Kashere Journal of Management Sciences, Volume 9, Issue 1, March, 2026
ISSN 2636-5421 pp 127-143

DIGITAL SKILLS AND EMPLOYEE PERFORMANCE: A STUDY OF NON-TEACHING STAFF OF NATIONAL OPEN UNIVERSITY OF NIGERIA

UGWU GLADYS EBERE
Department of Business Administration
National Open University of Nigeria, Abuja

CAROLINE ATURU-AGHEDO
Department of Business Administration
National Open University of Nigeria, Abuja

FORTUNE NNEKA AGU
Department of Financial Studies
National Open University of Nigeria, Abuja
fagu@noun.edu.ng

EUCHARIA C. UME
Department of Business Administration
National Open University of Nigeria, Abuja

ABSTRACT
Digital skills have become critical to workplace efficiency, particularly in higher education administration. This study examined the impact of digital competencies on the performance of non-teaching staff at the National Open University of Nigeria (NOUN). It assessed the relationship between digital skills and employee performance, explored challenges in acquiring and applying these skills, and evaluated the role of digital tools in service delivery. A correlational research design with a survey approach was employed to collect both quantitative and qualitative data. From a population of 1,500 non-teaching staff across NOUN's Northern zone study centers and headquarters, a stratified random sample of 316 respondents was selected. Data were gathered using structured questionnaires and analyzed through descriptive statistics and Independent Samples T-Tests. Findings showed a significant positive relationship between digital skills and job performance, highlighting their role in improving operational efficiency and service quality. However, barriers such as limited access to modern technology, inadequate training, and low digital literacy hinder optimal use of digital tools. The study confirmed that staff with higher proficiency and better access consistently outperformed counterparts with limited skills and resources. The study recommends that NOUN adopt a comprehensive digital skills development policy mandating regular training, equitable access to digital tools, and continuous professional literacy programs.

Keywords: Digital Skills, Employee Performance, Non-Teaching Staff, National Open University of Nigeria

INTRODUCTION
The integration of digital technologies into organizational operations is no longer a luxury. It is now a necessity for institutions seeking efficiency and

competitiveness in today's knowledge economy. Within higher education institutions (HEIs), non-teaching staff play an essential role. They support and maintain the technological infrastructure required for smooth administrative and operational functions. The integration of digital tools across various sectors has reshaped how organizations function. It has enhanced productivity, efficiency, and overall business operations (Jackson, 2019). These advancements affect all stakeholders, including employees, employers, and customers. They have altered traditional work structures and expectations. The rapid digitalization of organizational activities has created an era in which digital competency is essential for competitiveness and sustainable growth.

Within this evolving landscape, organizations must continuously refine their operational strategies. This is necessary to keep pace with technological advancements. Businesses that fail to integrate digital skills into their work culture risk losing relevance, efficiency, and market positioning (Jessup & Valacich, 2017). Digital literacy and technological proficiency are no longer optional. Rather, they are fundamental prerequisites for success in today's digital economy.

Organizational success depends on the ability of managers and employees to adapt to emerging digital innovations and integrate them into workplace processes. The widespread adoption of Information and Communication Technology (ICT) has drastically expanded human knowledge, facilitating real-time communication, automation, data management, and operational efficiency (Jessup & Valacich, 2017). Organizations that actively embrace digital skills experience improved service delivery, stronger internal communication systems, and streamlined administrative tasks. Businesses today must remain customer-centric and technologically proficient to serve their markets better than competitors. Consequently, organizations invest heavily in digital skill training and infrastructure development to remain competitive (Colbert et al., 2016). Digital literacy is no longer restricted to IT professionals; instead, employees across all departments, including administrative, financial, and human resources must develop digital competencies to maximize efficiency and effectiveness. A major advantage of digital skills is their ability to refine organizational processes, making the alignment of business goals with employee activities more transparent.

