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# The effect of training and development on improving of performance with competence as a mediating variable

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#### **ABSTRACT**

Currently, people live in a globalized environment with significant changes, especially digital technology that change how an organization provides work and the human resource management process in the organization. Generation x is experiencing significant changes in technology that affect them to adapt to the digital era. This study aims to determine the impact of training and development on improving the performance quality of Generation X employees in the West Kalimantan Provincial Government with competence as mediation. Data is presented and analyzed using quantitative methods, and the number of samples is 234 respondents. The questionnaire in this study used a five-point Likert scale (1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree); the questionnaire was distributed online and offline. The analysis in this study was carried out using the Structural Equation Modeling (SEM) method through AMOS 24. The findings from this research suggest that training and development have a positive and significant effect on employee performance with intermediary competencies.

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# **INTRODUCTION**

Currently, people live in a globalized environment with significant changes, especially digital technology that change how an organization provides work and the human resource management process in the organization (Bejtkovský et al., 2018). Mazurchenko & Maršíková (2019) stated that digitalization in human resource management helps organizations to modernize human resource functions and gives them a competitive advantage. Human resources are an essential component and are considered resources and capabilities possessed or managed by organizations that can create value in attaining a competitive edge (Fenech et al., 2019). According to Sriviboon & Jermsittiparsert (2019) human resources are the most crucial part of an organization to improve employee performance.

Based on BKD (2023) data, West Kalimantan provincial civil servants are dominated by Generation X, with 5,541 people or 52,4% of 10,574 employees. (Dimock, 2019) explains that Generation X was born from 1965 to 1980. Generation X experienced significant technological

changes that influenced them to adapt to the digital era (Kotler et al., 2021). Changes in information and communication technology create challenges, change the way of working, and make job demands in the government sector (Zehir et al., 2020). Improving performance quality in today's digital era is one of the critical factors in the West Kalimantan provincial government's efforts to achieve efficiency, effectiveness, and quality of public services. This improvement depends on the knowledge and abilities of Generation X ASN employees who work in the government environment (Zhang & Chen, 2023).

Training and development directly impact employee performance effectiveness (Ismail et al., 2021; Karim et al., 2019). Training and development as an indicator of better skills, knowledge, capacity, and perspective in employees to produce effective worker performance. Training aims to improve employees' skills, knowledge, and attitudes, while development aims to improve employees' overall competence over a more extended period (Stofkova & Sukalova, 2020). The training provided can play an important role. Training can improve and expand the educational qualifications of workers in their work and provide benefits both individually and socially (Martins, 2021). Training is seen as a useful tool to address changes regarding technological innovation, productivity, and efforts to improve performance quality (Balouei Jamkhaneh et al., 2022).

Competencies are some of the factors that influence employee performance improvement. Competence plays a vital role because competence is related to the essential excellence of employees in doing work (Qalby & Rosnani, 2023). Competence means a combination of skills, capabilities, knowledge, attitudes, and motivations employees need to cope with work-related tasks and challenges efficiently (Hecklau et al., 2016). Competence in a person is the foundation for effective and superior performance in a job (Rosnani et al., 2019). Employee competence must always be honed so that it is always by existing developments by seeking new knowledge to work optimally.

This study aims to understand the relationship between training and development in improving the quality of performance of Generation X ASN employees with competence as a mediator. The research is expected to serve as a basis for the Government of the West Kalimantan Province to develop appropriate training programs to continuously improve staff performance, and the study aims to broaden existing theories about the relationship between training, development, and performance by highlighting the role of competence as a mediation variable and strengthening an understanding of how these factors are interrelated. This study develops previous research that has been conducted (Karim et al., 2019; Mungou & Chumo, 2023; Ognjanović et al., 2023) which found that training and development positively correlate with employee performance. However, findings by Maqbool et al (2023) concluded that training and development had no impact on the aging workforce in overcoming challenges. The gap regarding these results makes the researcher examine the relationship between training and development in improving the quality of Generation X employee performance. The update in this is by adding competency variables as mediating variables.

# RESEARCH METHOD

This research is causal. The research helps find and determine whether there is a cause-and-effect correlation and the level of relationship that occurs between two or more variables. This study uses a questionnaire with a five-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree). Training as an independent variable is measured by 6 question items developed by (Dhar, 2015). While the other independent variable, namely development, is measured by 6 items developed by (Lynn, 1998). To measure employee performance as the dependent variable is measured by 7 items developed by (Nkansah et al., 2023). Competence as a mediating variable is measured using a model developed by (Otoo & Mishra, 2018a) with 7 items.

