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The Effect of Digital Technology Use on Employee Productivity through Work Stress as a Mediating Variable

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ABSTRACT

Purpose: This study aims to examine the effect of digital technology use on employee productivity, with work stress acting as a mediating variable at the Kelurahan Offices in Dompu District.

Research Method: This quantitative research utilized a sample of 77 employees from six kelurahan offices. Data were collected via questionnaires and analyzed using the Partial Least Squares-Structural Equation Modeling (PLS-SEM) method.

Results and Discussion: The analysis shows that digital technology use has a positive, significant direct effect on employee productivity, while simultaneously increasing work stress. Furthermore, work stress directly affects productivity and serves as a mediating variable that bridges the relationship between digital technology and employee productivity.

Implications: The dynamics of productivity improvement due to digital technology are highly influenced by the work stress experienced during adaptation. Relevant institutions should conduct periodic technology training and adjust workloads to minimize adaptation tension (technostress).

Originality: This research uniquely highlights the dual-edged impact of digitalization within the specific context of local government administration, providing empirical evidence on technostress as a crucial mediator.

Keywords: digital technology; employee productivity; work stress; technostress.

1. Introduction

It is well known that human resources are a vital asset for any business or company to achieve its goals. Human resources—comprising skills, knowledge, intelligence, emotions, motivation, and creative contributions—are the one thing that cannot be replaced. Without them, a company cannot operate. Consequently, companies must maintain employee productivity and retain high-quality employees (Saptaria *et al.,* 2021; Firmansyah *et al.,* 2026). Technology plays a significant role across various fields, such as communication, economics, education, healthcare, entertainment, and many others—including enhancing employee productivity. Technology plays a vital role in monitoring and evaluation within the corporate environment (Anasty *et al.,* 2025).

In their operations, organizations or companies must be able to increase productivity over time, as this directly impacts the organization's performance (Sandra, 2023; Hayat *et al.,* 2025; Hesti &

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Asmawati, 2024; Nurhayati *et al.,* 2026). According to Hasibuan (2016), employee productivity is the ratio of work output achieved to the resources used, as well as an individual's ability to complete their work on time, in accordance with quality standards, and at an efficient cost. Work-related stress is an emotional state experienced by an employee characterized by restlessness, anxiety, tension, fear, or nervousness caused by a mismatch between the workload or work environment and the employee's abilities or personality, resulting in an inability to cope with various job demands (Sandra, 2023). A neighborhood is a dynamic government unit that functions as a service center within its jurisdiction. The types of services provided at the Subdistrict Office include letters of referral for identity cards, letters of referral for family cards, business certificates, certificates of residence, certificates of financial need, and others (Marande, 2017; Awaliah *et al.,* 2025; Hasanah *et al.,* 2026).

Administratively, the region is divided into 8 sub-districts, 9 urban villages, and 72 rural villages. Dompu Sub-district itself has 6 urban villages and 9 rural villages, making it the center of government and commerce. In Dompu Sub-district, there are 6 urban village offices actively carrying out government functions and providing public services, including processing administrative documents, social services, and correspondence. The urban villages in Dompu Subdistrict consist of: Bada Urban Village Office, Bali Urban Village, Karijawa Urban Village, Potu Urban Village, Doro Tangga Urban Village, and Kandai I Urban Village. A previous study conducted by Anggraini & Wulandari (2026), titled "Digital Workload and Technostress on Employee Performance: The Mediating Role of Digital Fatigue," demonstrated that digital workload and technostress influence employee performance through digital fatigue as a mediating variable. The similarity to this study lies in the use of digital technology and work-related stress as factors affecting employee performance. A study by Suhardiman & Saragih (2022) titled "Technostress and Work-Life Balance Among Employees: Job Satisfaction as a Mediating Variable" showed that technostress affects employees' working conditions through job satisfaction as a mediating variable. The similarity lies in both studies addressing stress resulting from the use of technology in the workplace. Ningsih's (2024) study, titled "The Effect of Technology on Labor Productivity in Indonesia," found that technology has a positive and significant effect on labor productivity. The similarity lies in the fact that both studies examine the relationship between technology and work productivity. The study by Mendrofa *et al.,* (2025), titled "The Effect of Digital Technology Use on Employee Performance at the Ministry of Religious Affairs Office in Nias Regency," shows that the use of digital technology has a positive effect on employee performance. The similarity is that both studies examine the use of digital technology in government agencies.

Based on previous research, the use of digital technology has been shown to influence employee performance and productivity. Additionally, the use of technology can also lead to work-related stress, which impacts employee performance. This study aims to determine how the use of digital technology affects employee productivity through work-related stress as a mediating variable at Village Offices in Dompu Subdistrict. Based on an interview with one employee at one of the six Village Offices in Dompu Subdistrict, it was found that the use of digital technology plays a crucial role in supporting task completion, improving service effectiveness, and helping employees perform their duties more quickly and efficiently. However, the ever-evolving use of digital technology can also pose challenges for employees, such as the need to adapt to new systems, an increased workload, and pressure to meet work targets, all of which can affect their levels of work-related stress.

