MIKAILALSYS
Journal of Multidisciplinary Sciences

e-ISSN : 2987-2286
p-ISSN : 2987-3924

Index: Harvard, Boston, Sydney, Copernicus, Sinta 4, Scilit, Semantic, Google, etc

https://doi.org/10.58578/mikailalsys.v4i2.10487

The Effect of Digital Literacy on Employee Performance at LLDIKTI Region X Padang

Salwa Humaira & Desriyeni
Universitas Negeri Padang, Indonesia
desriyeni@fbs.unp.ac.id; salwahumaira6@gmail.com

Article Info:

Submitted:	Revised:	Accepted:	Published:
Apr 23, 2026	May 21, 2026	Jun 2, 2026	Jun 7, 2026

Abstract

Although digital literacy has been widely examined in organizational and educational contexts, research specifically analyzing its effect on employee performance within the LLDIKTI environment remains relatively limited. This study aims to analyze the effect of digital literacy on employee performance at LLDIKTI Region X. A quantitative approach with a survey method was employed, involving 73 respondents selected through saturation sampling. Data were collected using a questionnaire and analyzed through simple linear regression with the assistance of SPSS software. The findings indicate that digital literacy has a positive and significant effect on employee performance at LLDIKTI Region X, as shown by a t-value of 5.911 and a significance level of $p < .05$. The coefficient of determination, $R^2 = .330$, indicates that digital literacy contributes 33% to employee performance, while the remaining variance is explained by other factors outside the model. These findings demonstrate that employees with stronger digital literacy tend to show better performance in carrying out work tasks within higher education service institutions. This study contributes to the literature on digital literacy and human resource performance by emphasizing the importance of digital competence in improving workplace effectiveness. The practical implication is

Mikailalsys is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License

that LLDIKTI Region X should continue strengthening employees' digital competencies through systematic training, mentoring, and professional development programmes. Further research is recommended to examine additional organizational, technological, and individual factors that may influence employee performance.

Keywords: Digital Literacy; Employee Performance; Digital Competence; LLDIKTI Region X; Higher Education Services.

INTRODUCTION

The development of digital technology has brought significant changes to various aspects of life, including the work environment of public organizations and government agencies. Digital transformation encourages organizations to leverage information technology to improve effectiveness, efficiency, and the quality of services provided to the public. In this context, digital literacy has become one of the essential competencies that human resources must possess. UNESCO (2018) explains that digital literacy encompasses the ability to access, manage, understand, evaluate, and create information through digital media. These abilities are not limited to the technical aspects of using digital devices but also include the capacity for critical, creative, and responsible thinking when utilizing technology.

The importance of digital literacy is increasingly evident in organizations that have implemented technology-based work systems. Digital literacy enables individuals to leverage technology to support productivity, communication, and more effective decision-making (Caroline et al., 2025). Additionally, strong digital skills help employees adapt to the ever-evolving changes in work systems. According to (Van Laar et al., 2020), digital competencies play a crucial role in enhancing individuals' ability to manage information and complete tasks more effectively and efficiently. Therefore, employee performance cannot be separated from their ability to master skills relevant to the demands of the digital age, including digital literacy as one of the key competencies that support the achievement of optimal performance (Khalid et al., 2019).

Employee performance is one of the primary factors determining an organization's success in achieving its established goals. Mangkunegara (2017) defines employee performance as the work outcomes achieved by an individual—both in terms of quality

and quantity—in accordance with the responsibilities assigned. In government organizations, employee performance plays a strategic role because it is directly related to the quality of public services, the effectiveness of policy implementation, and the achievement of organizational goals (Armstrong & Taylor, 2023). Therefore, improving employee performance is one aspect that requires attention in meeting the demands of the digital era.

The relationship between digital literacy and employee performance has been the focus of various previous studies. Research by Adawiah & Nurhidayati (2024) indicates that digital literacy has a positive and significant effect on the performance of educational staff at Lamappapoleonro University. The results of this study reveal that the ability to search for digital information, navigate hypertext, evaluate content, and organize knowledge can support improvements in employee work quality. Similar findings indicate that mastery of digital technology is a factor that can enhance the effectiveness of work performance.

