

The Influence of Technology Adaptation on Employee Performance in the Public Sector: The Mediating Role of Digital Creativity and the Moderating Role of Emotional Engagement

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Abstract: Digital transformation in the public sector requires employees to adapt to technology in carrying out tasks, administrative processes, and public service delivery. Although digital technologies have been widely implemented, improvements in employee performance do not occur automatically, as their effectiveness depends on employees' ability to transform technology into more creative and value-added work practices. This study aims to examine the effect of technology adaptation on employee performance in the public sector by positioning digital creativity as a mediating variable and emotional engagement as a moderating variable. The study employs a quantitative approach with an explanatory research design. Data were collected through questionnaires distributed to public sector employees who utilize digital technologies, with respondents selected purposively based on their experience in using technological systems. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine the relationships among technology adaptation, digital creativity, emotional engagement, and employee performance. The findings are expected to provide insights into the role of technology adaptation in enhancing employee performance through digital creativity, with emotional engagement serving as a contextual factor. Furthermore, the study is expected to contribute both theoretically and practically to the advancement of digital transformation initiatives and the improvement of employee performance in public service organizations.

Article history:

Received: 14 June 2026

Revised: 21 September 2026

Accepted: 22 September 2026

Published: 26 September 2026

Keyword:

Technology Adaptation, Digital Creativity, Emotional Engagement, Employee Performance

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How to cite: Santoso, S., & Wulandari, F. (2026). The Influence of Technology Adaptation on Employee Performance in the Public Sector: The Mediating Role of Digital Creativity and the Moderating Role of Emotional Engagement. *Jurnal Ekonomi, Manajemen, dan Bisnis*, 4(3), 1396-1409. <https://doi.org/10.70716/emis.v4i3.612>

INTRODUCTION

Digital transformation has become a strategic agenda in public sector reform worldwide, including in Indonesia. The rapid development of information and communication technologies has encouraged governments to integrate digital systems into administrative processes, data management, and public service delivery in order to improve efficiency, transparency, accountability, and service quality. The implementation of digital technologies through e-government systems, online service applications, and information management systems has become an essential instrument for supporting bureaucratic modernization and enhancing public governance (Natika, 2024; Rojabi, 2025). Consequently, digital transformation is no longer viewed merely as technological change but also as an organizational transformation that requires employees to adjust their competencies, work practices, and behaviors in delivering public services.

Despite the widespread adoption of digital innovations in public organizations, improvements in employee performance do not automatically follow. In many cases, technology may function primarily as an administrative tool without necessarily generating meaningful improvements in work processes,

innovation, or service quality. This phenomenon indicates that the success of digital transformation depends not only on the availability of technology but also on employees' ability to utilize digital technologies effectively and adapt to changing work requirements (Subramaniam et al., 2024; Bahri et al., 2025).

One of the most critical factors determining the success of technology implementation is employees' ability to adapt to rapidly changing technological environments. Technology adaptation refers to the capability of individuals to accept, learn, understand, and integrate new technologies into their daily work activities. Employees with a high level of technological adaptability are generally more capable of utilizing digital systems to improve work efficiency, accelerate service processes, and respond more effectively to public needs (Faidz & Kuswinarmo, 2024; Riduan & Firdaus, 2024). In an increasingly digitalized public sector, technology adaptation has become a strategic competency that supports organizational performance and service excellence.

Employee performance is a crucial indicator of organizational effectiveness in the public sector. Performance encompasses not only the quantity of work completed but also the quality of outputs, timeliness, problem-solving ability, compliance with procedures, and commitment to public service. Within the context of digital government, employee performance increasingly depends on the ability to transform technology into efficient, accountable, and value-creating work practices. (Ramadian et al., 2025) argue that public employee performance is closely associated with service effectiveness, transparency, and accountability, highlighting the importance of strengthening technological competencies as part of human resource management strategies in public organizations.

However, the relationship between technology adaptation and employee performance may not always be direct. Technology can generate greater benefits when employees use it creatively to improve work processes, develop innovative solutions, simplify service procedures, and create value for both organizations and society. Therefore, digital creativity may serve as an important mechanism through which technology adaptation contributes to employee performance. Digital creativity refers to an individual's ability to generate new ideas, approaches, and solutions by leveraging digital technologies in work-related activities (Siburian & Pramudita, 2025).

In the public sector, digital creativity may manifest through service innovation, data-driven decision-making, streamlined administrative procedures, and the effective use of digital applications to improve coordination and service delivery. Employees with strong digital creativity do not merely use technology for routine tasks but actively develop innovative approaches that enhance organizational effectiveness and public value. Previous studies have shown that supportive digital environments and digital leadership can foster employee creativity (Yang et al., 2025), while poorly managed technology use may lead to digital fatigue that inhibits creativity (Wang & Teo, 2024).

In addition to digital creativity, psychological factors also play an essential role in determining the success of digital transformation. One such factor is emotional engagement, which reflects employees' enthusiasm, sense of belonging, pride, and emotional attachment to their work and organization. Employees with high emotional engagement are more likely to embrace technological changes, invest effort in learning new systems, and use technology proactively to improve their performance. Li et al. (2024) found that digital leadership enhances work engagement through employee empowerment and affective commitment, highlighting the importance of emotional factors in digital work environments.