The remainder of this paper is organized as follows. Section 2 provides a literature review and hypothesis development. Section 3 presents the research method and design. Section 4 provides the results and discussion. Section 5 presents Concluding Remarks and Recommendations.

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2. Literature Review and Hypothesis Development

2.1 Literature Review

2.1.1 *Technology Acceptance Model (TAM)*

The Technology Acceptance Model (TAM) posits that the acceptance and use of technology are influenced by perceptions of its usefulness and ease of use. In this study, it is expected that the use of digital technology by sub-district office staff will improve work effectiveness, thereby boosting employee productivity (Davis, 1989).

2.1.2 *Job Demand Resources Theory (JD-R Theory)*

According to Demerouti *et al.,* (2001), the relationship between working conditions, work stress, work motivation, and employee productivity is explained through a theory that posits that, although every job has different characteristics, in general all jobs always involve two main aspects: job demands and job resources.

2.1.3 *Theory of Productivity*

Productivity is a theory that explains the ability of individuals or organizations to generate work output effectively and efficiently. Work productivity describes the extent to which employees complete their work in accordance with the targets, quality standards, and deadlines set by the organization (Armstrong & Taylor, 2020).

2.1.4 *Digital Technology*

Technology plays a significant role in various aspects of human life and society. The appropriate use of technology is crucial for improving employee productivity. Technology plays a vital role in monitoring and evaluation within the corporate environment; using technology to analyze big data provides organizations with the opportunity to grow by automating tasks within the corporate environment (Anasty *et al.,* 2025). According to Mendrofa *et al.,* (2025), the use of digital technology refers to the application of digital-based technologies to help employees perform their work more effectively and efficiently. In this study, the indicators of digital technology use include: 1) ease of use, 2) understanding of technology use, 3) effectiveness of technology use, 4) utilization of technology in work, and 5) ability to adapt to technology.

2.1.5 *Employee Productivity*

Productivity is the ratio of output to resources used. It encompasses the ability of economic resources to create something, taking into account inputs (sacrifices) and outputs (income). Productivity focuses not only on increasing the quantity of work output but also on quality (Anasty *et al.,* 2025). According to Soetrisno (2016), employee productivity is the ability of employees to perform work effectively and efficiently in accordance with organizational goals. In this study, the indicators of employee productivity include: 1) Ability, 2) Improvement in Achieved Results, 3) Work Enthusiasm, 4) Self-Development, 5) Quality, and 6) Efficiency (Soetrisno *et al.,* 2016).

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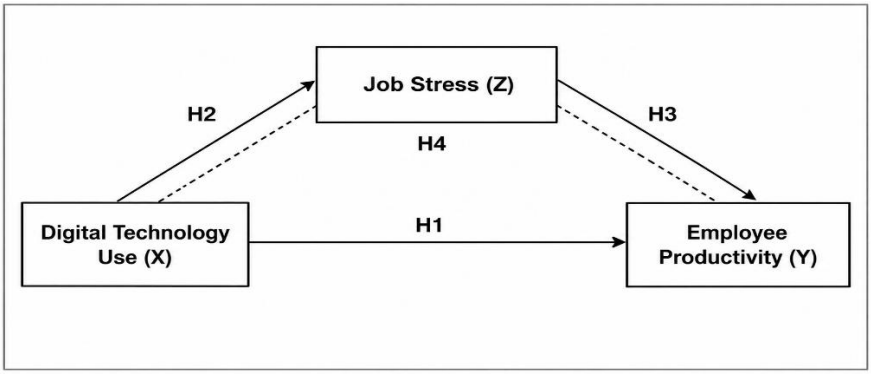
2.1.6 Work-Related Stress

Work-related stress is an emotional state experienced by an employee characterized by restlessness, anxiety, tension, fear, or nervousness caused by a mismatch between the workload or work environment and the employee's abilities or personality, resulting in an inability to cope with various job demands (Cici *et al.,* 2025). According to Robbins & Judge (2022), work-related stress is a condition of physical and psychological pressure experienced by employees due to job demands that are not balanced with the individual's ability to cope with them. Work-related stress can affect employees' emotional state, concentration, work motivation, and productivity. In this study, the indicators of work-related stress are based on the framework proposed by Robbins & Judge (2022), which includes: 1) Task Demands, 2) Role Demands, 3) Interpersonal Demands, 4) Organizational Structure, and 5) Organizational Leadership (Robbins & Judge, 2022).