In this study, 234 respondents participated as samples. The sample criteria in this study include all ASN employees who belong to Generation X and work in the West Kalimantan provincial government. Prior to dispersing the questionnaire, the researcher obtained permission first, and after that, the questionnaire was distributed online and offline.

Data analysis in this research was carried out through AMOS 24 by applying the Structural Equation Modeling (SEM) method, which has three types of analysis that can be done simultaneously. The first step is to verify the validity and dependability of the confirmatory factor analysis-related instruments. Second, a number of parameters are used to assess the overall fit of the model, such as chi-square (x2), the Good of Fit Index (GFI), Tucker Lewis Index (TLI), Incremental Fit Index (IFI), Comparative Fit Index (CFT), Root Mean Square Error of Approximation (RMSEA), and Normed Fit Index (NFI). Validity evaluation involves a value that must be  $\geq 0,50$ , based on the standardized loading factor (SLF) (Hair et al. 2014: 618), and the tabulated results of construct reliability (CR) and average variance extracted (AVE) values on construct reliability. Third, SEM analysis describes the examination of the structural model to ensure whether the proposed research hypothesis is accepted or rejected. Each coefficient in SEM analysis will have a calculated t-value; If the value of tcount  $\geq$  t-table (1,96) at the significance level ( $\alpha = 0,05$ ), then the hypothesis can be said to have a causal relationship.

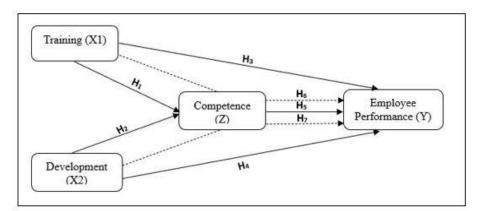


Figure 1. Reseatch Fremework

## **Training and Competence**

Training is a process that supports employees in acquiring the skills and knowledge necessary to perform job duties efficiently (Armstrong & Landers, 2018). According to (Elsafty & Oraby, 2022; Urbancová et al., 2021), training is an effort made by the organization to change employee behavior to suit organizational goals. Research (Fouad et al., 2022) states that training is a process that can help individuals develop or improve their competencies. A person can gain the competencies and expertise needed to carry out job duties with a higher level of effectiveness through proper training. Hawgood et al., 2022 explains that training is one component of employee competency development. Good training can help individuals acquire the technical and nontechnical skills required for their jobs and will contribute to broader competency improvements. Based on the explanation above, the researchers suggest the hypothesis:

H<sub>1</sub>: Training has a positive and significant relationship with competence

## **Development and Competence**

Dirani et al., 2020; Kareem & Hussein, 2019 describe development as a systematic and continuous process that directs the development of individuals, teams, and organizations' competencies through learning and practice to achieve better goals. Cabral & Dhar, 2019States that development is an important tool in developing employee competencies. Development and

effective learning is an integral part of development that can help improve individual skills and knowledge. Dirani et al., 2020 Emphasize the importance of development in identifying and developing individual competencies according to organizational needs. Development helps organizations achieve performance goals by ensuring employees have the right knowledge and skills. Based on the explanation above, the researchers suggest the hypothesis:

H<sub>2</sub>: Development has a positive relationship with competence

# **Training and Employee Performance**

Training is an effort to improve the ability and productivity of employees in an organization. This agrees with research Sendawula et al., 2018, which found that training can build employee performance. The results of their research show that employees who take part in training that is relevant to employee work tend to have a higher level of performance. Training can improve employee performance by increasing knowledge, skills, and attitudes (Afroz, 2018). Training can also help employees overcome self-confidence and anxiety that may affect their performance. Based on the explanation above, the researchers suggest the hypothesis:

H<sub>3</sub>: *Training has a positive relationship with employee performance.* 

# **Development and Employee Performance**

Development is a process directed at facilitating the organization's learning, growth, and provision to improve organizational performance in facing future challenges. Davidescu et al (2020) Explains that development helps improve employee performance by increasing their knowledge and skills. By providing appropriate development, organizations can fill gaps in employee skills, which in turn contributes to better performance. Roscoe et al., 2019 development helps improve employee performance by providing development and learning opportunities. Successful development allows employees to improve the skills needed to manage job tasks better. Based on the explanation above, the researchers suggest the hypothesis:

