



The Influence Of Digital Literacy And Information Technology Utilization On Employee Performance With Competency As A Mediation At Communication

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ABSTRACT

This research examines the relationships between digital literacy, use of technology, competence, and employee performance in the Department of Communication, Informatics, Statistics, and Encryption in Lubuklinggau. This department's persistent underperformance against targets prompted the study, which was attributed to lower than expected employee skills in basic digital systems and e-government applications. The Smart City System's full potential has not been realized because of imbalance digital literacy gaps, underused information systems, and poor staff technical skills. This research seeks to analyze the direct and indirect impacts of digital literacy and technology on employee performance, with competence as a possible mediating variable. For this study, a quantitative research design was adopted, and Structural Equation Modeling (SEM) was conducted using Smart PLS with a purposive sample of 47 employees. It was shown that having proper digital literacy and using information technology both positively influence the work performance of employees. Moreover, both digital literacy and information technology use have a positive indirect impact on performance via the increased level of employee competence, which confirms that competence mediates these relationships. These finding highlight the integrated importance of having proper digital capacity and investing in competence development towards improving employee performance in public organizations.

INTRODUCTION

Employee performance reflects both the quality and the volume of work executed in alignment with designated responsibilities. It manifests as the measurable output produced over a defined interval. Organizations universally seek to elevate this output in pursuit of their strategic objectives. Confronted with the swift pace of digital transformation, government agencies must embrace emerging information technologies to enhance both employee productivity and operational efficiency (Garrido-Moreno et al., 2024). Central to this transition is the cultivation of digital literacy and the proficient application of information technologies within the public sector. Beyond individual competence, the deliberate alignment of IT resources with agency functions is imperative. Technology facilitates the automation of workflows, the refinement of data stewardship, and the acceleration of informed decision-making. Nevertheless, the realization of these benefits hinges on more than the mere presence of hardware and networks; it equally requires a workforce capable of adopting and embedding these tools into everyday practices (Kraus et al., 2022).

The Lubuklinggau Department of Communication, Information, Statistics, and Encryption articulates a clear vision and a complementary mission. Its vision to Realize Lubuklinggau as a Civil Metropolis, conveys an aspiration toward a technologically advanced and socially cohesive urban environment. In pursuit of this vision, the Department has adopted the mission of "Improving Good Governance," an objective framed within the broader context of transparency, accountability, and citizen participation. To operationalize both vision and mission, the Department assists the Mayor in the exercise of regional authority over the domains of communication, informatics, statistics, and encryption. Concurrently, it executes tasks delegated by the Central and Provincial Governments, thereby ensuring alignment with national and regional policy objectives (Harbi et al., 2021). Service of Lubuklinggau has the following core functions: (1) development of technical policy, coordination, facilitation, and guidance in public data and information, telematics, public communication, and cryptographic encryption; (2) enactment of such policies, coordination, facilitation and guidance in the same domains; (3) execution of monitoring, evaluation, and reporting pertaining to the same spheres; (4) administration of the Service in line with prescribed duties; and (5) execution of additional official tasks assigned by hierarchical superiors in accordance with prevailing legislation.

Employee performance evaluations conducted at the Communication, Informatics, Statistics, and Encryption Department during the period 2022–2024 reveal systemic vulnerabilities, which, while manageable, complicate the attainment of secure, rapid, and precise public service delivery (Elassy et al., 2024). The principal metric considered was the SPBE Index. Evaluation of performance indicators within the Communication, Information, Statistics, and Encryption Department across the preceding three-year period disclosed that SPBE Index attainments have consistently fallen short of established benchmarks. This shortfall can be attributed in part to a segment of personnel who continue to demonstrate inadequate comprehension of digital systems and electronic-based governmental applications, which in turn generates ineffectual and inefficient execution of the SPBE initiative. Compounding this issue is a pattern of insufficient exploitation of the existing information and communication technology infrastructure that is intended to bolster the Department's core duties and functions.

The 2024 Public Information Disclosure Index (KIP) indicator registered a drop relative to its 2023 value. While the established 2024 target was 90, the final score was 88.2, translating to a performance ratio of 98 percent. The regression can be attributed to slow responses to information requests from the public, a problem exacerbated by both protracted internal clearance procedures and a shortage of personnel within the Information and Documentation Management Officer (PPID) unit (Maulana, 2020). Additionally, certain categories of public information that ought to be routinely accessible through official platforms such as web pages, social media, and digital bulletin boards have either not been refreshed with sufficient frequency

or have been made available in incomplete form. To enhance its responsibilities in communication, information, statistics, and encryption, as well as to further the development of electronic government systems (SPBE), the Communication, Information, Statistics, and Encryption Department has been endowed with a comprehensive suite of information technology facilities and infrastructure (Marthalina et al., 2025). These installations manifest the local government's resolve to upgrade digital infrastructure and include a high-speed internet backbone, a dedicated data center, a converged internet network, and a centralized high-capacity server with a usable storage volume of 4 terabytes (TB).