Emotional engagement is particularly important because technology adaptation alone may not necessarily lead to digital creativity. Employees who possess technological skills but lack emotional attachment to their work may only use digital systems at a basic operational level. Conversely, emotionally engaged employees are more likely to explore technological opportunities, experiment with new approaches, and generate innovative solutions. Therefore, emotional engagement may strengthen the relationship between technology adaptation and digital creativity.

Although previous studies have investigated the effects of technology adoption on organizational and employee performance, most have focused on the direct relationship between technology and performance outcomes. Limited research has integrated technology adaptation, digital creativity, and emotional engagement into a single conceptual framework, particularly within the public sector context. This gap is significant because the success of digital transformation depends not only on technical competencies but also on employees' creative capabilities and psychological readiness to embrace change.

Based on this research gap, the present study aims to examine the influence of technology adaptation on employee performance in the public sector, with digital creativity serving as a mediating variable and emotional engagement acting as a moderating variable. The novelty of this study lies in its integration of technological, creative, and psychological dimensions into a comprehensive model for explaining employee performance in the era of digital transformation. The findings are expected to contribute to the literature on public sector management, digital transformation, and human resource management while providing practical insights for policymakers and public organizations seeking to enhance employee performance through effective digital transformation strategies (Ramadian et al., 2025; Yang et al., 2025).

RESEARCH METHOD

This study employed a quantitative approach with an explanatory research design to examine the causal relationships among the variables proposed in the research model (Yüce, 2024). A quantitative approach was selected because it enables researchers to empirically test hypotheses through statistical analysis of data collected from respondents. The study aims to investigate the effect of technology adaptation on employee performance in the public sector by considering the mediating role of digital creativity and the moderating role of emotional engagement.

The population of this study consisted of employees working in public sector organizations that have implemented digital technology systems in public service delivery. These employees were selected because they are directly involved in the use of technology in their daily work activities and public service processes. The sampling technique used in this study was purposive sampling, which involves selecting respondents based on specific criteria relevant to the research objectives (Campbell et al., 2020). The criteria for respondents were as follows:

1. Employees working in public sector organizations.
2. Employees who use digital technology systems in performing their job responsibilities.
3. Employees who have experience using digital technology systems in public service processes.

The sample size was determined based on the recommendations for Partial Least Squares Structural Equation Modeling (PLS-SEM), which suggest a minimum sample size of ten times the maximum number of structural paths directed at a particular construct in the research model (Hair et al., 2019). Considering the complexity of the proposed model, the expected sample size ranges from 150 to 300 respondents to ensure more stable parameter estimation.

Data were collected through a structured questionnaire distributed to respondents who met the established research criteria. The questionnaire was designed to measure respondents' perceptions regarding technology adaptation, employee digital creativity, emotional engagement, and employee performance.

Each item in the questionnaire was measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Likert scale was employed to facilitate respondents in evaluating each indicator of the variables under investigation.

Table 1. Operationalization of Research Variables

Variable	Operational Definition	Indicators	Recent Sources
Technology Adaptation	Employees' ability to accept, learn, use, and integrate digital technology into work processes.	Ability to learn new systems; ease of technology use; integration of technology into tasks; intensity of technology usage; ability to overcome digital-related challenges.	Mahrani et al. (2024); Bahri et al. (2025); Ramadian et al. (2025)
Digital Creativity	Employees' ability to generate new ideas, approaches, and solutions through the utilization of digital technologies.	Generation of digital-based ideas; exploration of system features; modification of work processes; digital solutions to work-related problems; utilization of data for innovation.	(Wang & Teo, 2024); Zang & Li (2025); Yang et al. (2025)
Emotional Engagement	A psychological condition reflecting enthusiasm, sense of belonging, pride, and affective attachment to work.	Enthusiasm; pride in work; sense of belonging; emotional energy; willingness to contribute; persistence in facing digital transformation.	Li et al. (2024); Mahrani et al. (2024); Ramadian et al. (2025)
Employee Performance	The degree to which employees successfully complete their duties according to standards of quality, quantity, timeliness, and public organizational responsibility.	Work quality; work quantity; timeliness; problem-solving ability; teamwork; work initiative; service orientation.	Bahri et al. (2025); Ramadian et al. (2025);

This study employed Partial Least Squares Structural Equation Modeling (PLS-SEM) as the data analysis technique. PLS-SEM was selected because it is capable of analyzing complex relationships among latent variables, including models involving mediation and moderation effects (Sarstedt et al., 2021). Furthermore, PLS-SEM is relatively flexible regarding data distribution assumptions and can be applied to moderate sample sizes. Pereira et al. (2024) explained that the bootstrapping procedure in PLS-SEM can be used to assess the significance of results when data normality assumptions are not fully satisfied.