H<sub>4</sub>: Development has a positive relationship with employee performance

#### **Competence and Employee Performance**

Otoo, (2019) competence is an effective and efficient ability to act in a given situation, supported by knowledge, skills, and attitudes. Zhou et al., (2018) identified three main types of competence, namely technical competence (technical skills related to work), conceptual competence (problem-solving ability and creative thinking), and social competence (ability to interact and communicate with others). Atan & Mahmood, (2019) Suggest that employee competencies contribute directly to their performance on the job. Employees with the right skills and knowledge for the job will be more likely to perform better. Mahmood et al., 2018 State that employee competence plays an important role in identifying high-performing employees. Employees with competencies that align with their work achieve superior results. Based on the explanation above, the researchers suggest the hypothesis:

H<sub>5</sub>: Competence has a positive relationship with employee performance.

### Competence Mediates Development and Employee Performance

Van Esch et al., 2018 They conducted research on the relationship between training, competence, and performance. The study shows that competence can be an intermediary between training and performance. Training affects the increase in competence, and the increase in competence then has a positive impact on employee performance. Wei et al., (2018) in their study on training and performance, emphasized the importance of understanding the role of competence as an intermediary. Through training, increased competencies will be achieved, and these competencies will mediate the correlation between training and performance. Based on the explanation above, the researchers suggest the hypothesis:

H<sub>6</sub>: Competence mediates the relationship between training and employee performance.

## Competence Mediates Development and Employee Performance

Amjad et al., (2021) suggest that development is a process that aims to develop the competencies of individuals, teams, and organizations. The study emphasizes that development can help improve employee competence, affecting their job performance. Haldorai et al., (2022) Explained that development, including training and learning, is a means to improve employee competence. Employees with the right competencies for their job duties are more likely to achieve higher performance levels. Based on the explanation above, the researchers suggest the hypothesis: H<sub>7</sub>: Competence mediates the relationship between development and employee performance.

# **RESULTS AND DISCUSSIONS**

# 3.1. Result Characteristics of Respondents

The analysis of respondent profiles in this survey is based on the following demographics: **Table 1.** Characteristics of Respondents

Categories	items	f	0/0
Gender	Man	66	28
	Woman	168	72
	Total	234	100
Status	Married	229	98
	Unmarried	5	2
	Total	234	100
Age	40-45 years old	95	40,6
	46-50 years old	96	41,4
	51-55 years old	43	18
	>55 years old	0	0
	Total	234	100
Education Level	Senior High School	44	19
	Diploma	44	19
	S1	121	52
	S2	24	10
	S3	1	0
	Total	234	100
Work Period	10-15 years	77	33
	16-20 years	58	25
	21-25 years	85	36
	>25 years	13	6
	Total	234	100

From the explanation in Table 1, it can be seen that most respondents are female, which reached 168 out of a total of 234 respondents. In addition, most respondents were between 46 to 50 years old, totaling 96 people or 41,4%. In addition, most respondents are married with the last education of S1 graduates with a total of 121 people, and the length of service group is 21-25 years.

# **Model Measurement**

The results of the model test refer to the standard value of goodness of fit, while the validity test will look at the acquisition of the value of the standardized loading factor (SLF), while the reliability test will assess the acquisition of Average Variance Extracted (AVE) and Construct Reliability (CR):

Tabel 2. Goodness of Fit Index

Goodness of Fit Index	Cut off Value	Results
$x^2$	Expected to be low	619,771
Df		0,294
$x^2$ -Significance Probability	≥ 0,05	0,000
CMIN/DF	≤ 3,00	2,108
RMSEA	≤ 0,08	0,069
RMR	≤ 0,05	0,045
NFI	≥ 0,90	0,901
IFI	≥ 0,90	0,945
TLI	≥ 0,90	0,939
CFI	≥ 0,90	0,945

Tabel 2 shows that the suggested model meets the requirements and is suitable. Six different types of measures that achieve a high level of suitability show that the specified criteria have been met by characteristics such as CMIN/DF =  $2,108 \le 3,00$ , RMSEA =  $0,069 \le 0,08$ , and RMR =  $0,045 \le 0,05$ . In addition, the level set at  $\ge 0,90$  was exceeded by all values of NFI = 0,901, IFI = 0,945, TLI = 0,939, and CFI = 0,945. Thus, it can be said that the model that the researcher created is feasible and meets the criteria.