Figure 1. Conceptual Framework



Description:

Direct Relationship

Indirect Relationship (Mediation)

2.2 Hypothesis Development

2.2.1 The Impact of Digital Technology Use on Employee Productivity

The use of digital technology is one of the key factors that can improve the effectiveness and efficiency of work performance. Through the use of digital technology, employees can complete tasks more quickly, accurately, and easily, thereby increasing work productivity. From the perspective of the Technology Acceptance Model (TAM) developed by Davis (1989), an individual will accept and utilize a technology if it is perceived as easy to use (perceived ease of use) and provides benefits (perceived usefulness). The higher an employee's acceptance of digital technology, the higher the resulting work productivity. Furthermore, Armstrong & Taylor's (2020) Theory of Productivity explains that productivity increases when work processes are carried out more effectively and efficiently through better methods and technologies. Previous research by Ningsih (2024) and Mendrofa *et al.,* (2025) also demonstrates that the use of digital technology has a positive impact on employee productivity. Based on this discussion, the following hypothesis is formulated:

H1: *The use of digital technology has a positive and significant effect on employee productivity at the Subdistrict Office in Dompu District.*

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2.2.2 The Impact of Digital Technology Use on Work-Related Stress

Based on the Job Demands-Resources Theory by Demerouti *et al.,* (2001), the use of digital technology can increase job demands, thereby potentially increasing employees' work-related stress. Research by Anggraini & Wulandari (2026) also indicates that the use of digital technology contributes to increased technostress. Based on these findings, the following hypothesis is formulated:

H2: *It is hypothesized that the use of digital technology has a positive and significant effect on work-related stress at the Village Offices in Dompu Subdistrict.*

2.2.3 The Effect of Work-Related Stress on Employee Productivity

According to Job Demands-Resources Theory, work-related stress that remains at a manageable level (eustress) can encourage employees to work with greater focus and increase productivity. Previous research has also shown that work-related stress affects employee productivity. Based on this discussion, the following hypothesis is formulated:

H3: *It is hypothesized that work-related stress has a positive and significant effect on employee productivity at sub-district offices in Dompu Subdistrict.*

2.2.4 Work-related stress mediates the relationship between digital technology use and work-related stress

The use of digital technology not only directly affects employee productivity but can also increase work-related stress, which in turn affects productivity. Therefore, work-related stress is hypothesized to mediate the relationship between digital technology use and employee productivity. Based on this discussion, the following hypothesis is formulated:

H4: *It is hypothesized that work-related stress mediates the effect of digital technology use on employee productivity at subdistrict offices in Dompu Subdistrict.*

3. Research Method

This study employs a quantitative research method. According to Sugiyono (2019), quantitative research is a research method grounded in the philosophy of positivism; it is used to study a specific population or sample, involves data collection using research instruments, employs quantitative or statistical data analysis, and aims to test predetermined hypotheses. The subjects of this study are all employees at the sub-district offices within the Dompu Subdistrict. The sample was selected from sub-district office employees because the appropriate use of digital technology is crucial for improving employee productivity and helping employees complete their work quickly and efficiently. The sample size consisted of 77 respondents. This study utilized a questionnaire distributed directly to the six sub-districts in the Dompu Subdistrict.

Each variable in this study was measured using questionnaire items specifically derived from their respective indicators (Variable X has 5 indicators with 5 derived items; Z has 5 indicators with 7 derived items; and Y has 6 indicators with 12 derived items). Data analysis was then conducted using the Partial Least Squares-Structural Equation Modeling (PLS-SEM) method, which is divided into two stages: evaluation of the outer model (measurement model) and the inner model (structural model) (Hair *et al.,* 2014). The evaluation of the outer model aims to test the validity and reliability of the instrument, with the following criteria: factor loadings must be greater than 0.70 (or greater than 0.50 for preliminary research), and the Average Variance Extracted (AVE) must be greater than 0.50 for

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convergent validity testing (Hair *et al.,* 2014), a cross-loading test (Fornell & Larcker, 1981) for discriminant validity, and the Composite Reliability (CR) and Cronbach's Alpha values must be greater than 0.70 for reliability testing (Hair *et al.,* 2014). Next, an internal model evaluation was conducted to test the hypothesis of relationships among variables by assessing the R-Square (R^2) value to determine the contribution of variance (categories: 0.67—strong, 0.33—moderate, 0.19—weak) (Henseler & Sarstedt, 2013), and the F -Square (f^2) to assess the size of the predictive effect (categories: 0.02—small, 0.15—moderate, 0.35—large) (Cohen, 1988), as well as testing the significance of path coefficients via the bootstrapping process, which requires that the T-statistic be greater than 1.96 and the P-value less than 0.05 at a 5% significance level (Hair *et al.,* 2014).