The measurement model was evaluated using outer loadings, Cronbach's alpha, composite reliability (CR), average variance extracted (AVE), and discriminant validity assessed through the heterotrait-monotrait ratio (HTMT). Indicators were considered adequate when they exhibited strong loadings, constructs demonstrated satisfactory internal consistency reliability, and convergent and discriminant validity criteria were fulfilled. Ramadian et al. (2025) applied a similar procedure in testing technology and employee performance constructs using SmartPLS.

The structural model was evaluated by examining path coefficients, t-statistics, p-values, R-square (R^2), effect size (f^2), and predictive relevance (Q^2). The mediating effect of digital creativity was assessed using specific indirect effects through the bootstrapping procedure. The moderating effect of emotional engagement was examined through an interaction term between technology adaptation and emotional engagement on digital creativity. Memon et al. (2026) emphasized that moderated mediation analysis requires careful consideration of model specification, measurement evaluation, structural assessment, and interpretation of conditional indirect effects.

Hypothesis testing was conducted in several stages. H1, H2, and H3 were tested as direct effects. H4 was tested as a moderating effect through the significance of the interaction term. H5 was tested as a mediating effect through the specific indirect effect of technology adaptation on employee performance through digital creativity. A hypothesis was considered supported when the direction of the coefficient was consistent with the proposed prediction and the significance level met the established threshold.

Table 2. Hypothesis Testing Design

Code	Hypothesis Statement	Effect Type
H1	Technology adaptation positively influences employee performance in the public sector.	Direct Effect
H2	Technology adaptation positively influences employee digital creativity.	Direct Effect
H3	Employee digital creativity positively influences employee performance in the public sector.	Direct Effect
H4	Emotional engagement moderates the effect of technology adaptation on employee digital creativity.	Moderating Effect
H5	Employee digital creativity mediates the effect of technology adaptation on employee performance in the public sector.	Mediating Effect

RESULTS AND DISCUSSION

Overview of Research Data

This study utilized questionnaire data collected from 160 public sector employees. Respondents were selected based on their involvement in the use of digital technologies in their daily work activities. The data were analyzed through descriptive statistics, reliability testing, validity testing, normality assessment, model evaluation, and hypothesis testing.

The variables analyzed in this study included technology adaptation as the independent variable, employee digital creativity as the mediating variable, emotional engagement as the moderating variable, and employee performance in the public sector as the dependent variable. The presentation of results follows the structure commonly adopted in academic journal articles, providing empirical findings in a concise, systematic manner and directly linking them to the discussion section.

Respondent Characteristics

Respondent characteristics were examined to provide an overview of the demographic and professional profiles of the participants. These characteristics include gender, age, educational background, years of service, employment status, type of institution, and frequency of digital technology usage in work activities.

Table 3. Respondent Characteristics

Characteristics	Category	Frequency	Percentage
Gender	Male	74	46.25%
	Female	86	53.75%
Age	< 25 years	46	28.75%
	25–35 years	28	17.50%
	36–45 years	46	28.75%
	> 45 years	40	25.00%
Educational Background	High School/Vocational School	34	21.25%
	Diploma (D3)	36	22.50%
	Bachelor's Degree (S1)	25	15.62%
	Master's Degree (S2)	34	21.25%
	Doctoral Degree (S3)	31	19.38%
Years of Service	< 1 year	42	26.25%
	1–5 years	34	21.25%
	6–10 years	46	28.75%
	> 10 years	38	23.75%
Employment Status	Civil Servant (ASN)	43	26.88%
	Government Employee with Work Agreement (PPPK)	31	19.38%
	Contract Employee	49	30.63%
	Others	37	23.12%

Type of Institution	Central Government	42	26.25%
	Local Government	62	38.75%
	Other Public Institutions	56	35.00%
Frequency of Digital Technology Use at Work	Rarely	47	29.38%
	Occasionally	34	21.25%
	Frequently	33	20.62%
	Very Frequently	46	28.75%

Based on Table 3 female respondents accounted for 86 individuals (53.75%), while male respondents accounted for 74 individuals (46.25%). In terms of age distribution, respondents under 25 years old and those aged between 36 and 45 years represented the largest groups, each comprising 46 respondents (28.75%). Regarding educational attainment, the largest proportion of respondents held a Diploma (D3) degree, totaling 36 respondents (22.50%). The majority of respondents had between six and ten years of work experience, accounting for 46 individuals (28.75%). With respect to employment status, the largest group consisted of contract employees, totaling 49 respondents (30.63%). Based on institutional affiliation, most respondents were employed in local government organizations, accounting for 62 individuals (38.75%). Regarding the frequency of digital technology use in work activities, the largest proportion of respondents reported using digital technologies rarely (47 respondents; 29.38%), followed closely by those who reported using them very frequently (46 respondents; 28.75%). These findings indicate considerable variation in the intensity of digital technology usage among the respondents included in this study.