Nevertheless, research specifically examining the influence of digital literacy on employee performance within government agencies involved in the management and delivery of higher education remains relatively limited. Most previous research has been conducted primarily in educational settings, focusing on students or academic staff at universities (Spante et al., 2018). Yet, government agencies that have implemented digital-based work systems also face similar challenges in technology utilization and information management. The scarcity of research in this context highlights a research gap that warrants further investigation (Sánchez-caballé et al., 2020).

LLDIKTI Region X is a government agency under the Ministry of Education, Culture, Research, and Technology tasked with providing services, guidance, and oversight to private universities in the West Sumatra and Jambi regions. In carrying out its duties, various work activities have utilized digital systems, such as higher education data management, administrative services, reporting, and information technology-based communication. This situation makes digital literacy an essential competency for employees to possess in order to support the effective performance of their duties.

Based on the researcher's initial observations of seven employees at the LLDIKTI Region X office in Padang, it was found that there are still disparities in digital literacy levels among the staff. Some employees have been able to make optimal use of digital technology to complete their work, while others still face challenges in using work

applications, managing digital data, and adapting to constantly updated information systems. This situation indicates that the digitalization process implemented has not yet been fully supported by uniform digital literacy skills among staff members. If this issue is not addressed appropriately, it could impact the work effectiveness of both individuals and the organization as a whole (Ciancarini et al., 2023).

Theoretically, this study is supported by the Technology Acceptance Model (TAM) proposed by Davis (1989), the Theory of Innovation Diffusion developed by Rogers (2003), and the Human Capital Theory introduced by Becker (1993). These three theories explain that an individual's ability to accept, adopt, and utilize technology is a factor that can influence productivity and work outcomes. Therefore, digital literacy is viewed as one of the competencies with the potential to enhance employee performance within an organization (Irpan, 2026). Based on this discussion, this study aims to analyze the influence of digital literacy on employee performance at LLDIKTI Region X. This study is expected to contribute to the development of research on digital literacy and employee performance, as well as serve as a basis for organizations in formulating strategies to improve digital competencies to support enhanced employee performance in the digital era (Nurain et al., 2024).

METHODS

This study employs a quantitative approach because the data collected consists of numerical values and is analyzed using statistical techniques. The quantitative approach is used to test the relationships or influences between variables in an objective and measurable manner. According to Sugiyono (2019), quantitative research is used to study a specific population or sample by collecting data using research instruments and conducting statistical data analysis. This approach aligns with the research objective, which is to analyze the influence of digital literacy on employee performance at LLDIKTI Region X.

This study employs a descriptive research method. According to Waruwu et al., (2025), a descriptive approach is a research method aimed at describing, illustrating, analyzing, and interpreting the research subject through collected data or samples, which are then further analyzed using previously studied theories to draw conclusions. This study will describe the impact of digital literacy on employee performance at LLDIKTI Region X in Padang.

The population in this study consisted of all 73 employees of LLDIKTI Region X. The sampling technique used was saturation sampling, which involves selecting the entire population as the research sample. This technique was chosen because the population size was relatively small, allowing the entire population to be included in the study. Of this total, data from 73 respondents were processed and analyzed.

Data collection in this study was conducted using a questionnaire. The questionnaire was designed based on indicators of digital literacy and employee performance. Digital literacy was measured through indicators of internet searching, hypertextual navigation, content evaluation, and knowledge assembly, while employee performance was measured through indicators of work quality, communication, speed, competence, and initiative. The measurement scale used was a four-point Likert scale with the following response options: strongly agree, agree, disagree, and strongly disagree (Ferrando et al., 2025).

Before data analysis, the research instrument was first tested for validity and reliability. The validity test was conducted to determine whether each statement item effectively measured the variables under study. Meanwhile, the reliability test was conducted to determine the level of consistency of the research instrument (Taherdoost, 2022). The instrument was deemed reliable if the Cronbach's Alpha value met the predetermined criteria.