Table 1. Variables and Measurement

Variable	Code	Indicator	Primary References
Use of Digital Technology (PTD)	PTD.1	Ease of Use of Technology	(Mendrofa, 2025)
	PTD.2	Understanding of Technology	
	PTD.3	Effectiveness of Technology Use	
	PTD.4	Utilization of Technology in the Workplace	
	PTD.5	Ability to Adapt to Technology	
Work-Related Stress (SK)	SK.1	Task Demands	(Robbins & Judge, 2022)
	SK.2	Role Demands	
	SK.3	Interpersonal Demands	
	SK.4	Organizational Structure	
	SK.5	Organizational Leadership	
Employee Productivity (PP)	PP.1	Competencies	(Soetrisno *et al.,* 2016)
	PP.2	Improved Performance Outcomes	
	PP.3	Work Motivation	
	PP.4	Personal Development	
	PP.5	Quality	
	PP.6	Efficiency	

4. Results and Discussion

4.1 Analysis Results

This study was conducted at six village offices that serve as centers for government and community services in the Dompu subdistrict, including the villages of Bada, Bali, Karijawa, Potu, Doro Tangga, and Kandai I. The subjects and respondents in this study were the employees working at these six offices. Using a direct questionnaire distribution method, this study successfully collected a sample of 77 employee respondents deemed representative. The involvement of these employees is highly relevant as a primary data source for empirically examining how the use of digital technology in daily administrative tasks impacts employee productivity levels, as well as for identifying the potential work-related stress it may cause.

Based on Figure 2 (Path Coefficients), the path coefficient value of 0.358 indicates that the use of digital technology has a positive effect on employee productivity. This means that the better employees utilize digital technology, the more their work productivity will increase. This effect is classified as positive with moderate strength and demonstrates that digital technology can help employees complete their work more effectively and efficiently.

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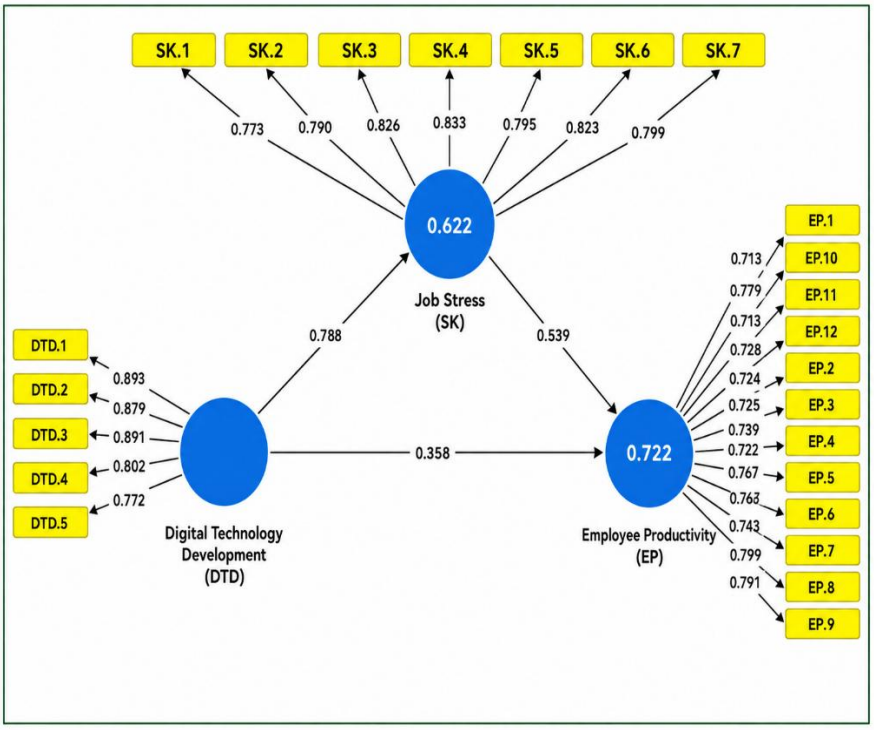
Figure 2. Path Coefficient



Based on Figure 2 (Path Coefficients), the path coefficient value of 0.788 represents the strongest relationship in the research model. This value indicates that the use of digital technology has a very significant positive effect on work-related stress. These results suggest that the higher the intensity of digital technology use, the higher the level of stress experienced by employees due to the demands of adapting to digital systems, increased workloads, and pressure to complete tasks. The path coefficient value of 0.539 indicates that work stress has a positive effect on employee productivity. In the context of this study, this positive relationship can be explained by the fact that work pressure that remains at a manageable level (eustress) can motivate employees to work faster and with greater focus in completing their tasks. However, if stress levels continue to rise and are not managed, they can, under certain conditions, reduce productivity. Therefore, the results of this study indicate that work-related stress remains at a level that encourages employees to improve their work performance. The indirect effect coefficient of 0.425 indicates that work stress acts as a mediating variable between the use of digital technology and employee productivity. This means that the use of digital technology not only increases productivity directly but also indirectly through increased work stress, which in turn affects employee productivity. Thus, work stress is an important mechanism explaining the relationship between digital technology and employee productivity.