Human resources (HR) play a pivotal role in enabling the attainment of institutional objectives, especially within government bodies navigating digital transformation and the expansion of public information disclosure. Consequently, a systematic evaluation of the workforce is warranted, focusing specifically on educational attainment and the alignment of competency development programs. Analysis of personnel records in the public data and information domain, a sector inherently linked to information technology and the stewardship of electronic records, reveals a cohort of staff possessing bachelor's degrees yet lacking complementary technical competencies. Deficiencies persist in formal instruction concerning information management, electronic government system administration (SPBE), cyber security, and public information disclosure (Chuang et al., 2025). Similarly, data from the Telematics Sector, which undergirds the architecture and administration of government information technology infrastructure, indicate the recurrence of personnel holding degrees in Information Technology Engineering, Computer Systems, and Information Systems.

These qualifications, however, remain unaccompanied by systematic technical credentialing, either through training programs or formal certification. The effective execution of SPBE initiatives, the seamless interoperability of information systems, and the safeguarding of digital infrastructure hinge on a baseline of standardized technical expertise. This expertise encompasses training in networking, management of information systems, interoperability of government applications, and the safeguarding of information security. This finding highlights a critical skills deficit that must be addressed without delay by implementing a targeted human-resource development initiative informed by operational technical requirements (Piwowar-Sulej, 2021).

Data from the Public Communications Division, a key unit tasked with shaping the image of municipal government, delivering strategic public messages, and facilitating reciprocal communication between the state and its citizens, reveal that while staff members possess degrees in Law, Management, and Public Administration, not all have acquired the specialized technical proficiencies required in public communications. Contemporary practice in this domain demands command of strategic competencies that include training in digital communication, media relations, crisis and issues management, the formulation of public messaging strategies, and the effective use of government social media platforms to foster constructive dialogue with citizens (Afridi et al., 2023). In the Encryption Division, charged with the strategic mandate of safeguarding government information through cybersecurity and data encryption frameworks, it is evident that two employees hold degrees in Management one at the bachelor's level and the other at the master's level and both have completed the fourth level of the standard leadership training program.

Within the Communication, Information, Statistics, and Encryption Department, information technology assumes a pivotal function, as the agency is charged with the stewardship of governmental information and communications at the local level. It also energises the Smart Bureaucracy of the Lubuklinggau administration, a framework that integrates public service delivery, administrative processes, human resource management, and the information and communication technology (Gil-Garcia et al., 2018). However, several hurdles persist: the suboptimal deployment of information systems among staff, fragmented digital literacy, and limitations in technical skill among employees. Consequently, elevating the

performance of personnel within the agency has become critical, with digital literacy and the capacity to leverage information technology as contributory factors (Deschênes, 2024). This emphasis on digital literacy, technological application in administrative enhancement, and the role of competency as a performance catalyst renders the present investigation salient.

LITERATURE REVIEW

Employee Performance

Performance involves both the work results and the behavior shown while doing assigned tasks and responsibilities within a set period. As a measure of organizational objectives seeking to be accomplished, it can be evaluated on various dimensions including: quality and quantity of work, time utilized, and teamwork. In a simple approach, performance indicates results and efforts put forth by employees (Setiawan et al., 2023). Additionally, employee performance is proven to be impacted by various underlying factors such as: organizational commitment, motivation, and employee competence. Clearly, motivation plays an important role as it affects an employee's willingness to engage in daily activity and overall participation in the company. Competence is an equally important factor and can be defined as a blend of a person's technical and non-technical skills, which impact performance and include relevant to the workplace adaptability skills (Mekou et al., 2024).

Also, the work setting and organizational culture tend to have a significant effect on employee performance. A positive work setting promotes satisfaction, which leads to higher morale and discipline, and improves performance outcomes. Rajagukguk et al., (2023) also suggest that environmental and cultural factors have a perceptible influence on performance metrics that affect how employees endeavor to reach their goals. Moreover, the impact of leadership styles and employee participation have also been registered performing positively with, since leadership that is effective has the ability to motivate and rally employees toward high performance work climate (Yohana et al., 2024). As a final point, the authors have discussed the descriptor of employees as a complex system that has motivation, skills, commitment, among others, and incorporating a supportive workplace all functions harmoniously and in a system that is structured. Focusing on these factors is central to any organization that seeks to improve performance and reach their strategic goals.