**Tabel 3.** Value of Standardized Loading Factor, Construct Reliability (CR), and Average Variance Extracted (AVE) in Overall Model Fit

Variable	Items	Factor Loading	CR	AVE
Training	The training program will help me in personal development	0,894	0,949	0,750
	The training program will help me do my job better	0,855		
	The training program will help me network with other employees	0,859		
	Training programs will help me stay up to date on new processes or procedures related to my work	0,868		
	The training program increased my motivation towards work	0,856		
	The training program will help me achieve my career goals	0,865		
Development	The learning and development process provided new knowledge and skills that I did not yet have	0,825	0,936	0,707
	With the knowledge I have, I can complete the job well	0,848		
	My organization often conducts training to develop my skills	0,830		
	I can understand and master every task given	0,853		
	The work assigned is in accordance with the skills I have	0,829		
	I can operate office facilities such as computers precisely and easily	0,860		
Employee	I feel satisfied with the work I have done	0,875	0,947	0,754
Performance	I plan my work in such a way that it is completed according to time	0,879		
	I have the ability to work quickly and successfully	0,849		
	I quickly started a new job when my old job was finished	0,865		
	I have the initiative in carrying out work	0,878		
	I try to always update my work knowledge and skills	0,901		
	I enjoy helping colleagues who need help	0,828		
Competence	I can do something very well in some things	0,891	0,950	0,771
-	I can handle challenges appropriately	0,852		
	I can contribute valuable insights to the team	0,886		

Researchers' testing data in Table 3 demonstrates that every loading factor value is higher than 0,50. It is clear from the loading factor results that each of the four variable indicators is veliable and capable of measuring the construct model as a whole. Furthermore, the reliability test data are also obtained. This is demonstrated by the extracted variable's (AVE) value exceeding 0,50 and the construct reliability's (CR) value exceeding 0,70. These findings imply that the model constructions that were created can be relied upon and have experienced accurate and reliable measurements

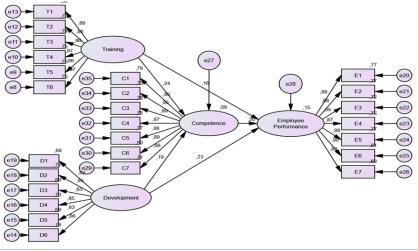


Figure 2. Full Model Structural Test

The results of testing the effects of relationships between variables in the study configuration constructed in this study can be conveyed as follows:

Competence

Hypothesis	Path	Estimate	S.E.	C.R.	p-value	Description
$H_1$	Competence < Training	0,268	0,076	3,512	0,000	Accepted
$H_2$	Competence < Development	0,220	0,078	2,828	0,005	Accepted
$H_3$	Employee_Performance < Training	0,170	0,072	2,375	0,018	Accepted
$H_4$	Employee_Performance <	0,254	0,073	3,476	0,000	Accepted
	Development					
$H_5$	Employee_Performance <	0,189	0,064	2,959	0,003	Accepted

Tabel 2. Hypothesis Testing

Table 4 shows that the effect of training on competence of 3.512 is greater than the t-table value of 1,96 for the first hypothesis. Similarly, the p-value ( $\alpha$  = 0,05) is 0,000, which is less than 0,05. This finding supports the first hypothesis by showing a good and significant relationship between training and competence. Based on the test results, the second hypothesis is also acceptable because there is a significant positive relationship between development and competence. The t-score of development and competence is 2,828 and the p-value, which shows less than 0,05, that is 0,005, both prove it. The third hypothesis is acceptable because the data show

that training has a positive and significant impact on employee performance with a t-score of 2,375 for the effect of training on employees performance and a p-value of 0,018 confirms this. Regarding the fourth hypothesis, the findings suggest that developments in employee performance correlate positively and significantly. The t-score value is greater than 1,96, which is 3,476, and the p-value is less than 0,05, which is 0,000, both support this. The results of the hypothesis analysis showed a t-score value of 2,959, which was then supported by a p-value of 0,003 less than 0,05. So the fifth hypothesis is also acceptable. Therefore, it can be concluded that competence significantly improves employee performance.