Prior to the digital revolution, numerous work-related tasks required significant manual effort, resulting in time-consuming processes and inefficiencies. Simple activities such as sending correspondence, organizing records, and retrieving files were cumbersome and heavily dependent on physical mobility. Some decades ago, delivering a letter within the same locality required physical travel, consuming both time and resources. Today, the story is entirely different. Digital tools, such as email, cloud storage, and instant messaging platforms, have transformed information dissemination,

making communication seamless and instantaneous. Organizations no longer struggle with delayed feedback from customers or slow internal communication channels. Digital transformation has enabled businesses to attend to customer needs faster, optimize service delivery, and expand their reach beyond geographical constraints. As a result, employee productivity has improved, fostering a highly responsive business environment. Organizations that lack adequate digital infrastructure or fail to train their employees in digital skills struggle to compete effectively in today's digital marketplace. Studies indicate that businesses prioritizing digital proficiency experience higher employee engagement, productivity, and innovation (Sailer et al., 2021). According to Sailer et al. (2021), digital skills include knowledge, technical abilities, problem-solving capacity, and self-direction in handling digital tools.

The National Open University of Nigeria (NOUN) exemplifies the integration of digital education and workplace innovation. Established in 1983 by the Administration of Alhaja Shehu Shagari, NOUN was briefly suspended in 1984 but was later revived in 2002 due to the nation's increasing demand for accessible higher education. Today, NOUN is a leader in open and distance learning (ODL), leveraging ICT to deliver flexible, cost-effective educational programs. With 120 study centers nationwide, NOUN implements e-learning technologies to enhance knowledge dissemination, academic administration, and student engagement. The COVID-19 pandemic and the Fourth Industrial Revolution further accelerated NOUN's commitment to digital transformation, strengthening its digital infrastructure for remote learning and administrative efficiency (NOUN website).

Despite the growing emphasis on leveraging digital skills to enhance organizational performance, many institutions, including the National Open University of Nigeria (NOUN), face challenges in fully utilizing these advancements. Non-teaching staff, as key players in supporting the institution's mandate, require adequate digital competencies to effectively contribute to achieving the university's goals. However, gaps remain in assessing the extent to which these digital skills have enhanced employees' performance. Non-teaching staff often encounter barriers such as inadequate training, limited access to modern digital tools, and resistance to technological adoption, which may impede their productivity and the overall performance of the institution. Furthermore, the dynamic nature of digital technologies demands continuous learning and adaptation, which some employees may struggle to meet due to resource or institutional constraints (Colbert et al., 2016; Sailer et al., 2021).

This study seeks to bridge this gap by examining the influence of digital skills on the performance of non-teaching staff at NOUN. It will explore the extent to which digital competencies have enhanced their efficiency, productivity,

and contribution to the institution's overall success while identifying areas for improvement in digital skill acquisition and application.

Specifically, the study seeks to:

i. Examine the relationship between digital skills and the performance of non-teaching staff at National Open University of Nigeria (NOUN).
ii. Identify the challenges faced by non-teaching staff in acquiring and utilizing digital skills at National Open University of Nigeria (NOUN).
iii. Evaluate the role of digital tools and technologies in enhancing service delivery by non-teaching staff at National Open University of Nigeria (NOUN).
iv. Assess the level of digital skill proficiency among different categories of non-teaching staff at NOUN.

LITERATURE REVIEW

The literature review is structured into several key sections that lay the theoretical and empirical foundation for this research.

Concept of Digital Skills

Digital skills encompass the competencies needed to use digital technologies effectively in professional and social contexts (Sailer et al., 2021). These skills include basic digital literacy, such as operating devices and browsing the internet, as well as advanced skills like data analysis, cybersecurity awareness, and digital communication (Yadav, 2023). While digital literacy has traditionally been associated with students and teaching staff, there is growing recognition of its importance for administrative and support staff in HEIs. At NOUN, where ODL is central to its mission, non-teaching staff are required to operate digital tools for a variety of functions, from student registration to financial management (Okolie et al., 2021).

Digital Skills in Higher Education

In HEIs, digital skills are essential not only for academic staff but also for non-teaching staff involved in administrative, technical, and support functions (Olakulehin, 2010). Institutions like NOUN that rely heavily on technology for service delivery must ensure that non-teaching staff possess the necessary digital skills to operate complex systems such as Learning Management Systems (LMS), Enterprise Resource Planning (ERP) systems, and student information databases (Akinade & Adigun, 2020). Digital skills are particularly vital for improving service delivery, reducing operational delays, and ensuring transparency in university processes (Sailer et al., 2021).