Digital Literacy

Digital literacy has become a crucial competency in the digital age, as it encompasses the ability to use Information and Communication Technology (ICT) for critical, intelligent, creative, and responsible participation in society. According to the Ministry of Communication and Informatics of the Republic of Indonesia, digital literacy involves skills necessary for assessing the credibility of information, managing data securely, and mitigating negative impacts such as misinformation and cyberbullying. This definition highlights that digital literacy is multifaceted, involving not just technical skills but also ethical reasoning and critical thinking capabilities.

The scholarly discourse surrounding digital literacy further emphasizes the necessity of ethical considerations. This comprehension extends beyond traditional methods of information consumption to include a thorough understanding of digital ethics, particularly in educational contexts. Moreover, educators are called to cultivate environments that encourage the integration of ethical reasoning into the curriculum, thereby fostering a more informed and responsible digital citizenry.

In summary, the current framework of digital literacy encompasses a blend of skills that are technical, ethical, and analytical in nature. As society increasingly relies on digital technologies, equipping individuals especially educators and students with these capabilities for responsible digital citizenship and effective participation in the digital landscape. A concerted effort towards integrating digital literacy into educational frameworks is imperative to prepare individuals for the challenges of the 21st century.

Information Technology

Using Information and Communication Technology (ICT) intelligently, creatively, and socially requires a user to be digitally literate, making it a critical skill to navigate through the modern world. As the Ministry of Communication and Informatics of the Republic of Indonesia describes, digital literacy includes assessing the credibility of information, safeguarding data, and preventing misinformation and cyberbullying. This statement demonstrates that digital literacy is a skill with multiple components as it requires one to be more than a technical practitioner, but also an ethical and critical thinker.

The ethical aspects of literacy today, especially information literacy, has been elaborated upon in detail by various authors. For example, Perkins & Roux emphasize that digital literacy goes beyond accessing information. It includes knowing how to wisely and responsibly use information ranging from interdisciplinary databases and libraries to the internet, evaluating information, and creating and disseminating information in digital formats (Hutabarat et al., 2023). From reading, students should learn more sophisticated digital comprehension that includes ethical concerns, especially in the domain of education. In addition, teacher's responsibility includes providing approaches that promote students' use of ethics while teaching and leads to shaping responsible digital citizens.

To conclude, mastering digital literacy requires one's skills to be intertwined with ethics and analysis. As the world continues to evolve with the increase in digital technologies, it's important that citizens, educators, and students possess these skills to actively engage and participate in a responsible way in the digital world. In order to meet the demands of the 21st century, there is an urgent need to integrate digital literacy in designed frameworks for educational institutions.

Competence

Competence is an important factor in the person's ability to perform, stemming from a combination of skills and knowledge relative the position. There is growing evidence to support the impact of competence on the performance of individual jobs in a given sector. In addition, the connection between job competence and satisfaction has always been at the center of many studies which show that higher levels of competence linked with greater job satisfaction leads to better performance. For example, as (Hu et al., 2021) discusses, the competence of the teachers strongly influenced their job satisfaction, which in turn affected their performance. This feeling is also found in other research suggesting that employees with the right competencies are more likely to be satisfied with their jobs and become more productive.

In conclusion, the concept of competence is more complex than it appears and has a direct bearing on how a person functions in a business activity and its overall success. Making compliance with the requirements of competence a prerequisite for business processes in the company framework has a positive effect on performance, in the rather critical and more important area of business performance, and leads to better business perceived performance in the industry. Thus, it is essential for companies to effectively plan competence development strategies as part of their human resource development activities.

METHODS

The relationship among digital literacy (X1), information technology (X2), a person's role within companies, and their self-contribution (Y) is important for better achieving organizational efficiency and productivity in work processes. Most important in this relationship is the mediating role of competence (Z), which greatly impacts the way a person's skills will drive performance results. With regard to digital literacy, the ability to access, evaluate and utilize the information technology of today, is becoming one of the more important skills needed in both the schooling and the world of work. Research shows that strongly developed digital skills promote adaptability to new technologies, increasing operational efficiency and personal achievement in the organization (Khan et al., 2022; Lü et al., 2023; Mentari et al., 2022).