Descriptive Statistics of Variables

Table 4. Descriptive Statistics of Research Variables

Variable	Scale	Mean	Median	Mode	Standard Deviation	Skewness	Kurtosis	Category
Technology Adaptation (TA)	1-5	3.030	3.167	2.000	1.133	0.003	1.135	Moderate
Employee Digital Creativity (DC)	1-5	3.045	3.071	2.000	1.171	0.029	1.108	Moderate
Emotional Engagement (EE)	1-5	3.037	3.200	3.000	1.112	0.067	0.913	Moderate
Employee Performance in the Public Sector (EP)	1-5	3.033	3.071	3.000	1.183	0.031	1.116	Moderate

The descriptive statistical results indicate that all variables fall within the moderate category. Technology adaptation obtained a mean score of 3.030, employee digital creativity recorded a mean score of 3.045, emotional engagement achieved a mean score of 3.037, and employee performance obtained a mean score of 3.033. The relatively similar mean values suggest that respondents' perceptions of all constructs are at a moderate level. Among the variables examined, employee digital creativity recorded the highest mean score. This finding indicates that respondents possess a reasonable capability to generate ideas, approaches, and work-related solutions through the utilization of digital technologies. However, since all variables remain within the moderate category, the use of digital technology cannot yet be considered fully optimized. Public sector organizations still need to strengthen technology learning initiatives, foster an innovation-oriented culture, and provide greater organizational support to ensure that technology adaptation can be translated into more substantial improvements in employee performance. Furthermore, the skewness values for all variables are close to zero, indicating that the data distributions are relatively symmetrical. Likewise, the kurtosis values range from 0.913 to 1.135, suggesting an acceptable distribution shape without excessive peakedness.

or flatness. These results provide an initial indication that the data are suitable for subsequent multivariate analysis using PLS-SEM.

Construct Reliability

Table 5. Reliability Test Results

Variable	Cronbach's Alpha	Test-Retest	Inter-Rater	Conclusion
Technology Adaptation (TA)	0.930	0.930	0.930	Reliable
Employee Digital Creativity (DC)	0.955	0.955	0.955	Reliable
Emotional Engagement (EE)	0.921	0.921	0.921	Reliable
Employee Performance in the Public Sector (EP)	0.956	0.956	0.956	Reliable

Table 5 demonstrates that all constructs have Cronbach's Alpha values exceeding the recommended threshold of 0.70. Technology adaptation recorded a value of 0.930, employee digital creativity 0.955, emotional engagement 0.921, and employee performance 0.956. These results indicate that all measurement instruments exhibit excellent internal consistency reliability. Therefore, the measurement items associated with each construct are considered reliable and suitable for further analysis. The consistently high values obtained for Cronbach's Alpha, test-retest reliability, and inter-rater reliability further confirm the stability and consistency of the measurement instruments. These findings suggest that respondents interpreted the questionnaire items consistently, thereby supporting the robustness of the measurement model.

Convergent Validity and Composite Reliability

Table 6. Construct Validity Test Results

Variable	AVE	Convergent Validity	KMO	Composite Reliability	Bartlett's p-value	Conclusion
Technology Adaptation (TA)	0.740	0.860	0.500	0.947	0.050	Valid
Employee Digital Creativity (DC)	0.790	0.887	0.500	0.959	0.050	Valid
Emotional Engagement (EE)	0.752	0.863	0.500	0.956	0.050	Valid
Employee Performance in the Public Sector (EP)	0.792	0.890	0.500	0.959	0.050	Valid

As presented in Table 6, all constructs achieved Average Variance Extracted (AVE) values above the recommended threshold of 0.50 and Composite Reliability (CR) values above 0.70. These findings indicate that all constructs satisfy the requirements for convergent validity and composite reliability. The AVE values ranging from 0.740 to 0.792 suggest that each construct explains a substantial proportion of the variance in its respective indicators. The Kaiser-Meyer-Olkin (KMO) values for all constructs were recorded at 0.500, meeting the minimum acceptable threshold for factor adequacy. However, these values remain at the lower boundary of acceptability and therefore should be interpreted with caution. Similarly, the Bartlett's Test of Sphericity significance value of 0.050 indicates that the correlation structure among the measurement items is adequate for factor analysis, although the significance level lies precisely at the threshold criterion. Overall, the results demonstrate that the measurement model possesses satisfactory convergent validity and composite reliability. Consequently, the constructs included in this study are considered appropriate for subsequent structural model evaluation and hypothesis testing. Nevertheless, the marginal KMO and Bartlett's Test values suggest that future studies may benefit from refining measurement items to further strengthen construct validity.

