Cronbach's alpha, composite reliability, and AVE for each construct can be seen in Table 3 .

Construct reliability can be assessed from the Cronbach's alpha value , composite reliability , and AVE of each construct. The composite reliability and Cronbach's alpha values are recommended to be more than 0.7 , and the minimum recommended AVE value is 0.5 (Ghozali, 2014). The reliability test results in Table 3 above show that all constructs have composite reliability values and Cronbach's alpha values higher than 0.7 (> 0.7) , and the AVE construct values for all variables are above 0.50 . In conclusion, all constructs have met the required reliability.

Discriminant validity is carried out to ensure that each concept of each latent variable contrasts with other latent variables. A model has good discriminant validity if the squared value of AVE on each exogenous construct (value on the diagonal) exceeds the correlation between the construct and other constructs (values below the diagonal) (Ghozali, 2014). The results of the discriminant validity study were carried out with the squared value of AVE, which means by looking at the Fornell-Larcker Criterion Value mentioned in Table 4.

Table 4. Discriminant **Validity**

Variables	X1	X2	Y	Z
X1	0.821			
X2	0.656	0.865		
Y	0.808	0.735	0.817	
Z	-0.092	-0.107	-0.159	0.863

S Source: SmartPLS 4.0 processing results (2025)

Based on Table 4 above, it can be concluded that the √AVE value for each construct is greater than the correlation between one construct and another construct in the model. Based on the results above, the constructs in the estimated model meet the discriminant validity criteria.

Next , the second stage is the structural model/inner model testing. This model consists of testing the coefficient of determination R2, effect size (f2), predictive relevance, goodness of fit model, and hypothesis. The following are the results of data processing using SmartPLS 4.0:

Table 5. VIF and Effect Size

Variables	VIF	f-square (f2)
X1 -> Y	1,761	0.755
X2 -> Y	1,787	0.284
Z x X1 -> Y	2,444	0.075
Z x X2 -> Y	2,530	0.051

Source: SmartPLS 4.0 processing results (2025)

Based on Table 5 , the results of the collinearity test obtained the correlation results between competency development variables and work productivity of 1.761 smaller than 5, the correlation between work flexibility variables and work productivity of 1.787 smaller than 5, the correlation between Artificial Intelligence (AI) variables in performance evaluation moderates the relationship between competency development and work productivity of 2.444 smaller than 5 and the correlation between Artificial Intelligence (AI) variables in performance evaluation moderates the relationship between work flexibility and work productivity of 2.530 smaller than 5. The results of the correlation of these variables can be concluded that the structural model in this study is below the value of 5 or does not contain collinearity problems.

Based on Table 5 above , the results of the f-square value of competency development have a strong influence (0.755) on employee productivity, work flexibility has a medium influence (0.284) on employee productivity, artificial intelligence in performance evaluation in moderating competency development has a weak influence (0.075) on employee productivity and artificial intelligence in performance evaluation in moderating work flexibility has a weak influence (0.051) on employee productivity.

Table 6. R Square Value

Variables	**R Square**	**R Square Adjusted**
Employee Productivity (Y)	0.750	0.734

Source: SmartPLS 4.0 processing results (202 5)

Based on Table 6 above, the relationship between constructs based on the R-Square value can be explained that the R-Square (R2) value of the Work Productivity variable (Y) is 0.750. This shows that 75.0% of the Work Productivity variable can be influenced by the variables Competency Development, Work Flexibility, AI in performance evaluation moderates Competency Development and AI in performance evaluation moderates Work Flexibility while the remaining 25% is influenced by other variables outside those studied.

Next, the Goodness of Fit Index test validates the combined performance of the measurement model (outer model) and the structural model (inner model), which is obtained by multiplying the average communalities index by the model's R2 value. This GoF value ranges from 0 to 1, with the interpretation being that a GoF of 0.1 is small, a GoF of 0.2 is moderate, and a GoF of 0.36 is large (Ghozali and Latan, 2020). The GoF value in PLS must be calculated manually using the following formula:

Average AVE value = (0.675+0.749+0.667+0.745) / 4 = 0.709
The value of □2 = 0.750
GoF = √(0.709 x 0.750) = 0.730
Information :
AVE: variables X1, X2, Y and Z
R2: variable Y

Based on the calculations, the Goodness of Fit (GoF) value was obtained at 0.730, which indicates the overall quality of the model. The GoF value is calculated from the square root of the product of the average AVE (Average Variance Extracted) and R-Square (R2). The average AVE value is 0.709, obtained from four

variables, and the (R2) value is 0.750 from the endogenous variables. The GoF value of 0.730 is included in the strong category, because it is above 0.36 according to the criteria of Ghozali and Latan (2020). This indicates that the model has good predictive validity and is suitable for further analysis.