Based on Table 2, all measurement instruments for the variables Digital Technology Use, Employee Productivity, and Work-Related Stress were found to meet the criteria for convergent validity and reliability very well, in accordance with the PLS-SEM outer model evaluation standards (Hair *et al.*, 2014). The test results included convergent validity tests using Outer Loading and Average Variance Extracted (AVE) values, as well as reliability tests using Cronbach's Alpha and Composite Reliability (CR) values. The outer loading test results show that all indicators for the variables Digital Technology Use, Employee Productivity, and Work-Related Stress have values above 0.70. The outer loading values for

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the Digital Technology Use variable range from 0.772 to 0.893, for the Employee Productivity variable from 0.713 to 0.799, and for the Work-Related Stress variable from 0.773 to 0.833. According to Hair *et al.,* (2014), an indicator is considered to have good convergent validity if its outer loading value is greater than 0.70, as this indicates that the indicator effectively explains the construct it measures. The higher the outer loading value, the greater the indicator's contribution to representing the latent variable. Thus, all indicators for each construct have met the criteria for convergent validity and are therefore suitable for use in further analysis.

Table 2. Evaluation of Construct Validity and Reliability

Variable	Item	Outer Loading	Cronbach's Alpha	Composite Reliability (CR)	AVE
Use of Digital Technology (X)	PTD.1	0.893	0.900	0.927	0.717
	PTD.2	0.879			
	PTD.3	0.881			
	PTD.4	0.802			
	PTD.5	0.772			
Employee Productivity (Y)	PP.1	0.713	0.928	0.938	0.559
	PP.2	0.734			
	PP.3	0.725			
	PP.4	0.739			
	PP.5	0.732			
	PP.6	0.767			
	PP.7	0.743			
	PP.8	0.799			
	PP.9	0.791			
	PP.10	0.779			
	PP.11	0.713			
	PP.12	0.728			
Work-Related Stress (Z)	SK.1	0.773	0.910	0.928	0.649
	SK.2	0.790			
	SK.3	0.826			
	SK.4	0.833			
	SK.5	0.795			
	SK.6	0.823			
	SK.7	0.798			

Source: *Processed Primary Data, 2026*

The Cronbach's Alpha test results in Table 2 show that the Digital Technology Use variable obtained a value of 0.900, Employee Productivity a value of 0.928, and Work-Related Stress a value of 0.910. According to Hair *et al.,* (2014), a construct is considered reliable if it has a Cronbach's Alpha value greater than 0.70. These values indicate the level of consistency in respondents' answers to the indicators measuring the same variable. Since all Cronbach's Alpha values are above 0.70, it can be concluded that all constructs in this study exhibit a very high level of internal consistency. This means that each construct has a high level of internal consistency, ensuring that the research instrument can produce consistent measurements. The Composite Reliability (CR) values for the variables "Digital Technology Use" were 0.927, "Employee Productivity" were 0.938, and "Work-Related Stress" were 0.928. According to Hair *et al.,* (2014), a construct is considered reliable if its Composite Reliability value is greater than 0.70. Composite Reliability is used to measure the internal consistency of indicators in forming a latent construct. It is considered more accurate than Cronbach's Alpha in PLS-SEM analysis

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because it takes into account the magnitude of each indicator's contribution. Based on these results, all variables have Composite Reliability values that far exceed the minimum threshold of 0.70. Thus, all constructs are deemed reliable because they have Composite Reliability values above the minimum threshold of 0.70, meaning the research instrument can be trusted to measure the research variables.

The Average Variance Extracted (AVE) test results in Table 2 show that the Digital Technology Use variable obtained a value of 0.717, Employee Productivity a value of 0.559, and Work Stress a value of 0.649. According to Hair *et al.,* (2014), a construct meets the criterion for convergent validity if its AVE value is greater than 0.50. The AVE value indicates the amount of variance in the indicators that the latent construct can explain. The higher the AVE value, the better the construct's ability to explain its constituent indicators. Thus, all constructs have met the criteria for convergent validity based on their AVE values, as all values are above the minimum threshold of 0.50; therefore, it can be concluded that all constructs have met the criteria for convergent validity. This indicates that the indicators used are capable of adequately explaining the measured variables and are suitable for use in further analysis.

Table 3. Discriminant Validity (Fornell-Larcker)

Variables	The Use of Digital Technology	Employee Productivity	Work-Related Stress
Use of Digital Technology (X)	0.847		
Employee Productivity (Y)	0.783	0.747	
Work-Related Stress (Z)	0.788	0.821	0.806

Source: *Processed Primary Data, 2026*

Based on the guidelines of Fornell and Larcker (1981) and Hair *et al.,* (2014), discriminant validity is met if the square root of the AVE (on the diagonal) is greater than the interconstruct correlation. In Table 3, only the Digital Technology Use variable meets this criterion (0.847 > 0.783 and 0.788). Conversely, the Employee Productivity (0.747) and Work Stress (0.806) variables do not yet meet the criteria because their diagonal values are smaller than the correlation between the two (0.821). This indicates a measurement overlap (discriminant validity issue), meaning that the indicators of these two variables are likely too similar for respondents to distinguish between them.