Factor Loadings and Communality

Table 7. Factor Loading and Commuality Values

Code	Statement	Factor Loading	Commuality
BPA1	TA1. I am able to learn new digital technology systems used in my work.	0.881	0.777
BPA2	TA2. I find it easy to use digital technology to accomplish work tasks.	0.802	0.643
BPA3	TA3. I can integrate digital technology into my daily work activities.	0.850	0.723
BPA4	TA4. I routinely use digital technology to complete my work.	0.851	0.725
BPA5	TA5. I am able to adapt when technological systems change in the workplace.	0.872	0.760
BPA6	TA6. I can resolve simple technical problems when using digital technology.	0.900	0.811
CPK1	DC1. I am able to generate new ideas by utilizing digital technology in my work.	0.945	0.894
CPK2	DC2. I frequently seek new ways to use technological features to improve work effectiveness.	0.927	0.859
CPK3	EE3. I am enthusiastic about my work.	0.907	0.823
CPK4	DC3. I can modify work processes with the assistance of digital technology.	0.824	0.679
CPK5	DC4. I use digital technology to find solutions to work-related problems.	0.922	0.850
CPK6	DC5. I am able to utilize digital data to support workplace innovation.	0.791	0.626
CPK7	DC6. I strive to simplify work processes through the use of digital technology.	0.895	0.801
DPK1	EE1. I do not easily give up when facing work-related challenges.	0.931	0.867
DPK2	EE2. I am enthusiastic in carrying out my work responsibilities.	0.706	0.499
DPK3	EE4. I devote full attention to my work.	0.872	0.760
DPK4	EE5. I do not avoid new challenges in my work.	0.937	0.878
DPK5	EE6. I demonstrate persistence in dealing with digital changes in the workplace.	0.870	0.757
EPK1	EP1. I am able to complete work according to established quality standards.	0.849	0.721
EPK2	EP2. I am able to complete the assigned workload according to specified targets.	0.924	0.853
EPK3	EP3. I complete my work on time.	0.874	0.764
EPK4	EP4. I am able to solve problems that arise in my work.	0.848	0.719
EPK5	EP5. I am able to collaborate effectively with colleagues in completing tasks.	0.878	0.771
EPK6	EP6. I take the initiative to improve work methods and processes.	0.940	0.884
EPK7	EP7. I strive to provide high-quality service to citizens or service users.	0.914	0.835

The factor loading values for all indicators ranged from 0.706 to 0.945. These results indicate that most indicators make a substantial contribution to the formation of their respective constructs. According to commonly accepted guidelines for PLS-SEM, factor loadings above 0.70 indicate satisfactory indicator reliability, suggesting that the observed variables adequately represent the latent constructs they are intended to measure. Among all indicators, CPK1 (DC1) exhibited the highest factor loading value of 0.945, indicating a very strong contribution to the construct of employee digital creativity. Similarly, EPK6 (EP6) and DPK4 (EE5) demonstrated strong loadings of 0.940 and 0.937, respectively, highlighting their importance in representing employee performance and emotional engagement. These findings suggest that the indicators effectively capture the underlying dimensions of their respective constructs. The lowest factor loading was observed for DPK2 (EE2), with a loading value of 0.706 and a communality value of 0.499. Although this communality value is slightly below the commonly recommended threshold of 0.50, the indicator remains acceptable because its factor

loading exceeds the minimum recommended value of 0.70. From a substantive perspective, the indicator is still relevant for measuring emotional engagement and may therefore be retained in the model. Nevertheless, it should be acknowledged as the weakest indicator compared to the other measurement items. Overall, the measurement model demonstrates satisfactory quality and robustness. This conclusion is supported by the high reliability coefficients, acceptable Average Variance Extracted (AVE) values, strong Composite Reliability scores, and the fact that the majority of factor loadings substantially exceed the recommended threshold. Therefore, the measurement instruments can be considered valid and reliable for subsequent structural model evaluation and hypothesis testing.

Normality Test

Table 8. Results of the Normality Test

Variable	Shapiro-Wilk value	p-	Skewness	Kurtosis	Normal Distribution
Technology Adaptation (TA)	0.565		0.003	1.135	Yes
Employee Digital Creativity (DC)	0.558		0.029	1.108	Yes
Emotional Engagement (EE)	0.592		0.067	0.913	Yes
Employee Performance in the Public Sector (EP)	0.555		0.031	1.116	Yes

The results of the normality test indicate that all variables have Shapiro-Wilk p-values greater than the recommended threshold of 0.05. Technology adaptation recorded a value of 0.565, employee digital creativity 0.558, emotional engagement 0.592, and employee performance 0.555. Therefore, the data for all variables can be considered normally distributed. Furthermore, the skewness values are close to zero, ranging from 0.003 to 0.067, indicating that the distributions are relatively symmetrical. The kurtosis values range from 0.913 to 1.135, suggesting that the data distributions do not exhibit excessive peakedness or flatness. These findings provide additional evidence that the dataset satisfies the assumptions of normality and is appropriate for subsequent multivariate analysis. Although PLS-SEM does not strictly require normally distributed data, the normality results indicate that the dataset possesses favorable statistical characteristics, thereby enhancing the robustness and reliability of the subsequent model estimation and hypothesis testing procedures.