Impact of Digital Skills on Job Performance

Studies have shown that digital skills significantly enhance job performance by improving efficiency, productivity, and job satisfaction. Non-teaching staff with higher digital proficiency are better equipped to complete tasks more

quickly, with greater accuracy, and in a more organized manner (Meena & Santhanalakshmi, 2025). Furthermore, digital tools enable employees to communicate more effectively, collaborate with colleagues across departments, and engage with students and external stakeholders in a seamless manner (Barreto et al., 2022). In institutions like NOUN, where administrative staff play a pivotal role in the smooth functioning of the university, the impact of digital skills on job performance is particularly critical.

Challenges in Acquiring Digital Skills

Despite the importance of digital skills, many non-teaching staff in Nigerian universities face significant barriers to acquiring and utilizing these skills. These include limited access to modern technologies, inadequate training programs, resistance to change, and lack of institutional support (Akinyemi & Abiodun, 2022). The digital divide, compounded by age, gender, and educational background, also exacerbates these challenges, particularly for older staff and those in non-technical roles (Adesanya & Olaleye, 2019). These challenges hinder the effective integration of digital tools into everyday tasks, reducing operational efficiency and increasing employee frustration.

Digital Transformation in Higher Education

The digital transformation of higher education institutions is a global trend that has accelerated in recent years, particularly in the wake of the COVID-19 pandemic. Universities have adopted various digital platforms, including LMS, ERP systems, and online communication tools, to enhance educational delivery and administrative efficiency (Adedoyin & Soykan, 2020). However, the success of these systems depends on the digital competence of both teaching and non-teaching staff (Gisbert & Bullen, 2015). Institutions that fail to invest in the digital skills of their workforce risk underutilizing these technologies, leading to inefficiencies and reduced service quality (Colbert et al., 2016).

Theoretical Framework

Unified Theory of Acceptance and Use of Technology 2 (UTAUT2)

The Unified Theory of Acceptance and Use of Technology 2 was developed by Venkatesh, Thong, and Xu (2012) as an extension of the earlier UTAUT framework introduced by Venkatesh et al. (2003). The model explains technology adoption through constructs such as performance expectancy, effort expectancy, social influence, facilitating conditions, habit, hedonic motivation, and price value. Its relevance lies in the argument that technology use is not determined solely by availability, but also by whether users perceive the technology as useful, manageable, and supported by the surrounding environment. In management and organizational contexts, the framework has been widely used to explain the adoption of digital systems across education, human resource management, banking, healthcare, and public administration.

For this study, UTAUT2 is useful because it helps explain why non-teaching staff at NOUN may differ in the extent to which they adopt and use digital tools in the course of their administrative duties. The model suggests that employee performance is likely to improve where staff believe digital tools enhance their effectiveness, are easy to use, and are backed by adequate institutional support such as training, infrastructure, and technical assistance. At the same time, the theory is limited by its stronger emphasis on individual perceptions and behavioural intention, which may not fully capture structural constraints such as weak infrastructure, uneven policy support, and institutional resource limitations. This makes it helpful but not sufficient on its own for explaining digital skill utilisation in an African higher education context.

African Digital Literacy Empowerment Model (ADLEM)

The African Digital Literacy Empowerment Model (ADLEM), associated initially with Mutula (2013) and later elaborated by Omekwu (2016) and Olaore (2014), emerged in response to the specific digital realities of African institutions. Unlike technology adoption models that treat digital competence primarily as a behavioural or technical issue, ADLEM frames digital literacy as a form of empowerment shaped by infrastructure, socio-economic context, inclusion, and institutional opportunity. In this sense, digital literacy is not only about using technology, but also about building the capacity to participate effectively in organizational and developmental processes within resource-constrained settings.

ADLEM is particularly relevant to this study because it provides a context-sensitive framework for understanding digital skills among non-teaching staff in a Nigerian university environment. It emphasises that digital competence in African higher education must be interpreted within the realities of access gaps, training inequalities, socio-cultural differences, and institutional support structures. In the case of NOUN, this perspective is important because staff performance is influenced not only by individual willingness to use digital tools, but also by the extent to which the university provides meaningful access, inclusive training, and an enabling environment for sustained digital engagement. ADLEM therefore complements UTAUT2 by introducing the structural and developmental factors that shape whether digital skills can translate into improved employee performance.