Data analysis in this study was performed using SPSS software. The analysis techniques used included data tabulation, descriptive analysis, normality tests, linearity tests, simple linear regression analysis, the coefficient of determination, and t-tests. Simple linear regression analysis was used to determine the effect of digital literacy on employee performance (Pallant, 2020). The t-test was used to determine the significance of the effect of the digital literacy variable on employee performance at LLDIKTI Region X. Data collection for this study was conducted following the proposal seminar on January 30, 2026, beginning on March 2, 2026, and concluding on May 18, 2026.

RESULTS

This section presents the research findings in a systematic manner based on data obtained from employees of LLDIKTI Region X. The findings were obtained by distributing questionnaires to the respondents who served as the study sample. The

population in this study consisted of 73 employees, with a sampling technique using saturation sampling so that all members of the population were included as the study sample. However, the data eligible for processing and analysis amounted to 73 respondents. The collected data was then analyzed to determine the effect of digital literacy on employee performance at LLDIKTI Region X.

1. Distribution of Respondents' Answers on the Digital Literacy Variable

Table 1. Distribution of Respondents' Answers on the Digital Literacy Variable

Indikator	Mean	Kategori
Internet Searching	3.52	Sangat Baik
Hypertextual Navigation	3.55	Sangat Baik
Content Evaluation	3.58	Sangat Baik
Knowledge Assembly	3.29	Sangat Baik
Rata-rata Variabel	3.49	Sangat Baik

source: Compiled by the researcher (2026)

Based on Table 1, Digital literacy is measured using four indicators: internet searching, hypertext navigation, content evaluation, and knowledge assembly. When examined comprehensively to measure digital literacy, the average score was 3.49. Based on the results of the descriptive analysis, all indicators fall into the "very good" categories. These findings indicate that employees of LLDIKTI Region X possess fairly strong abilities in accessing, searching for, evaluating, and managing digital information to support their work.

1. Distribution of Respondents' Answers on the Employee Performance Variable

Table 2. Distribution of Respondents' Answers on the Employee Performance Variable

Indikator	Mean	Kategori
Kualitas Kerja	3.36	Sangat Baik
Komunikasi	3.36	Sangat Baik
Kecepatan	3.54	Sangat Baik
Kemampuan	3.44	Sangat Baik
Inisiatif	3.29	Sangat Baik
Rata-rata Variabel	3.40	Sangat Baik

source: Compiled by the researcher (2026)

Based on Table 2, Employee performance is measured using five indicators: work quality, communication, speed, competence, and initiative. When examined

comprehensively to measure Employee Performance, the average score was 3.40. The analysis results show that all indicators fall into the "very good" category. This indicates that employees of LLDIKTI Region X are able to carry out their duties and responsibilities effectively in accordance with the standards set by the organization.

2. Normality Test

Table 3. Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		73
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	3.08124053
Most Extreme Differences	Absolute	.113
	Positive	.094
	Negative	-.113
Test Statistic		.113
Asymp. Sig. (2-tailed)		.021[c]
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		

source: Compiled by the researcher (2026)

Table 3 Normality test results show for the variables of digital literacy and employee performance, a value of 0.21 was obtained. If the Asymp. Sig. (2-tailed) value is > 0.05, the data is considered to be normally distributed; conversely, if the Asymp. Sig. (2-tailed) value is < 0.05, the data is considered not to be normally distributed (Ode et al., 2026). The test results show a significance value of 0.21 > 0.05, so it can be concluded that the data in this study are normally distributed.

3. Linearity Test

Table 4. Linearity Test

ANOVA Table							
			Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Kinerja Pegawai * Literasi Digital	Between Groups	(Combined)	400.399	11	36.400	3.584	.001
		Linearity	336.374	1	336.374	33.119	.000
		Deviation from Linearity	64.025	10	6.403	.630	.782
	Within Groups		619.546	61	10.156		
	Total		1019.945	72			

Table 4 Linearity test results, the sig value for the deviation from linearity was found to be 0.782. In this study, a relationship was considered linear if the p-value was greater than 0.05; if the p-value was less than 0.05, the relationship was considered nonlinear (Haryanti & Maknunah, 2025). These results indicate that the significance level is greater than 0.05, so it can be concluded that the digital literacy variable has a linear relationship with employee performance at LLDIKTI Region X.