The impact of a person's digital skills on their education and career is well documented. For instance, people who access and utilize digital resources tend to have better education and career-related results (Khan et al., 2022; Mentari et al., 2022; Siahaan & Sirait, 2023). More skilled users of digital technologies tend to better employ them, which leads to better performance in different organizations. This is critical given the pace of digital adoption around the world, where companies that invest in their employees' digital skills tend to be more successful in the market.

Also, competence (Z) acts as an important middle factor in this structure. It increases the capability to use digital literacy and also increases the influence of the technology on the performance (Khan et al., 2022). Therefore, competence can also help to overcome the challenges of gaps between the digital skills and the achievement of performance and in turn, there would be a multi-dimensional interrelationship between digital literacy, IT skills, and personal performance (Khan et al., 2022; Siahaan & Sirait, 2023). It is important to integrate digital literacy and competence into the curriculum in order to address the needs for modern employment (Siahaan & Sirait, 2023).

The existing literature demonstrates the importance of quantitative methods like SEM and regression analysis, both of which are important in clarifying the direct and mediation relationships of digital workforce productivity in the 21st century (Ionică, 2024; Lü et al., 2023). Also, the sampling technique that provides a minimum cutoff of 30 members and uses saturated sampling clearly adds to the credibility of the findings with respect to diverse representation and reliable evidence (Listiwati et al., 2022; Lü et al., 2023).

In summary, the modern organization needs to understand the impact of digital literacy, uptake of technology, role-related competencies, and individual performance if it is to stand up to the velocity of digital change. These recommended digital literacy and competency interventions focus on performance outcomes but also on the organization's ability to build a technology-savvy workforce which is essential in dealing with newer technologies (Adegboye & Vaidhyamb, 2024; Siahaan & Sirait, 2023).

RESULTS

This investigation applied a structural equation modelling approach, with data evaluated via SmartPLS Initial assessment focused on the outer model to ascertain the validity and reliability of both the operational indicators and their corresponding latent constructs. Evaluation of the outer model proceeded via the PLS algorithm, and the resulting measurement model facilitated the determination of both convergent and discriminant validity, alongside composite reliability coefficients.

Convergent Validity

The convergent validity of the measurement model characterized by reflective indicators is assessed through the correlation of individual item scores with the overarching latent construct scores. This form of validity is demonstrated empirically by the outer loading values

exceeding the threshold of 0.5. The table presented below details the computed outer loadings for each indicator constituting the latent constructs of the study. An outer loading that surpasses 0.5 is interpreted as strong evidence of the indicator's validity in accounting for the underlying construct.

Discriminant Validity

Discriminant validity is evaluated by analyzing the cross-loading coefficients of the measurement indicators. These coefficients capture the degree to which each indicator is related to its designated construct compared to its association with indicators from alternative construct blocks. A measurement model is regarded as possessing strong discriminant validity when the loading of the indicator onto its presumed construct exceeds its loading onto any indicator belonging to a different construct block.

Average Variance Extracted (AVE)

Alongside assessments of discriminant validity, convergent validity is evaluated through the computation of the Average Variance Extracted (AVE). A construct is said to exhibit satisfactory convergent validity when its AVE exceeds the squared correlations with any other construct in the model, while additionally requiring that the AVE itself surpasses the 0.50 threshold. The subsequent table presents the AVE results derived from the model under examination.

Tabel 1. Average Variance Extracted (AVE)

Variable	Average Variance Extracted (AVE)
Digital Literacy (X1)	0,617
Information Technology (X2)	0,601
Employee performance (Y)	0,573
Competency (Z)	0,612

Source: Data processed, 2025

The SmartPLS results presented above indicate that each latent variable digital literacy (X1), information technology (X2), employee performance (Y), and competence (Z) yields an average variance extracted (AVE) greater than 0.50, thus confirming adequate convergent validity for all constructs. Having established the square root of each construct's AVE, the subsequent analytical step is to juxtapose these square root values against the inter-construct correlations specified in the structural model. The ensuing table summarizes both the inter-construct correlations and the corresponding square root AVE values for each pairwise comparison:

Table 2. Correlation with AVE

Variable	Performance (Y)	competency (Z)	Digital literacy (X1)	Information technology (X2)
Performance (Y)	0,757			
Competency (Z)	0,734	0,642		
Digital literacy (X1)	0,581	0,46	,786	
Information technology (X2)	0,722	0,527	,241	0,775

Source: Data processed, 2025

The table above shows that the square root of the AVE for each construct is greater than its correlation value, so the constructs in this research model can still be considered to have good discriminant validity.