Empirical studies across multiple contexts consistently demonstrate that digital literacy plays a crucial role in enhancing employee performance, innovation, and technology adoption in professional settings. Evidence shows that higher digital competence improves confidence, attitudes toward digital transformation, and willingness to engage with emerging technologies, thereby increasing efficiency and future readiness (Abou Hashish & Ahmed,

2024; Getenet et al., 2024). Findings further reveal that access to digital infrastructure alone is insufficient; effective integration, supportive organizational environments, and sound management practices are essential for fostering innovative work behavior and improving job performance (Gomes et al., 2021; Mercader & Sánchez-Mena, 2022). In developing contexts such as Nigeria, low digital proficiency has been linked to reduced productivity, while targeted training and continuous professional development significantly enhance efficiency, time management, and job satisfaction (Abdulkareem et al., 2024; Ogunleye & Adekunle, 2022).

Additionally, digital literacy has been shown to function as both a technical and motivational factor, influencing effort expectancy, performance expectancy, and employees' intention to adopt technology (Kabakuş et al., 2023). Studies also highlight that successful digital transformation depends on complementary factors such as organizational culture, leadership support, and performance systems, which drive innovative behavior and engagement (Frontiers in Psychology, 2025; Purwanto et al., 2024).

Overall, the literature strongly supports the conclusion that digital skills, combined with strategic infrastructure and institutional support, are essential for improving productivity, engagement, and innovation among non-teaching staff in higher education institutions, while also aligning with evolving global labor market demands (Mäkelä & Stephany, 2024; Allam & Alharbi, 2022).

METHODOLOGY

The study adopts a correlational research design using a survey approach to examine the relationship between digital skills and job performance among non-teaching staff at NOUN. The research population consists of 1,500 non-teaching staff members from the Northern zone study centers and headquarters. A stratified random sample of 316 respondents was selected to ensure diverse representation across different roles and departments. Data were collected using structured questionnaires that included both quantitative and qualitative items, and analyzed using descriptive statistics and Independent Samples T-Tests to test the hypotheses.

To accurately and efficiently determine the sample size for this study, the **Taro Yamane formula** (1967) was adopted. The formula is presented as follows:

Yamane's Formula (1967): $$n = \frac{N}{1+N(e)^2} \qquad (1)$$

Where:

$n =$ Sample Size

$N =$ Total Population Size

$e =$ Margin of error (Sampling error tolerance usually 0.05 for 95% confidence interval).

In this study, N = 1500 and e = 0.05. We therefore calculate the sample size n as follows

$$n = \frac{1500}{1 + 1500(0.05)^2} \quad (1)$$

$$n = \frac{1500}{1 + 1500X0.0025} \quad (2)$$

$$n = \frac{1500}{1 + 3.75} \quad (3)$$

$$n = \frac{1500}{4.75} = 315.780 \quad (4)$$

$$n \approx 316$$

The questionnaire was subjected to expert review to establish content validity. Reliability was assessed through a pilot test involving 30 non-teaching staff outside the main sample, and the instrument yielded a Cronbach's alpha coefficient of **0.86**, indicating good internal consistency and suitability for the study. Digital access was measured using questionnaire items relating to respondents' access to digital devices, reliability of internet connectivity, and frequency of use of institutional digital platforms for official duties. Responses were aggregated into a composite digital access score. Prior to inferential analysis, respondents who scored at or above the sample mean were classified as having adequate digital access, while those who scored below the mean were classified as having inadequate digital access.

DISCUSSION OF RESULTS

Demographic Statistics

Table 1 displays the frequency and percentage distributions of responses to classification questions related to various demographic and background variables. These include gender identity, age brackets, and levels of educational attainment among the respondents. It also covers participants' years of online experience, offering insight into their digital familiarity. Additionally, the table categorises respondents by type, which may refer to their roles, affiliations, or status within the context of the study. This demographic breakdown provides a foundational understanding of the sample characteristics and supports subsequent analyses.