4. Simple Regression Analysis

Table 5. Simple Regression Analysis

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	22.151	4.899		4.522	.000
	Literasi Digital	.690	.117	.574	5.911	.000
a. Dependent Variable: Kinerja Pegawai						

source: Compiled by the researcher (2026)

Table 5 simple regression analysis results shows that the digital literacy variable has a regression coefficient that can be incorporated into the following simple regression equation:

$$Y = 22.151 + 0.690x$$

In this equation, the constant term is 22.151. This constant indicates that if the digital literacy variable is held constant, employee performance is 22.151. This result suggests that as employees' digital literacy improves, their performance at LLDIKTI Region X also tends to increase. Additionally, in the simple regression equation, it is observed that the digital literacy variable has a positive regression coefficient of 0.690. This value indicates that for every 1% increase in digital literacy, employee performance increases by 0.690%, assuming all other variables remain constant. Conversely, if digital literacy decreases, employee performance also tends to decrease (Ghozali, 2016).

5. Analysis of the Coefficient of Determination (R-square)

Table 6. Analysis of the Coefficient of Determination (R-square)

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.574[a]	.330	.320	3.103
a. Predictors: (Constant), Literasi Digital				
b. Dependent Variable: Kinerja Pegawai				

Table 6 an analysis of the coefficient of determination is used to determine the extent to which independent variables contribute to changes in the dependent variable. The magnitude of this contribution is expressed as a percentage (Hair et al., 2019). Based on the test results shown in the model summary table, an R-squared value of 0.330 was obtained. This coefficient value indicates that digital literacy influences employee performance at LLDIKTI Region X by 33.0%, while the remaining 67.0% is influenced by other factors outside the scope of this study, such as work ability, work motivation, work environment, work discipline, and other factors.

6. Hypothesis Test

Table 7. Hypothesis Test

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	22.151	4.899		4.522	.000
	Literasi Digital	.690	.117	.574	5.911	.000
a. Dependent Variable: Kinerja Pegawai						

source: Compiled by the researcher (2026)

Table 7 Regression analysis measures how independent variables influence the dependent variable (Bhirawa, 2020). Based on the results of the t-test, a t-statistic value of 5.911 was obtained. The test was conducted using a significance level of 0.05; at df (n - k) or (73 - 2 = 71), the critical t-value was 1.994. Thus, since the t-statistic value of 5.911 is greater than the critical t-value of 1.994, the decision is to reject H0 and accept H1. These results indicate that digital literacy has a positive and significant effect on employee performance at LLDIKTI Region X, thus proving the hypothesis proposed in this study.

DISCUSSION

The results of the study indicate that digital literacy has a positive and significant effect on employee performance at LLDIKTI Region X. This finding is supported by the results of the hypothesis test, which showed a p-value of 0.000 (< 0.05) and a t-value of 5.911. Furthermore, the results of simple linear regression analysis yielded a regression coefficient of 0.690, indicating that an increase in digital literacy is associated with improved employee performance. Thus, the better an employee's ability to search for

digital information, navigate hypertext, evaluate content, and synthesize knowledge, the better their performance in carrying out their duties.

These findings align with the theory of digital literacy proposed by Gilster (1997), which states that digital literacy encompasses an individual's ability to effectively utilize digital information through internet searching, hypertextual navigation, content evaluation, and knowledge assembly. These abilities enable employees to quickly access needed information, process it accurately, and support more effective task completion. In the context of government organizations that have implemented digital-based work systems, digital literacy skills have become a key competency supporting improved employee performance.

These findings also support the research conducted by Adawiah & Nurhidayati (2024), which found that digital literacy has a positive and significant impact on the performance of educational staff. That study demonstrated that the ability to utilize digital technology can enhance work effectiveness and support the optimal completion of tasks. The similarity in these findings indicates that digital literacy is not only important in higher education settings but is also relevant in government agencies that rely on information systems and digital technology for their daily operations.