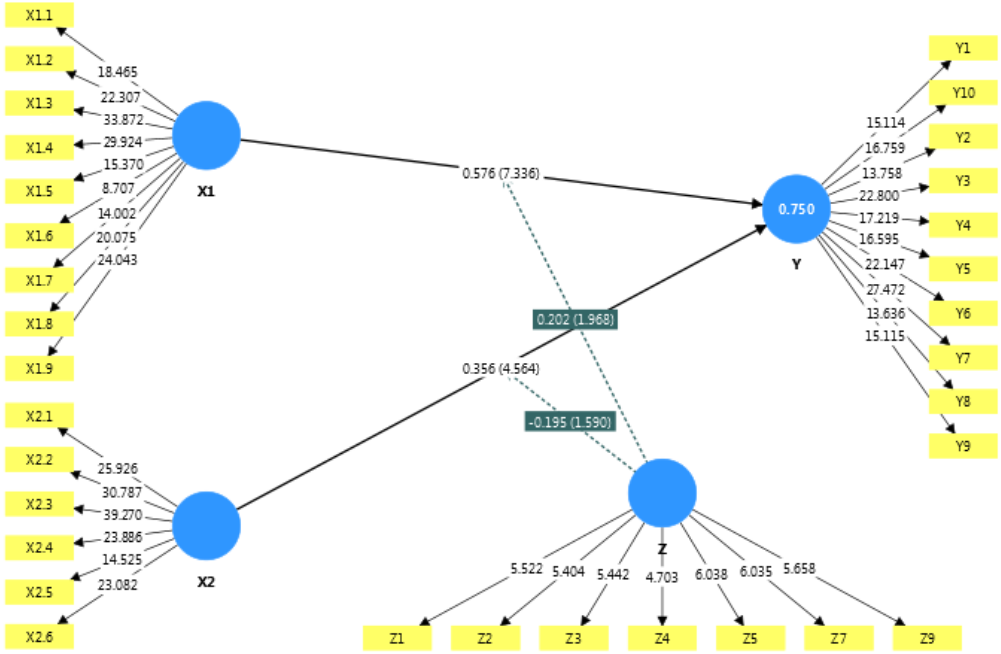

Figure 3. Hypothesis Testing Model
Source: SmartPLS 4.0 processing results (2025)

Table 7. Hypothesis Testing

Hypothesis	Connection	Beta	SE	T Statistics	P-value	Decision
H1	X1 -> Y	0,576	0,079	7,336	0,000	supported
H2	X2 -> Y	0,356	0,078	4,564	0,000	supported
H3	Z x X1 -> Y	0,202	0,103	1,968	0,049	supported
H4	Z x X2 -> Y	-0,195	0,123	1,590	0,112	not supported

Source: SmartPLS 4.0 processing results (2025)

Meanwhile, Table 7 shows the *t-statistics* and *p-values* that explain the influence of the variables in this study mentioned earlier. Based on the results of the hypothesis testing , it can be explained as follows:

1. The original sample value of the Competency Development variable is positive, namely 0.576 with a t-statistic value of 7.336 which is greater than the t-table of 1.96 and a P-Value of 0.000 less than 0.05. This means that the Competency Development variable (X1) has a positive and significant effect on the Work Productivity variable (Y).
2. The original sample value of the Work Flexibility variable is positive, namely 0.356 with a t-statistic value of 4.564 which is greater than the t-table of 1.96 and a P-Value of 0.000 less than 0.05. This means that the Work Flexibility variable (X2) has a positive and significant effect on the Work Productivity variable (Y).
3. The original sample value of AI in performance evaluation moderates the relationship between the Competency Development variable is positive, namely 0.202 with a t-statistic value of 1.968 which is greater than the t-table of 1.96 and a P-Value of 0.049 less than 0.05. This means that AI in performance evaluation is able to moderate the relationship between the Competency Development variable (X1) and the Work Productivity variable (Y).

4. The original sample value of AI in performance evaluation moderates the relationship between the Work Flexibility variable is negative, namely 0.195 with a t-statistic value of 1.590 which is smaller than the t-table of 1.96 and a P-Value of 0.112 which is more than 0.05. This means that AI in performance evaluation is not able to moderate the relationship between the Work Flexibility variable (X2) and the Work Productivity variable (Y).

B. Discussion

The Influence of Competency Development on Work Productivity

Based on the research results, the first hypothesis (H1), which states that competency development has a positive and significant effect on work productivity, was proven. Competency development can increase work productivity. According to Dubois and Rothwell (2020), competency development encompasses a combination of knowledge, skills, abilities, and personality attributes necessary to effectively perform roles within an organization. Employees feel happy when given work that aligns with their knowledge or educational background. Therefore, competency development plays a crucial role in increasing employee productivity. This allows employees to work effectively and make optimal contributions to the company. The results of this study support previous empirical findings by Rusilowati et al. (2020) and Anosa (2021), who found that Competency Development has a significant influence on Work Productivity.