Composite Reliability

The assessment of the outer measurement model is not confined to the evaluation of convergent and discriminant validity; it also encompasses the measurement of construct reliability, operationalized through the composite reliability coefficient. A construct achieves a criterion of reliability when the composite reliability coefficient exceeds the threshold of 0.7. The results of the SmartPLS analysis pertaining to composite reliability are presented in the subsequent table:

Table 3 Composite Reliability

Variable	Cronbach's Alpha	Composite Reliability	Means
Digital Literacy (X1)	0,912	0,928	Reliable
Information Technology (X2)	0,926	0,938	Reliable
Employee Performance (Y)	0,942	0,949	Reliable
Competency (Z)	0,840	0,874	Reliable

Source: Data processed, 2025

Based on the table above, the Cronbach's alpha and Composite reliability values for all variables were >0.7 . Therefore, it can be concluded that all items in the digital literacy (X1), information technology (X2), employee performance (Y), and competency (Z) variables were found to be reliable. Therefore, the outer model evaluation met the criteria and was declared valid and reliable.

Structural Model Testing (Inner Model)

After the estimated model met the discriminant validity criteria, the structural model (inner model) was tested. Assessing the inner model involves examining the relationships between latent constructs by examining the R-square results of the estimated path parameter coefficients and their significance levels. R-square, also known as the coefficient of determination, is used to assess the contribution of independent variables to the dependent variable. The following calculation results show the R-square values in this study:

Table 4 R-Square

Variable	R Square	R Square Adjusted
Employee Performance (Y)	0,769	0,753
Competency (Z)	0,396	0,369

Source: Data processed, 2025

Based on Table the R-square value indicates that digital literacy and information technology utilization explain 76.9% of the variability in the performance construct, with the remaining 23.1% explained by other constructs outside those examined in this study. The R-square value for digital literacy and information technology utilization, competency, and workload, explains 39.6% of the variability in the competency construct, with the remaining 60.4% explained by other constructs outside those examined in this study.

Path Analysis

Based on the data processing, the results can be used to answer the hypotheses in this study. Hypothesis testing in this study was conducted by examining the T-statistics and P-values. The research hypothesis can be declared accepted if the t-statistic value is greater than the t-table and the P-value is <0.05 . Hypothesis testing is conducted to determine the extent of the influence of the research hypothesis. A more complete explanation can be seen through the calculations in the Path Coefficient table. The significance of the model in testing the structural model can be seen from the significance values between constructs, the p-value in the path coefficients table. The results of the hypothesis test were carried out through bootstrapping as follows:

Table 5 Hhypothesis Test Result (Path Coefficient)

Hypothesis	T Statistics (O/STDEV)	P Values
Digital Literacy (X1) -> Employee Performance (Y)	4,870	0,000
Information Technology (X2) -> Employee Performance (Y)	4,832	0,000
Digital Literacy(X1) -> Competency (Z) -> Employee Performance (Y)	2,317	0,021
Information Technology (X2) -> Competency (Z) -> Employee Performance (Y)	3,081	0,002

Source: Data processed, 2025

Data analysis confirms the first hypothesis digital literacy influences employee performance since the p-value equals 0.000, remaining below the 0.05 threshold, and the original sample coefficient is positive. Consequently, this hypothesis is upheld. Similarly, analysis of the second hypothesis information technology utilization influences employee performance produces a p-value of 0.000, again below the 0.05 threshold, with the original coefficient remaining positive, thus validating this hypothesis.

The analysis undertaken further supports the third hypothesis, namely, digital literacy influences performance through competence. Here, a p-value of 0.021 remains below the critical 0.05 threshold, and the coefficient is positive, warranting acceptance of this mediation assertion. Finally, investigation of the fourth hypothesis, information technology utilization influences performance through competence, yields a p-value of 0.002, falling below the 0.05 decision rule, and the coefficient maintains a positive orientation. Therefore, the fourth mediation hypothesis is also accepted.

DISCUSSION

Digital Literacy Influences Employee Performance

The results show that digital literacy is important to an employee's performance at work. Studies have shown that digital literacy boosts an employee's level of productivity and engagement. For example, Nikou and others have shown that information and digital literacy is fundamental with the use of digital technology, which leads to improved performance at an organization (Nikou et al., 2022). This is further supported by Chan and others, who found that digital literacies not only relate to but also interact with workplace digitalization, employee engagement, and an innovative culture.