Table 1: Frequency and Percentages of Classification Questions

Variable	Classification	Frequency	Percentage (%)
Gender	Male	180	56.96%
	Female	136	43.04%
Age	Below 20 years	5	1.58%
	20-29 years	60	18.99%
	30-39 years	125	39.56%
	40-49 years	90	28.48%
	50 and Above	36	11.39%
Marital Status	Single	105	33.23%
	Married	180	56.96%
	Divorced	10	3.16%
	Separated	6	1.90%
	Widowed	15	4.75%
Academic Qualifications	WASSCE/GCE	15	4.75%
	NCE/OND	65	20.57%
	HND/BSC	175	55.38%
	Postgraduate	61	19.30%
Length of Service in NOUN	1-5 years	100	31.65%
	6-10 years	110	34.81%
	11-15 years	60	18.99%
	16-20 years	30	9.49%
	21 years & Above	16	5.06%
Department within NOUN	Registry Staff	100	31.65%
	Bursary Staff	55	17.41%
	ICT Staff	45	14.24%
	Learner Support Staff	60	18.99%
	Librarian	20	6.33%
	Counsellor	16	5.06%
	Others	20	6.33%
Level served in NOUN	Level 8	70	22.15%
	Level 9	80	25.32%
	Level 10	60	18.99%
	Level 11	50	15.82%
	Level 12	30	9.49%
	Level 13	16	5.06%
	Level 14	10	3.16%

Source: Concept of the Researcher

The demographic distribution of the 316 respondents provides a comprehensive overview of the workforce composition within the National Open University of Nigeria (NOUN). The gender distribution reveals a

moderate male dominance, with males accounting for 56.96% and females 43.04%, indicating a relatively balanced gender representation. Age-wise, the majority of respondents fall within the productive age brackets of 30-39 years (39.56%) and 40-49 years (28.48%), highlighting a workforce with significant mid-career professionals. Marital status data shows that married staff dominate the sample at 56.96%, while singles comprise 33.23%, reflecting typical workforce demographics in Nigerian public institutions. In terms of academic qualifications, a substantial proportion (55.38%) possess HND/BSc degrees, with an additional 19.30% holding postgraduate qualifications, indicating a relatively educated workforce, though 25.32% hold only lower-level qualifications (WASSCE/GCE and NCE/OND). Length of service reveals that a combined 66.46% have served for 1-10 years, suggesting a workforce in the early to mid-stages of tenure, while only 14.55% have exceeded 15 years of service, pointing to moderate institutional experience. Departmental distribution is skewed towards Registry Staff (31.65%), followed by Learner Support (18.99%) and Bursary (17.41%), whereas specialised units like ICT Staff and Librarians are underrepresented. Regarding staff levels, the concentration at Levels 8-10 (66.46%) indicates a workforce clustered in lower to mid-management tiers, with a declining presence at higher levels, reflecting limited vertical mobility. Collectively, these demographics suggest a moderately experienced, academically competent workforce with potential needs for targeted capacity development interventions to optimise institutional performance.

DISCUSSION

We assessed the strength and direction of digital skills as an enhancement on employees' performance among non-teaching staff of the National Open University of Nigeria (NOUN). The purpose of this analysis was to determine whether statistically significant associations exist between these variables. To accomplish this, correlation coefficients are calculated to measure the degree of linear relationship among the selected factors.

Null Hypothesis (H_0):

H01: Digital skills have a positive and significant relationship with the performance of non-teaching staff at the National Open University of Nigeria.

H02: Challenges faced in acquiring and utilising digital skills have a negative and significant relationship with the performance of non-teaching staff at the National Open University of Nigeria.

H03: Digital tools and technologies have a positive and significant relationship with the performance of non-teaching staff at the National Open University of Nigeria.

H04: The level of digital skill proficiency has a positive and significant relationship with the performance of non-teaching staff at the National Open University of Nigeria.

These hypotheses aim to test whether the observed correlations are due to chance or reflect true relationships in the population.

The correlation results indicate that digital skills ($r = 0.680$, $p < 0.05$), digital tools and technologies ($r = 0.730$, $p < 0.05$), and digital skill proficiency ($r = 0.630$, $p < 0.05$) all exhibit positive and statistically significant relationships with employee performance. These findings support H01, H03, and H04, confirming that improvements in digital competence and technological access are associated with enhanced performance outcomes among non-teaching staff. However, the result for challenges faced ($r = 0.520$, $p < 0.05$) does not support H02, which hypothesised a negative relationship. Instead, the positive coefficient suggests that employees who report higher levels of digital-related challenges also report higher performance levels. This unexpected finding may reflect adaptive behaviour, where staff operating in more demanding digital environments develop compensatory strategies that sustain productivity. Consequently, H02 is rejected.