Based on the analysis of the coefficient of determination, digital literacy contributes 33.0% to employee performance, while the remaining 67.0% is influenced by other factors outside the scope of this study. This indicates that while digital literacy plays a significant role, employee performance is also influenced by various other factors such as work motivation, work environment, professional competence, leadership, organizational culture, as well as training and human resource development. Therefore, improving employee performance cannot be achieved solely through strengthening digital literacy but must also be supported by other organizational factors.

Practically, the results of this study have implications for LLDIKTI Region X to continue improving employees' digital literacy competencies through training, guidance on the use of work applications, and the development of skills in digital information management. These efforts are expected to enhance the effectiveness of task execution, accelerate service processes, and support the optimal achievement of organizational goals. From a theoretical perspective, this study reinforces research on the relationship between digital literacy and employee performance within government agencies.

This study has several limitations. First, the study was conducted at only one agency, namely LLDIKTI Region X, so the results cannot yet be generalized to all government agencies. Second, the study used only one independent variable, namely digital literacy, so there are other factors that have not been analyzed that may also influence employee performance. Third, the research data was obtained through a questionnaire, so respondents' answers are highly dependent on each individual's perception. Therefore, future research is recommended to involve more agencies and include other relevant variables to obtain a more comprehensive understanding of the factors influencing employee performance.

CONCLUSION

This study shows that digital literacy has a positive and significant effect on employee performance at LLDIKTI Region X Padang. These results indicate that employees' ability to search for information online, understand digital navigation, evaluate information, and process and utilize digital information plays a role in improving the quality of their work, communication, speed, competence, and initiative. Thus, the higher the employees' digital literacy, the better their performance in supporting the execution of tasks and the achievement of organizational goals.

Theoretically, this study reinforces research on the relationship between digital literacy and employee performance within government agencies. Practically, the research findings can serve as a basis for LLDIKTI Region X in designing digital competency development programs to improve employee performance. Future research is recommended to involve a broader range of respondents and to include additional variables that may influence employee performance, such as work motivation, work environment, professional competencies, or organizational culture, thereby providing a more comprehensive understanding of the factors affecting employee performance.

REFERENCES

Abas, M. K. M., Yahaya, R. A., & Din, M. S. F. (2019). Digital literacy and its relationship with employee performance in the 4IR. *Journal of International Business, Economics and Entrepreneurship, 4*(2), 29–37. https://doi.org/10.24191/jibe.v4i2.14312

Adawiah, A., & Nurhidayati, A. (2024). Pengaruh Literasi Digital terhadap Kinerja Tenaga Kependidikan pada Universitas Lamappapoleonro. *Jurnal Ilmiah Metansi (Manajemen dan Akuntansi), 7*(2), 436–446. https://doi.org/10.57093/metansi.v7i2.339

Armstrong, M., & Taylor, S. (2023). *Armstrong's Handbook of Human Resource Management Practice* (16th ed.). Kogan Page.

Becker, G. S. (1993). *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education* (3rd ed.). University of Chicago Press. https://doi.org/10.7208/chicago/9780226041223.001.0001

Bhirawa, W. T. (2020). Proses Pengolahan Data dari Model Persamaan Regresi dengan Menggunakan Statistical Product and Service Solution (SPSS). *Jurnal Mitra Manajemen, 7*(1), 71–83. https://journal.universitassuryadarma.ac.id/index.php/jmm/article/view/528

Caroline, A., Coun, M. J. H., Gunawan, A., & Stoffers, J. (2025). A systematic literature review on digital literacy, employability, and innovative work behavior: Emphasizing the contextual approaches in HRM research. *Frontiers in Psychology, 15*, Article 1448555. https://doi.org/10.3389/fpsyg.2024.1448555

Ciancarini, P., Giancarlo, R., & Grimaudo, G. (2024). Digital transformation in the public administrations: A guided tour for computer scientists. *IEEE Access, 12*, 22841–22865. https://doi.org/10.1109/ACCESS.2024.3363075

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340. https://doi.org/10.2307/249008

Ferrando, P. J., Morales-Vives, F., Casas, J. M., & Muñiz, J. (2025). Likert scales: A practical guide to design, construction and use. *Psicothema, 37*(4), 1–15. https://doi.org/10.70478/psicothema.2025.37.24

Ghozali, I. (2016). *Aplikasi Analisis Multivariate dengan Program IBM SPSS 23*. Badan Penerbit Universitas Diponegoro.