There is also proof that having a higher level of digital literacy will improve an employee's relevant performance indicators in a given industry. One of the significant studies with a p-value of less than 0.001 and in that case, the relationship was significant (Widyanty et al., 2024). The findings of the study show that employees' digital literacy impacts their performance, supporting the significant value of the skills (Marsh, 2021; Widyanty et al., 2024).

Moreover, Grosseck et al., (2023) highlight the need to understand the specific skill set that includes digital literacy, a multidisciplinary form of critical thinking, and effective communication, both for school and the workplace. This creates a broad understanding of how digital literacy initiatives in workplaces can positively influence employee engagement and productivity. To summarize, enhancing digital literacy has become the top priority for improving employee performance in the virtual workplace, and multiple studies support this conclusion. In light of the accelerating challenges of a digital workplace, organizations must nurture digital literacy to develop a workforce capable of thriving amid such obstacles (Lloyd & Hicks, 2023).

Information Technology Utilization Impacts Employee Performance

The use of Information Technology (IT) in government agencies, specifically in the Lubuklinggau Office of Communication, Informatics, and Statistics, has come to attention in relation to employees' performance. Using Partial Least Squares Structural Equation Modeling (PLS-SEM), they found a significant link between IT integration and employee performance, with a p-value of 0.000, which is way lower than the conventional cutoff of 0.05. This also supports previous studies that have demonstrated the impact of IT on efficiency and productivity, especially in public service agencies (Maryadi et al., 2024).

In the scope of the Lubuklinggau agency, where digital information and communication play a central role, IT goes beyond routine functions to help improve the efficiency and engagement of civil servants in their work. Studies show that IT not only enhances performance of the jobs but also improves the organizational atmosphere for employee engagement and motivation. IT support in the organization of work becomes more and more important for government where accountability and transparency.

Also, IT integration is essential for improving productivity even in public branches, as information technology systems allow for employee optimization. Studies from different levels of government reveal that massive spending on technology has, in fact, significantly improved the operational workflow and productivity of employees. These studies further support the need to sustain and expand the application of information systems and information technology in government agencies (Maulidina & Wijanarka, 2023). Such technology-driven efforts are critical to building an agile government capable of tackling emerging challenges.

The IT solutions underscored in the paragraph above, as other branches, are directly related to employee output, productivity and performance. In the Lubuklinggau agency, the integration of advanced IT solutions has been implemented, further solidifying the notion that advanced IT solutions are critical in bolstering employee performance. There is, therefore, an investment needs to be made in technological advancement that support operational productivity not only for Lubuklinggau agency but for other civil servants in government frameworks.

Digital Literacy Influences Employee Performance Through Competence

The mediation analysis performed in this study using Partial Least Squares Structural Equation Modeling (PLS-SEM) shows that digital literacy has an indirect influence on employee performance through competence as a mediator. The analysis indicates a significant p-value of 0.021, which states that competence mediates the influence of digital literacy on employee performance. These results corroborate the body of literature that emphasizes the role of personal competencies on performance outcomes in the workplace (Putra et al., 2023).

As such, these results demonstrate that an employee's digital literacy skills will not increase employee performance by the same amount. The analysis points out that employees must also possess a certain level of competence in order to promote enhanced performance. This aligns with the previously stated notion that while digital literacy is a foundational skill, its actualized use rests in employees' competencies pertaining to technology and information ((Putra et al., 2023). The need for digital literacy and competencies that correlate with it to be

developed simultaneously points to a multifaceted balance that organizations need to streamline to improve employee performance.

Also, this research proves that there is a need to focus and adjust training and development initiatives. It also concludes that organizations must not only focus on skills training, but also on training skills that are relevant on the job. This goes along with previous studies suggesting a more coherent approach to human resource development in the digital era, as the employees' skills and qualifications are crucial to leveraging digital tools. The information provided in this case supports strategic initiatives where digital competence is integrated with performance targets in a bid to improve employee performance and organizational productivity.

To conclude, the study extends the literature by digital literacy and digital competence empirically detailing the digital literacy, digital competence and employee performance triad. Organizations must do everything possible to enhance digital literacy as part of digital transformation strategies, especially in a business environment defined by rapid technological advancements and evolving workforce demographics.

Information Technology Utilization Affects Employee Performance Through Competence

The mediation analysis carried out using Partial Least Squares Structural Equation Modeling (PLS-SEM) reveals strong proof that the adoption of information technology boosts employee performance via the mediation of employee competence with a p-value of 0.002. This p-value is significantly lower than the standard alpha cut off of 0.05, thereby supporting hypothesis H4, which claims that competence is a relevant mediating factor in the relationship between information technology use and employee performance. These findings confirm the literature supporting the deployment of technology and its performance consequences, which is well-documented that such technology is positively associated with employee productivity and competency improvement (Maryadi et al., 2024).