In table 5. shows the indirect influence on the influence of the constructed mediating variables obtained from the results of the Sobel test:

Hypothesis	Item	Sobel test statistic	Two-tailed probability	Description
$H_6$	Training < Competence < Employee Performance	2,264	0,023	Accepted
H <sub>7</sub>	Development < Competence < Employee Performance	2,039	0,041	Accepted

Tabel 3. Sobel Test - Significance of Mediation

The result of the data in table 5 gives an explanation of the statistical value of Sobel's test is 2,264, which is higher than the value of the t-table of 1,96 and the p value is 0,023, the p-value is less than 0,05. Test results show that there is a strong indirect correlation between employee performance measured by competence and training, the results of the sixth hypothesis are acceptable. Competences that effectively act as mediated variables also show the same results, with data showing that the seventh hypotheses are supported by the test statistics value of Sobel 2.039 (more than 1,96) and a p-value of 0,041 (lower than 0,05). As a result, these findings show that development and competence have a beneficial indirect impact on employee performance.

#### Discussion

Training positively and significantly affects the competence of Generation X employees of the West Kalimantan Provincial Government. Appropriate training can improve employee competence in terms of skills and knowledge needed to become more qualified in a particular job or field, this can increase productivity, work quality, and individual ability to achieve goals. This finding is consistent with the results of previous research conducted by (Garzón-Artacho et al., 2021; Sattar et al., 2019; Souto & Rodriguez-Lopez, 2021). Development is closely related to competence. This agrees with Litinska et al., (2022); Martí-Parreño et al., (2021), meaning that development has an impact on employee competencies because, through training programs, work experience, and sustainability approaches, organizations can strengthen the skills, knowledge, and abilities of employees who can ultimately contribute to organizational success.

Training is closely related to the performance of Generation X employees of the West Kalimantan Provincial Government. Training is an essential strategy for organizations in preparing for responsibilities and carrying out tasks. Training conducted by employees will provide an increase in knowledge and skills relevant to the job, which will ultimately gain effectiveness in employee work and will improve the quality of employee performance. Development has a positive effect on employee performance. Development is needed because when development is improved, it will encourage employees to improve the quality of performance, in this case, development is focused on long-term needs and is measured over a long period. This agrees with (Bhatti et al., 2022, 2023; Ibrahim et al., 2017; Lee et al., 2020; Mehreen & Ali, 2022; Mihardjo et al., 2020; Otoo & Mishra, 2018b; Sherifah et al., 2022; Singh & Swami, 2023)

Competence is closely related to employee performance, indicating that a high level of competence in employees significantly impacts employee performance. Job-relevant abilities, knowledge, and skills enable employees to perform tasks more efficiently and effectively. This finding is closely related to previous research (Ast & Nyhuis, 2022; Maltseva, 2020; Pham & Kim, 2019; Wong & Ngai, 2021).

Competence acts as an intermediary between training and employee performance, showing a positive and significant impact. Practical training can improve employee competencies, and this, in turn, will contribute to improving the quality of employee performance. Training provides opportunities for employees to improve their competencies in terms of abilities, skills, and knowledge relevant to their jobs. By improving their competencies, employees have more significant potential to achieve high performance. Competence can be an intermediary or bridge between the training received and the improved performance results. This shows the importance of training in employee competence, which ultimately improves employee performance. Competence mediates employee development and performance and shows positive and significant results, meaning that with a good understanding of needs, the ability to design appropriate development programs, and effective communication, employees tend to be more motivated and productive and have the competence to improve employee performance in achieving organizational goals. These results agree with research (Elayan et al., 2023; Gull & Idrees, 2022; Meher et al., 2022; Otoo, 2019b, 2019a, 2020).

# CONCLUSION

This study reveals three factors that significantly improve the performance quality of Generation X ASN employees in the West Kalimantan Provincial Government: Training, Development, and Competence. Competence is also proven to mediate the effect of training and development on employee performance. Employees who receive continuous training and development can improve their competencies, skills, and abilities in making their work efficient, and their performance can improve. The findings of this study can help the institution of the government of the province of West Kalimantan understand the impact of the provision of training and development on improving the quality of staff performance. Thus, it can be a suggestion for the government to continue to provide training and improvement for staff in the face of the challenges in the era of globalization today and in the future, so that the performance and service to the community are effective and efficient. In addition, this research can provide useful insights for human resource management in the public sector, in particular in designing more effective training programs and development.

This study has a number of shortcomings and opportunities for further research. Data collection in this study was only conducted on Generation X ASN in the West Kalimantan Provincial Government, so the number of samples obtained was still limited, so the results may not be generalized to other ASN employees in West Kalimantan. Further research is expected to increase the number of samples by involving all ASNs in West Kalimantan, not only in generation X of the West Kalimantan Provincial Government. Moreover, further research is expected to develop other variables that can play a role in improving the quality of employee performance.

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