Gilster, P. (1997). *Digital Literacy*. John Wiley & Sons.

Hair, J. F., Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate Data Analysis* (8th ed.). Cengage Learning.

Haryanti, N., & Maknunah, L. U. (2025). *Metode Penelitian Kuantitatif untuk Riset Sosial: Teori dan Praktik Mengungkap Pola dan Fakta Sosial*. CV Eureka Media Aksara.

Irpan, M. (2026). Digital government and public sector organizational performance: A systematic literature review. *International Journal of Business and Applied Economics, 5*(1), 53–72. https://doi.org/10.55927/ijbae.v5i1.549

Law, N., Woo, D., de la Torre, J., & Wong, G. (2018). *A Global Framework of Reference on Digital Literacy Skills for Indicator 4.4.2* (Information Paper No. 51). UNESCO Institute for Statistics. http://uis.unesco.org/sites/default/files/documents/ip51-global-framework-reference-digital-literacy-skills-2018-en.pdf

Mangkunegara, A. A. P. (2017). *Manajemen Sumber Daya Manusia Perusahaan*. Remaja Rosdakarya.

Nuraini, A., Chaniago, H., & Efawati, Y. (2024). Digital behavior and impact on employee performance: Evidence from Indonesia. *Journal of Technology Management & Innovation, 19*(3), 15–27. https://doi.org/10.4067/S0718-27242024000300015

Ode, A., Arfiani, A., Adi, A. F., Rasyidin, M., Ndari, P. W., Taufik, Y., Hidayati, W. L., Wambrauw, R. A., Meyana, Y. E., & Adawiyah, R. (2026). *Metodologi Penelitian Kualitatif dan Kuantitatif*. CV Edu Akademi.

Pallant, J. (2020). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using IBM SPSS* (7th ed.). Routledge. https://doi.org/10.4324/9781003117452

Rogers, E. M. (2003). *Diffusion of Innovations* (5th ed.). Free Press.

Sánchez-Caballé, A., Gisbert-Cervera, M., & Esteve-Mon, F. (2020). The digital competence of university students: A systematic literature review. *Aloma: Revista de Psicologia, Ciències de l'Educació i de l'Esport, 38*(1), 63–74. https://doi.org/10.51698/aloma.2020.38.1.63-74

Spante, M., Sofkova Hashemi, S., Lundin, M., & Algers, A. (2018). Digital competence and digital literacy in higher education research: Systematic review of concept use. *Cogent Education, 5*(1), Article 1519143. https://doi.org/10.1080/2331186X.2018.1519143

Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*.

Taherdoost, H. (2022). What are different research approaches? Comprehensive review of qualitative, quantitative, and mixed method research, their applications, types, and limitations. *Journal of Management Science & Engineering Research, 5*(1), 53–63. https://doi.org/10.30564/jmser.v5i1.4538

van Laar, E., van Deursen, A. J. A. M., van Dijk, J. A. G. M., & de Haan, J. (2020). Determinants of 21st-century skills and 21st-century digital skills for workers: A systematic literature review. *SAGE Open, 10*(1), 1–14. https://doi.org/10.1177/2158244019900176

Waruwu, M., Pu`at, S. N., Utami, P. R., Yanti, E., & Rusydiana, M. (2025). Metode Penelitian Kuantitatif: Konsep, Jenis, Tahapan dan Kelebihan. *Jurnal Ilmiah Profesi Pendidikan, 10*(1), 917–932. https://doi.org/10.29303/jipp.v10i1.3057