What is important is that these findings provide clear pathways whereby productivity can be enhanced through information technology. More specifically, it shows that technology can enhance the productivity of employees not only when there is a clear and substantial interfacing of technology with the employees' skills. This is in alignment with the previously stated propositions that productivity with information technology is best in company with training and proper employee skills (Hidayat et al., 2024; Prasetyo & Harsono, 2023). Organizations not only need to make investments on technology, but they also need to focus on investments on training and education of the people. These works indicate such partnerships provide the company with the maximum effectiveness and highlight the importance of coupling technological advancement with employee training that is responsive to the needs of the market and the technology (Maryadi et al., 2024; Odelia et al., 2023).

To wrap it up, these observations especially support the need for companies, especially those in the information world, to consider a dual focus on innovation in information technology and workforce upskilling. This dual focus will give employees the ability to perform better while creating a culture that is geared toward continuous improvement in a changing technology world (Prayogi et al., 2023). This approach is for higher employee efficiency and meeting the new business benchmarks for success in competition.

CONCLUSION

Results from this study show that digital literacy and the use of information technology are crucial in boosting the performance of employees. Both the information technology and digital literacy have a direct and significant positive impact on performance metrics; this is proven by path coefficients where p-values are significantly below the 5% threshold ($p = 0.000$). This confirms the relationships are consistent and strong. Furthermore, the study shows that

competency is a significant mediating variable in these relationships. Digital literacy, for instance, plays an indirect role in enhancing performance by improving competency ($p = 0.021$). It is the same effect on performance for information technology; it the direct impact on competency ($p = 0.002$). These mediating relationships show the role of competency is important as a secondary factor that receives digital skills and technology performance with tangible improvements. When all of these are put together the findings provide a comprehensive model of employee performance where digital skills and the use of technology have a direct positive influence and an indirect impact, among other things, by improving competency. These insights can be particularly helpful for companies trying to improve productivity in an everywhere workplace.

LIMITATION

This research is limited by its scope, focusing solely on a single regional government agency, which may restrict the generalizability of the results. Additionally, the use data limits the ability to assess causal relationships over time.

RESEARCH TRANSPARENCY AND ETHICS STATEMENTS

1. Author Contributions:

ME: Conceptualization, Methodology, Data Collection, Data Analysis,

K: Writing – Original Draft, Visualization, Review and Editing

S: Writing – Original Draft, Visualization, Review and Editing

2. Funding:

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3. Conflict of Interest:

No conflict of interest: The authors declare that they have no conflict of interest related to the research and publication of this article.

4. Research Ethics:

The study did not involve any intervention, biological specimens, vulnerable groups, or sensitive personal data. Participation was voluntary, and the confidentiality of the respondents was maintained

5. Use of Artificial Intelligence (AI):

No use of ai. The authors declare that generative ai was not used in the preparation of this article.

REFERENCES

- Adegboye, M., & Vaidhyamb, S. (2024). Health Librarians' Perceptions and Utilization of ChatGPT for Digital Literacy in Libraries. Proceedings of the Alise Annual Conference. <https://doi.org/10.21900/j.alise.2024.1636>
- Afridi, K., Turi, J. A., Zaufishan, B., & Rosak-Szyrocka, J. (2023). Impact of digital communications on project efficiency through ease of use and top management support. *Heliyon*, 9(7), e17941. <https://doi.org/10.1016/j.heliyon.2023.e17941>
- Chuang, Y. T., Chiang, H. L., & Lin, A. P. (2025). Insights from the Job Demands–Resources Model: AI's dual impact on employees' work and life well-being. *International Journal of Information Management*, 83(February), 102887. <https://doi.org/10.1016/j.ijinfomgt.2025.102887>