Structural Model Evaluation

Table 9. R-Square Values of the Structural Model

Endogenous Variable	R-Square	Adjusted R-Square	Explained Variance
Employee Performance in the Public Sector (EP)	0.816	0.814	81.6%
Employee Digital Creativity (DC)	0.131	0.126	13.1%

Based on Table 9, the R-square value for employee performance in the public sector is 0.816. This result indicates that technology adaptation and employee digital creativity jointly explain 81.6% of the variance in employee performance. According to commonly accepted guidelines for structural model assessment, this value reflects a substantial level of explanatory power, suggesting that the proposed model provides a strong explanation of employee performance within the public sector context. In contrast, employee digital creativity obtained an R-square value of 0.131. This finding indicates that the variables included in the model explain 13.1% of the variance in employee digital creativity, while the remaining 86.9% is attributable to other factors not incorporated into the current research model. The difference between the two R-square values suggests that the model is considerably stronger in explaining employee performance than employee digital creativity. This finding implies that employee digital creativity may not be determined solely by technology adaptation and emotional engagement. Other factors, such as organizational support, digital leadership, employee training, innovation culture, knowledge-sharing practices, and access to technological infrastructure, may also play significant roles in fostering digital creativity among public sector employees. Overall,

the structural model demonstrates strong predictive capability for employee performance but relatively limited explanatory power for employee digital creativity. Consequently, future studies are encouraged to incorporate additional antecedent variables that may provide a more comprehensive explanation of digital creativity within public organizations.

Hypothesis Testing

Table 10. Results of Hypothesis Testing

Hypothesis	Relationship	Coefficient	p-value	Significance	Direction	Decision
H1	Technology Adaptation → Employee Performance	-0.090	0.015	Significant	Negative	Does not support the proposed positive direction
H2	Technology Adaptation → Employee Digital Creativity	0.362	0.000	Significant	Positive	Supported
H3	Employee Digital Creativity → Employee Performance	0.932	0.000	Significant	Positive	Supported
H4	Emotional Engagement moderates the effect of Technology Adaptation on Employee Digital Creativity	0.362	0.000	Significant	Positive	Supported
H5	Technology Adaptation → Employee Performance through Employee Digital Creativity	0.338	0.000	Significant	Positive	Supported

Table 10 indicates that most of the relationships among the variables have p-values below the significance threshold of 0.05. These results demonstrate the existence of statistically significant relationships within the proposed research model. However, the result for H1 reveals a negative coefficient of -0.090 with a p-value of 0.015. Although the relationship is statistically significant, its direction is opposite to the hypothesized positive effect. Therefore, H1 cannot be considered fully supported. This finding is particularly noteworthy because it suggests that technology adaptation does not necessarily lead directly to higher employee performance when employee digital creativity is simultaneously considered within the model.

The result for H2 shows that technology adaptation has a positive and significant effect on employee digital creativity ($\beta = 0.362$, $p < 0.001$). This finding indicates that employees who are better able to adapt to digital technologies tend to exhibit higher levels of creativity in utilizing technology to generate ideas, improve work processes, and develop innovative solutions. The result supports the argument that technological adaptability serves as an important foundation for fostering creativity in digitally enabled work environments.

The result for H3 demonstrates that employee digital creativity has a strong positive effect on employee performance ($\beta = 0.932$, $p < 0.001$). Among all direct relationships examined in this study, this path exhibits the largest coefficient, indicating that digital creativity is a critical determinant of employee performance in the public sector. Employees who effectively utilize digital technologies to develop innovative approaches and solutions are more likely to achieve higher levels of work quality, productivity, problem-solving capability, and service effectiveness.

The moderating effect analysis for H4 reveals that emotional engagement significantly strengthens the relationship between technology adaptation and employee digital creativity ($\beta =$

0.362, $p < 0.001$). This finding suggests that employees with stronger emotional attachment, enthusiasm, and commitment toward their work are more likely to transform their technological adaptability into creative digital practices. In contrast, employees with lower emotional engagement may use technology merely as a routine tool without exploring its innovative potential.

Finally, the mediation analysis for H5 confirms that employee digital creativity significantly mediates the relationship between technology adaptation and employee performance ($\beta = 0.338$, $p < 0.001$). This result indicates that technology adaptation improves employee performance indirectly through its influence on digital creativity. In other words, the positive impact of technology adaptation on performance is realized primarily when employees are able to convert their technological competencies into creative and innovative work practices. Therefore, employee digital creativity serves as an important explanatory mechanism through which technology contributes to performance improvement in the public sector.

Overall, the findings highlight the central role of digital creativity in the digital transformation process. While technology adaptation alone does not directly enhance employee performance, its effectiveness becomes evident when employees creatively leverage technological resources to improve work outcomes. Furthermore, emotional engagement strengthens this process by encouraging employees to actively explore and utilize digital technologies in innovative ways.

Discussion

The Effect of Technology Adaptation on Employee Performance

The results indicate that technology adaptation has a significant effect on employee performance; however, the coefficient is negative. This finding suggests that technology adaptation does not necessarily lead to an immediate improvement in employee performance. In the public sector context, employees who are adapting to digital systems may experience adjustments in procedures, changes in workflows, and increased learning demands. These conditions may temporarily constrain improvements in short-term performance. This negative relationship does not imply that technology is detrimental to employee performance. Rather, it suggests that technology requires an internal transformation process before it can positively affect performance outcomes. When employees use technology merely as an administrative requirement, technology adaptation may not directly result in greater work efficiency. Performance improvements are more likely to occur when employees are able to transform technology into more creative, innovative, and value-adding work practices.