Table 4. Discriminant Validity of the HTMT

Variables	The Use of Digital Technology	Employee Productivity	Work-Related Stress
Use of Digital Technology (X)			
Employee Productivity (Y)	0.848		
Work-Related Stress (Z)	0.854	0.883	

Source: *Processed Primary Data, 2026*

Based on the criteria of Henseler & Sarstedt (2013) and Hair *et al.,* (2014), discriminant validity is met if the HTMT values are below 0.90. Table 4 shows that all inter-variable HTMT values (0.848, 0.854, and 0.883) meet this criterion. Therefore, this HTMT test convincingly demonstrates that all constructs are discriminant valid and conceptually distinct, thereby confirming the findings and resolving the issue of overlap observed in the previous Fornell-Larcker test results.

Based on the criteria established by Hair *et al.,* (2014), Table 5 shows a good evaluation of the inner model. The R2 values indicate that the model is "strong" for Employee Productivity (0.722) and "moderate" for Work Stress (0.622). The Q2 values for both variables, which are above zero (>0),

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demonstrate that the model has good predictive relevance. Furthermore, the effect size analysis (f2) shows that Digital Technology Use has a "moderate" effect on Productivity (0.175) and a "large" effect on Work Stress (0.395). In contrast, Work Stress has a "very large" effect (1.643) on Employee Productivity.

Table 5. Structural Inner Model Quality Criteria (R2, Q2, and f2)

Endogenous Variables	R2	Q2	F2 (from Digital Technology)	F2 (from Work-Related Stress)
Employee Productivity (Y)	0.722	0.380	0.175	1.643
Work-Related Stress (Z)	0.622	0.381	0.395	-

Source: *Processed Primary Data, 2026*

Table 6. Inner Model Fit

	Saturated Model	Estimated Model
SRMR	0.091	0.091
d_ULS	2.497	2.497
d_G	1.431	1.431
Chi-Square	539.612	539.612
NFI	0.680	0.680

Source: *Processed Primary Data, 2026*

Based on the criteria of Henseler & Sarstedt (2013) and Hair *et al.,* (2014), Table 6 shows that the inner model fit is quite good and acceptable. The SRMR value of 0.091 still meets the moderate acceptability standard because it is below the maximum tolerance limit of 0.10, indicating a good fit between the theoretical model and the empirical data. Although the NFI value (0.680) falls below the ideal standard, this is reasonable in PLS-SEM analysis, where the SRMR indicator and exact fit measures (d_ULS and d_G) are considered more relevant and representative for ensuring the model's structural validity.

Table 7. Hypothesis Testing Results (Direct and Mediating Effects)

Hip	Relationship Paths	Original Sample	T-Statistics	P-Values	Decision
Direct Relationship					
H1	Use of Digital Technology ➔ Employee Productivity	0..358	3.269	0.001	Accepted
H2	Use of Digital Technology ➔ Work-Related Stress	0.788	16.687	0.000	Accepted
H3	Work-Related Stress ➔ Employee Productivity	0.539	4.902	0.000	Accepted
Indirect Relationship (Mediation)					
H4	Use of Digital Technology ➔ Work-Related Stress ➔ Employee Productivity	0.425	4.729	0.000	Accepted

Source: *Processed Primary Data, 2026*

Based on the structural model evaluation criteria in PLS-SEM, as outlined in the guidelines by Hair *et al.,* (2014), a hypothesis is considered significant and accepted if the T-Statistics value exceeds the threshold of 1.96 (at a 5% significance level) and the P-Values are less than 0.05. Table 7 shows that all hypothesis tests (H1, H2, H3, and H4) met these strict criteria and were therefore declared "Accepted." These results demonstrate that the use of digital technology has a direct, positive, and significant effect

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on increasing employee productivity (H1) while simultaneously inducing work-related stress (H2). That work-related stress itself directly affects employee productivity (H3). More importantly, the results of the indirect path analysis (H4) confirm that Work Stress acts as a mediating variable, bridging the relationship between the intensity of Digital Technology Use and the level of Employee Productivity, with a T-Statistic value of 4.729 and a P-value of 0.000.

Based on the R^2 value, this research model is effective in explaining the relationships among the variables. An R^2 value of 0.722 indicates that the use of digital technology and work-related stress can explain 72.2% of employee productivity. Meanwhile, an R^2 value of 0.622 indicates that the use of digital technology can explain 62.2% of work-related stress. The remainder is influenced by other factors outside the scope of this study that were not analyzed in the model.