The Influence of Work Flexibility on Work Productivity

Based on the research results, the second hypothesis (H2), which states that work flexibility has a positive and significant effect on work productivity, was proven. Work flexibility can increase employee productivity. According to Vebrianthy et al. (2022), work flexibility can help reduce stress and increase employee engagement with the organization. This policy can help employees work remotely without compromising performance. Implementing this policy can increase employee satisfaction with the company, thus increasing employee productivity. The results of this study support previous empirical findings by Suyatno et al. (2023), Apriani (2023), and Adiyanti et al. (2024), who found that work flexibility has a significant influence on work productivity.

AI in Performance Evaluation moderates the relationship between Competency Development and Employee Productivity.

Based on the research results, the third hypothesis (H3) which states that Artificial Intelligence (AI) in performance evaluation can moderate the relationship between competency development and work productivity is proven. The use of Artificial Intelligence (AI) in performance evaluation can help develop employee competencies to increase employee productivity. Artificial Intelligence (AI) can help maximize employee potential and competency through process automation and real-time and accurate data analysis. This allows employees to utilize their competencies to complete more complex and faster work. Artificial Intelligence (AI) can also be used to complete work efficiently and effectively. Artificial Intelligence (AI) enables more accurate and real-time data collection and analysis. Chukwuka & Dibie (2024) emphasize the strategic role of Artificial Intelligence (AI) in evaluating human resource performance more fairly and transparently, and encouraging continuous improvement. Therefore, Artificial Intelligence (AI) is a solution to increase objectivity in performance evaluation to strengthen competency development and increase employee productivity. The results of this study support previous empirical findings by Solihin et al. (2023) who found that AI in Performance Evaluation is able to moderate the relationship between Competency Development and Work Productivity variables.

AI in Performance Evaluation moderates the relationship between Work Flexibility and Employee Productivity.

Based on the research results, the fourth hypothesis (H4), which states that Artificial Intelligence (AI) in performance evaluations can moderate the relationship between work flexibility and employee productivity, was not proven. The implementation of AI in performance evaluations has not been effective in strengthening the influence of work flexibility on increasing productivity. This situation is caused by the limited quality and integration of performance data generated by flexible work patterns. In work systems that allow employees to choose their own work hours and locations, data related to work activities, target achievement, and daily progress is often recorded inconsistently, delayed, or scattered across various platforms that are not fully integrated. This is because AI requires real-time and consistent data to perform predictive analysis and provide timely feedback. AI faces challenges when available data is fragmented or enters the system late.

These data delays and irregularities reduce AI's ability to accurately identify productivity patterns and provide relevant recommendations in a timely manner. As a result, while AI has the potential to support performance evaluation in flexible work environments, in practice, flexible work actually creates variability in data input, hindering AI's predictive and responsive capabilities. This finding aligns with research by Odugbesan et al. (2021) which showed that AI does not moderate the relationship between Green Soft Talent Management (GSTM) and Innovative Work Behavior (IWB), and the effect of GSTM on IWB remains unchanged at various levels of AI utilization, especially when data infrastructure and system integration are not optimal.

III. CONCLUSION

Based on the results of research on the influence of competency development and work flexibility on employee productivity with artificial intelligence in performance evaluation as a moderating variable at PT. Cybertrend Intrabuana, this research can be concluded as follows: (1) competency development has a positive and significant effect on work productivity , (2) work flexibility has a positive and significant effect on work productivity , (3) AI in performance evaluation is able to moderate the relationship between competency development and work productivity , and (4) AI in performance evaluation is not able to moderate the relationship between work flexibility and work productivity.

This research contributes significantly to the company , as employees are motivated to learn and develop their competencies in the future . Competency development is based on knowledge knowledge or background behind appropriate education in order to optimize work productivity . Companies must notice matter said , so that source Power The human resources owned by the company can be maximized to increase work productivity . In addition that , employees want to have freedom in completing their work. tasks with appropriate methods . The work flexibility implemented by the company can reduce employee stress because employees have the freedom to complete their work . their work with the methods they use apply alone . It is recommended company still implement work flexibility because This policy can help employees who have limitations time to improve work productivity . giving bait come back in real-time between employees and superiors Already walk good . Companies can use Artificial Intelligence (AI) to maximize potential and competencies possessed by employees through process automation and data analysis in real time and accurately . So that The company can be maintained and developed for the future . However , AI in performance evaluation has not been able to moderate the relationship between work flexibility and employee productivity . This occurs Because AI approach that focuses on quantitative indicators like amount work completion , absence , and activity logs , are less in line with the principle of work flexibility which emphasizes freedom , trust , and independence . This mismatch has the potential cause pressure psychological and reduce the benefits of flexibility alone . Because of that that , the company it is recommended to adjust AI algorithms to be more oriented towards the quality and outcome of work , integrating flexible work system with real-time AI platform , as well as combining evaluation automatically with human evaluation . This approach is expected to maintain balance between utilization technology and the essence of work flexibility.

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