- Deschênes, A. A. (2024). Digital literacy, the use of collaborative technologies, and perceived social proximity in a hybrid work environment: Technology as a social binder. *Computers in Human Behavior Reports*, 13(May 2023). <https://doi.org/10.1016/j.chbr.2023.100351>
- Elassy, M., Al-Hattab, M., Tahruri, M., & Badawi, S. (2024). Intelligent transportation systems for sustainable smart cities. *Transportation Engineering*, 16(April), 100252. <https://doi.org/10.1016/j.treng.2024.100252>
- Garrido-Moreno, A., Martín-Rojas, R., & García-Morales, V. J. (2024). The key role of innovation and organizational resilience in improving business performance: A mixed-methods approach. *International Journal of Information Management*, 77(July 2023), 102777. <https://doi.org/10.1016/j.ijinfomgt.2024.102777>
- Gil-Garcia, J. R., Dawes, S. S., & Pardo, T. A. (2018). Digital government and public management research: finding the crossroads. *Public Management Review*, 20(5), 633–646. <https://doi.org/10.1080/14719037.2017.1327181>
- Grossec, G., Bran, R., & Țiru, L. G. (2023). Digital Assessment: A Survey of Romanian Higher Education Teachers' Practices and Needs. *Education Sciences*, 14(1), 32. <https://doi.org/10.3390/educsci14010032>
- Harbi, J., Cao, Y., Milantara, N., Gamin, Brian Mustafa, A., & Roberts, N. J. (2021). Understanding people–forest relationships: A key requirement for appropriate forest governance in South Sumatra, Indonesia. *Sustainability (Switzerland)*, 13(13), 1–22. <https://doi.org/10.3390/su13137029>
- Hidayat, Y. F., Kurhayadi, K., & Sahromi, S. (2024). The Influence of Competence and Motivation on Employee Performance at BKPSDM Bandung City. *Jasa (Jurnal Akuntansi Audit Dan Sistem Informasi Akuntansi)*, 8(1), 221–232. <https://doi.org/10.36555/jasa.v8i1.2507>
- Hutabarat, L., Sihombing, N. S., Herlambang, S. P., Siregar, P. N. U. S., & Sitompul, J. (2023). The Effect of Competence, Compensation, Workload, and Work Motivation Toward Employee Performance. *International Journal of Finance Economics and Business*, 2(1), 84–92. <https://doi.org/10.56225/ijfeb.v2i1.171>
- Hu, X., Zhao, R., Gao, J., Li, J.-Z., Pei, Y., Yan, X., Shao, S., Su, J., & Li, X. (2021). Relationship Between Proactive Personality and Job Performance of Chinese Nurses: The Mediating Role of Competency and Work Engagement. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.533293>
- Ionică, L. (2024). Digital Literacy and Information Dissemination in ESP Classes. *Scientific Bulletin of the Politehnica University of Timișoara Transactions on Modern Languages*, 22(1), 120–125. <https://doi.org/10.59168/wcww8375>
- Khan, N., Sarwar, A., Tan, B. C., & Khan, S. (2022). Connecting Digital Literacy in Higher Education to the 21st Century Workforce. *Knowledge Management & E-Learning an International Journal*, 46–61. <https://doi.org/10.34105/j.kmel.2022.14.004>

- Kraus, S., Durst, S., Ferreira, J. J., Veiga, P., Kailer, N., & Weinmann, A. (2022). Digital transformation in business and management research: An overview of the current status quo. *International Journal of Information Management*, 63(August 2020). <https://doi.org/10.1016/j.ijinfomgt.2021.102466>
- Listiawati, M., Hartati, S., Agustina, R. D., Putra, R. P., & Andhika, S. (2022). Analysis of the Use of LabXChange as a Virtual Laboratory Media to Improve Digital and Information Literacy for Biology Education Undergraduate Students. *Scientiae Educatia*, 11(1), 56. <https://doi.org/10.24235/sc.educatia.v11i1.10278>
- Lloyd, A., & Hicks, A. (2023). Fractured Academic Space: Digital literacy and the COVID-19 Pandemic. *Journal of Documentation*, 79(6), 1309–1324. <https://doi.org/10.1108/jd-11-2022-0253>
- Lü, G., Chen, T., & Ding, J. (2023). Research on the Construction of Digital Literacy Framework for Citizens—Comparative Analysis Based on Five International Digital Literacy Frameworks. *Frontiers in Educational Research*, 6(30). <https://doi.org/10.25236/fer.2023.063001>
- Marsh, E. (2021). Understanding the Effect of Digital Literacy on Employees' Digital Workplace Continuance Intentions and Individual Performance. 1638–1659. <https://doi.org/10.4018/978-1-7998-7297-9.ch080>
- Marthalina, M., Dione, F., & Saribulan, N. (2025). Determining Factors of Digital Public Service Management Implementation Policy at Subdistrict Level in South Jakarta City. *Jurnal Manajemen Pelayanan Publik*, 9(2), 251–275. <https://doi.org/10.24198/jmpp.v9i2.59855>