4.2 Discussion

4.2.1 *The Effect of Digital Technology Use on Employee Productivity*

Based on the results of the test of the first hypothesis (H1), the Original Sample (β) value was found to be 0.358, the T-Statistics value was 3.269—which is greater than 1.96—and the P-Values were 0.001—which is less than 0.05. In addition, the effect size (f^2) value of 0.175 indicates that the effect of digital technology use on employee productivity falls into the moderate category. These results indicate that the use of digital technology has a direct, positive, and significant effect on employee productivity; therefore, H1 is accepted. This means that the more intensive and optimal employees' use of digital technology in the village offices throughout Dompu Subdistrict, the higher their level of work productivity will be.

This finding is fully consistent with the Technology Acceptance Model (TAM) proposed by Davis (1989), which explains that perceptions of ease of use and perceived usefulness of a technology will largely determine users' acceptance of that system. When digital technology is perceived as easy to understand and proven to assist in completing daily tasks, employees' work effectiveness will increase, which in turn has a direct impact on their productivity. Furthermore, these results also confirm the Theory of Productivity by Armstrong & Taylor (2020) as well as the concept proposed by Soetrisno (2016), which defines productivity as the ability of resources to complete their work on time, in accordance with quality standards, and efficiently. In practice at the Dompu Subdistrict Village Office, the use of digital technology has proven crucial in accelerating public service processes, such as processing administrative documents, letters of introduction for ID cards and family cards, and other social services.

Empirically, the results of this study reinforce the findings of previous research. These findings support the research by Ningsih (2024), which concluded that technology consistently has a positive and significant impact on workforce productivity. Furthermore, these results are also consistent with the research by Mendrofa *et al.,* (2025) conducted within another government agency—namely, the Nias Regency Office of the Ministry of Religious Affairs—which demonstrated that the implementation and utilization of digital technology are important activities that positively influence employee performance.

4.2.2 *The Effect of Digital Technology Use on Work-Related Stress*

Based on the results of the statistical tests, Hypothesis 2 (H2) was accepted, with an Original Sample (β) value of 0.788, a T-statistic of 16.687—which is greater than 1.96— and a P-value of 0.000—which is less than 0.05. The path coefficient value (β = 0.788) indicates that the use of digital technology has a

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strong positive relationship with work-related stress. Furthermore, the effect size (f^2 = 0.395) indicates that the effect of digital technology use on work-related stress falls into the large category. These results show that the higher the use of digital technology, the higher the level of work-related stress experienced by employees; therefore, H2 is accepted. These results prove that the use of digital technology has a direct, positive, and highly significant effect on increased work stress among employees at the Subdistrict Office in Dompu District. This finding can be explained through the Job Demand-Resources Theory (JD-R) proposed by Demerouti *et al.,* (2001), in which new technologies can transform into burdensome job demands. In line with the work stress theory by Robbins & Judge (2022) and Sandra (2023), stress arises from a mismatch between workloads or environmental demands and an employee's capabilities. This is clearly illustrated by the findings from field interviews, where the demands to adapt to the new sub-district system continuously, increased digital workload, and pressure to meet work targets have created distinct psychological challenges that trigger stress among employees.

The results of this study further reinforce the literature and findings from various previous studies that highlight the impact of psychological pressure resulting from digitalization in the workplace, often referred to as technostress. These findings align with a study conducted by Anggraini & Wulandari (2026), which demonstrated that digital workload and technostress are real phenomena affecting employees' well-being. Furthermore, these results also confirm the research by Suhardiman & Saragih (2022), which similarly discusses and demonstrates that the use of technology in the workplace can trigger work-related stress among its users. Thus, it can be concluded that although the implementation of digital technology is intended to streamline administrative and service systems, the significant demands to adapt to these technological updates continuously actually create mental strain that leads to high levels of work-related stress among employees.

4.2.3 *The Effect of Work Stress on Employee Productivity*

Based on the results of statistical testing of the structural model, Hypothesis 3 (H3), which states that work stress affects employee productivity, is accepted. This result is supported by an Original Sample (β) value of 0.539, a T-statistic of 4.902 (greater than 1.96), and a P-value of 0.000 (less than 0.05). The path coefficient (β = 0.539) indicates that work stress has a positive relationship with employee productivity. Furthermore, the effect size (f^2 = 1.643) indicates that work stress has a very large effect on employee productivity. These results show that the higher the level of work stress experienced by employees, the greater the change in employee productivity; thus, H3 is accepted. This finding convincingly indicates that the level of work stress experienced by employees in the village offices throughout Dompu Subdistrict has a real, direct, and significant impact on their productivity levels in performing their daily tasks.