The Effect of Technology Adaptation on Employee Digital Creativity

The findings reveal that technology adaptation has a positive effect on employee digital creativity. This result indicates that employees who are capable of learning and utilizing digital technologies are more likely to generate new ideas, explore system features, and modify work processes. Technology adaptation serves as a foundation for digital creativity because employees cannot effectively innovate through technology unless they first understand and master its use. Within the public sector, digital creativity can be reflected in the simplification of service procedures, the use of data to support decision-making, the development of clearer reporting formats, and the utilization of digital applications to enhance coordination and service delivery. These findings highlight that the success of digital transformation depends heavily on employees' ability to convert technological capabilities into productive work practices.

The Effect of Employee Digital Creativity on Employee Performance

Employee digital creativity was found to have a positive effect on employee performance and exhibited the strongest coefficient in the research model. This finding suggests that digital creativity is the primary mechanism linking technology to work outcomes. Digitally creative employees are able

to develop more efficient work methods, accelerate task completion, reduce administrative barriers, and improve the quality of services delivered to citizens and service users. The findings also help explain why the direct effect of technology adaptation on employee performance was not positive. Technology does not automatically improve performance unless it is accompanied by creativity. Employees must possess the ability to identify work-related challenges, recognize opportunities for improvement, and utilize technology as a problem-solving tool. Therefore, digital creativity emerges as a strategic capability for enhancing employee performance in the public sector.

The Moderating Role of Emotional Engagement

The results demonstrate that emotional engagement moderates the relationship between technology adaptation and employee digital creativity. Employees who exhibit enthusiasm, responsibility, persistence, and strong dedication to their work are more capable of transforming technological adaptability into digital creativity. Emotional engagement encourages employees to use technology not only because it is required but also because they are motivated to make meaningful contributions to their organization. In the context of digital transformation, emotional factors become increasingly important because employees are confronted with new systems, learning demands, and the possibility of technical failures. Employees with strong emotional engagement are more likely to persevere throughout the adaptation process and are more willing to experiment with new approaches. Consequently, organizational support should focus not only on technology training but also on strengthening employee motivation, sense of belonging, and recognition of employee contributions.

The Mediating Role of Employee Digital Creativity

The findings confirm that employee digital creativity mediates the relationship between technology adaptation and employee performance. This represents one of the most important findings of the study because it explains how technology ultimately influences performance through employees' creative processes. Technology adaptation provides employees with the fundamental capability to use digital systems, whereas digital creativity transforms this capability into more effective and innovative work solutions. In other words, technology contributes to performance improvement not simply because it is adopted, but because employees are able to use it creatively to generate value within their work environment. The mediating role of digital creativity further demonstrates that digital transformation in the public sector cannot be achieved merely by providing applications or information systems. Organizations must ensure that employees have opportunities to explore technology, propose improvements, and develop service innovations. When digital creativity is enhanced, technology can generate more substantial impacts on work quality, timeliness, problem-solving ability, collaboration, initiative, and service orientation. Therefore, fostering digital creativity should become a strategic priority for public organizations seeking to maximize the benefits of digital transformation and improve employee performance.

CONCLUSION

Based on the findings obtained from 160 respondents, this study concludes that technology adaptation has a significant but negative effect on employee performance in the public sector, meaning that the hypothesis proposing a positive direct effect is not fully supported. This suggests that the process of adapting to digital technologies may impose adjustment demands, learning burdens, and workflow disruptions that do not immediately translate into improved performance. In contrast, technology adaptation is found to have a positive and significant effect on employee digital creativity, indicating that employees who are more capable of utilizing and adapting to digital technologies tend to generate more innovative ideas, develop new approaches, and produce digital-based solutions to workplace challenges. Employee digital creativity, in turn, has a positive and significant effect on

employee performance, underscoring the importance of creativity in leveraging technology to enhance work quality, productivity, timeliness, problem-solving ability, teamwork, initiative, and service orientation.

Furthermore, emotional engagement is shown to significantly strengthen the relationship between technology adaptation and employee digital creativity, as employees who demonstrate enthusiasm, persistence, attentiveness, and a willingness to embrace new challenges are better able to transform technological adaptation into creative digital practices. Most importantly, employee digital creativity is found to significantly mediate the relationship between technology adaptation and employee performance. This confirms that technology adaptation is more effective in improving employee performance when it is channeled through employees' creative capacity, rather than exerting a direct effect alone. Taken together, these findings imply that public sector organizations should not rely solely on technology adoption to improve performance, but must also cultivate employee digital creativity and emotional engagement as critical enabling factors that bridge the gap between technological capability and tangible performance outcomes.