These research results are fully consistent with the Job Demand-Resources Theory (JD-R) developed by Demerouti *et al.,* (2001), which posits a close relationship between work conditions, levels of work-related stress, motivation, and an employee's productivity. This phenomenon also confirms the work stress theories proposed by Robbins & Judge (2022) and Sandra (2023), which assert that stress—as a form of psychological and physical pressure resulting from an imbalance between task demands and an individual's capabilities—directly affects employees' emotional state, concentration, motivation, and work performance. In the context of service delivery at the Dompu Subdistrict Village Office, the pressure arising from workloads and the need to meet targets for processing community administrative

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documents often triggers tension; however, the demands of completing these tasks ultimately have a tangible impact on the daily productivity dynamics of field staff.

These empirical findings regarding the significant impact of work-related stress on productivity further enrich and reinforce the literature from various previous studies. These results are highly consistent with the findings of Anggraini & Wulandari (2026), who demonstrated that work-related psychological stress (technostress) significantly affects employees' overall performance and output. Furthermore, these results also confirm the study conducted by Suhardiman & Saragih (2022), which similarly discussed and empirically demonstrated that stressful conditions in the work environment are a crucial factor capable of influencing employees' work performance. Thus, work-related stress has consistently been shown to act as a key determinant shaping the level of employee productivity within public service agencies.

4.2.4 *Work Stress Mediates the Relationship Between Digital Technology and Employee Productivity*

Based on the results of the indirect path analysis, Hypothesis 4 (H4) was accepted, with an Original Sample (β) value of 0.425, a T-statistic of 4.729 (greater than 1.96), and a P-value of 0.000 (less than 0.05). The indirect path coefficient (β = 0.425) indicates that work stress positively and significantly mediates the effect of digital technology use on employee productivity. This suggests that digital technology use not only directly affects employee productivity but also exerts an indirect effect through work stress as a mediating variable; therefore, H4 is accepted. These results provide convincing evidence that work stress legitimately and significantly acts as a mediating variable bridging the relationship between digital technology use and employee productivity at the Subdistrict Offices in Dompu District. Theoretically, these findings are highly relevant and can be explained through the Job Demand-Resources Theory (JD-R) proposed by Demerouti *et al.,* (2001), which posits the dynamic relationship between job demands, the emergence of work-related stress, and its impact on productivity. Although the Technology Acceptance Model (Davis, 1989) emphasizes the utility of technology for work effectiveness, in reality, the requirement for sub-district office employees to adapt to new systems actually creates job demands that trigger work-related stress. In particular, the stress or pressure resulting from the demands to meet digital administrative deadlines indirectly influences employees' motivation and drive to complete their work, ultimately affecting their productivity levels.

The mediating role of work-related stress in the relationship between digital technology and productivity further enriches the literature. It reinforces findings from previous studies on digitalization in the workplace. Specifically, these results are highly consistent with the concept proposed in the study by Anggraini & Wulandari (2026), which demonstrated that digital-based workloads and psychological pressure (technostress) have a chain effect that significantly influences employees' final performance outcomes through a mediating mechanism. Furthermore, this framework of findings is also consistent with the study by Suhardiman & Saragih (2022), which explored the complex interaction between technology-induced stress and employees' working conditions, linked by a mediating variable. Thus, these findings refine the conclusions of previous studies (Ningsih, 2024; Mendrofa *et al.,* 2025) by offering a new understanding that improving productivity through digital technology is not a simple linear process, but rather a complex cycle heavily influenced by how employees' levels of digital adaptation stress are managed.

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5. Concluding Remarks and Recommendation

Based on the research findings, it can be concluded that the use of digital technology has a direct, positive, and significant impact on increasing employee productivity across all Village Offices in the Dompu Subdistrict. However, the pressure to adapt to the new system and the high digital work targets have been shown to contribute to a noticeable increase in work-related stress. Overall, work-related stress has been shown not only to affect productivity directly but also to serve as a valid mediating variable. This implies that the dynamics of productivity gains resulting from the use of digital technology are significantly mediated and influenced by the level of work-related stress experienced by employees during the adaptation process.

As a recommendation, village offices throughout Dompu Subdistrict need to formulate more supportive digital transition strategies, such as conducting regular training on technology use to facilitate employees' understanding and minimize tension or technostress. Given that the research findings indicate that adaptation challenges, increased workloads, and job target pressures trigger high stress levels, agency leaders are advised to evaluate and adjust digital workloads proportionally. With optimal stress management and a supportive work environment, the use of digital technology can be fully focused on supporting the efficiency of public services without sacrificing employees' mental well-being.

Statement of Use of Generative AI

During the preparation of this work, the author used generative artificial intelligence tools to support the scientific writing process. Grammarly was used to check grammar, refine writing style, and improve clarity in scientific writing. All interpretations, analyses, and conclusions presented in this study are the sole responsibility of the author.

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