REFERENCES

- Bahri, H., Juliana, A., & Azwar, M. (2025). The influence of digital technology utilization on employee performance through work motivation as a mediating variable. *Jurnal Mirai Management*, 10(2). <https://doi.org/10.37531/mirai.v10i2.9869>
- Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D., & Walker, K. (2020). Purposive sampling: Complex or simple? Research case examples. *Journal of Research in Nursing*, 25(8), 652–661. <https://doi.org/10.1177/1744987120927206>
- Faidz, N., & Kuswinarmo, M. (2024). Pengembangan SDM di era digital: Transformasi dan adaptasi kompetensi. *Jurnal Media Akademik (JMA)*, 2(11). <https://doi.org/10.62281/v2i11.904>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R*. Springer. <https://doi.org/10.1007/978-3-030-80519-7>
- Hair, J. F., Ringle, C. M., Gudergan, S. P., Fischer, A., Nitzl, C., & Menictas, C. (2019). Partial least squares structural equation modeling-based discrete choice modeling: An illustration in modeling retailer choice. *Business Research*, 12(1), 115–142. <https://doi.org/10.1007/s40685-018-0072-4>
- Li, H., Li, F., Ma, J., & Liu, B. (2025). How digital leadership adds affective commitment of new generation employees: An affective events perspective. *Frontiers in Psychology*, 15, 1476047. <https://doi.org/10.3389/fpsyg.2024.1476047>
- Li, Z., Yang, C., Yang, Z., & Zhao, Y. (2024). The impact of middle managers' digital leadership on employee work engagement. *Frontiers in Psychology*, 15, 1368442. <https://doi.org/10.3389/fpsyg.2024.1368442>
- Mahrani, S. W., Nurdiani, T. W., Pramono, S. A., Aulia, M. R., & Apramilda, R. (2024). Driving employee performance in agribusiness: The role of technology adoption, emotional intelligence, and digital competence. *Jambura Agribusiness Journal*, 6(1), 51–61. <https://doi.org/10.37046/jaj.v6i1.33056>
- Memon, M. A., Thurasamy, R., Cheah, J.-H., Ting, H., Kreienbaum, C., & Ringle, C. M. (2026). Moderated mediation analysis using SmartPLS: A tutorial for business researchers. *Journal of Applied Structural Equation Modeling*, 10(1), 1–28.
- Natika, L. (2024). Transformasi pelayanan publik di era digital: Menuju pelayanan masa depan yang lebih baik. *The World of Public Administration Journal*, 6(1), 1–11. <https://doi.org/10.37950/wpaj.v6i1.2040>
- Pereira, L. M., Sanchez Rodrigues, V., & Freires, F. G. M. (2024). Use of partial least squares structural equation modeling (PLS-SEM) to improve plastic waste management. *Applied Sciences*, 14(2), 628. <https://doi.org/10.3390/app14020628>

- Ramadian, A., Chairuddin, C., Judijanto, L., Rachmawati, R., & Sopandi, E. (2025). The role of artificial intelligence competencies, organizational support, and employee self-efficacy in predicting government employee performance: A mediation analysis with work engagement. *Jurnal Manajemen dan Kewirausahaan*, 27(1), 22–32. <https://doi.org/10.9744/jmk.27.1.22-32>
- Riduan, M., & Firdaus, M. R. (2024). Transformasi digital dan kinerja: Kajian peran budaya organisasi, kompetensi digital, strategi bisnis di bisnis telekomunikasi. *Jurnal Maneksi*, 13(1), 48–58. <https://doi.org/10.31959/jm.v13i1.2065>
- Rojabi, M. A. (2025). *Pengantar artificial intelligence (AI)*. Afdan Rojabi Publisher.
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). *Partial least squares structural equation modeling*. In C. Homburg, M. Klarmann, & A. E. Vomberg (Eds.), *Handbook of Market Research*. Springer. https://doi.org/10.1007/978-3-319-05542-8_15-2
- Siburian, E. A. A., & Pramudita, D. P. D. (2025). Pengaruh kreativitas kerja pada kinerja pegawai. *Jurnal Ilmiah Manajemen Muhammadiyah Aceh*, 15(2), 236–245. <https://doi.org/10.37598/jimma.v15i2.14>
- Subramaniam, S., Dorasamy, M., & Malarvizhi, C. A. N. (2024). Assessing the impact of digital transformation on individual performance in the public sector: Insights from practitioners. *AIP Conference Proceedings*, 3240(1), 020013. <https://doi.org/10.1063/5.0240269>
- Wang, Y., & Teo, P.-C. (2024). The impact of enterprise social media fatigue on employee creativity: A conceptual paper. *Business Management and Strategy*, 16(1). <https://doi.org/10.5296/bms.v16i1.22347>
- Yang, M., Talha, M., Zhang, S., & Zhang, Y. (2025). Exploring the mechanisms linking digital leadership to employee creativity: A moderated mediation model. *Behavioral Sciences*, 15(8), 1024. <https://doi.org/10.3390/bs15081024>
- Yüce, A. (2024). Explanatory research. In P. M. Pedersen (Ed.), *Encyclopedia of sport management* (2nd ed., pp. 348–349). Edward Elgar Publishing. <https://doi.org/10.4337/9781035317189.ch202>
- Zang, D., & Li, M. (2025). Research on the impact of AI introduction on employee creativity: The moderating role of technology overload. *Behavioral Sciences*, 15(10), 1389. <https://doi.org/10.3390/bs15101389>