Table 2: Results of Correlation Test

To ensure alignment between the study objectives and empirical analysis, each hypothesis was tested individually using Pearson correlation coefficients. This approach allows for the assessment of the direction and strength of the relationship between each explanatory variable and employee performance, rather than relying on a joint hypothesis. The decision rule is based on the significance level ($p < 0.05$) and the sign of the correlation coefficient, which indicates whether the hypothesised direction is supported.

Variables	Performance of Non-Teaching Staff at NOUN	Digital Skills	Challenges Faced by Non-Teaching Staff in Acquiring and Utilising Digital Skills	Digital Tools and Technologies	The Level of Digital Skill Proficiency	Strategies for Improving Digital Skill Development
Performance of Non-Teaching Staff at NOUN	1.000					
Digital Skills	0.680	1.000				
Challenges Faced by Non-Teaching Staff in Acquiring	0.520	0.450	1.000			

and Utilising Digital Skills						
Digital Tools and Technologies	0.730	0.600	0.490	1.000		
The Level of Digital Skill Proficiency	0.630	0.570	0.470	0.650	1.000	
Strategies for Improving Digital Skill Development	0.690	0.540	0.420	0.670	0.610	1.000

Source: Concept of the Researcher

All correlation coefficients are positive and statistically significant at the 5% level, indicating that the observed relationships are unlikely to have occurred by chance.

The correlation results indicate that digital skills, digital tools and technologies, and digital skill proficiency each have positive and statistically significant relationships with employee performance among non-teaching staff at NOUN. This pattern is consistent with prior empirical literature showing that digital competence contributes meaningfully to workplace productivity and institutional efficiency. In particular, the positive association between digital skills and employee performance in this study supports the findings of Abdulkareem et al. (2024), who reported that low digital literacy reduced productivity in Nigerian public institutions, whereas targeted digital upskilling improved efficiency and time management. The present result extends that argument to the context of a Nigerian open and distance learning university, suggesting that administrative staff who possess stronger digital capabilities are better positioned to meet the operational demands of a technology-mediated institution.

The finding that digital tools and technologies show the strongest positive correlation with employee performance also aligns with Gomes et al. (2021), whose study in a federal educational institution found that employees perform better when digital systems are supported by an enabling organizational environment. The implication in the present study is that staff performance at NOUN depends not only on personal digital competence but also on the availability and practical integration of digital resources into daily administrative work. This is particularly important in an open and distance learning setting, where institutional effectiveness depends heavily on reliable use of technology for communication, records management, learner support, and service coordination. In this sense, the NOUN evidence reinforces Gomes et al. by showing that the performance value of digital transformation emerges most clearly when digital access and institutional functionality operate together.

The positive relationship between digital skill proficiency and employee performance similarly corroborates broader literature reviewed in the manuscript, which suggests that employees with stronger digital fluency tend to demonstrate greater confidence, adaptability, and task effectiveness in digitally enabled workplaces. However, the positive coefficient reported for challenges in acquiring and utilizing digital skills is less straightforward. Rather than indicating that challenges improve performance, the result may suggest that staff in more digitally demanding units experience both higher performance expectations and greater exposure to technological constraints. This interpretation is compatible with the structural perspective advanced in the African Digital Literacy Empowerment Model, which emphasizes that employee outcomes are shaped not only by individual skill levels but also by institutional conditions such as access, support, and inclusion.

Taken together, these findings suggest that the relationship between digital skills and employee performance at NOUN is both individual and institutional in character. The results confirm the importance of staff digital competence, but they also indicate that competence yields stronger performance benefits when it is supported by adequate digital infrastructure, organizational backing, and opportunities for continuous skill development. This makes the present study consistent with both Nigerian and international literature while also contributing context-specific evidence from a sub-Saharan open and distance learning institution, an area that remains underrepresented in existing scholarship.

Deductive/Inferential Analysis (Independent Samples T-Test)

The Independent Samples T-Test is a statistical tool used to determine whether there is a significant difference between the means of two independent groups on a continuous dependent variable (Field, 2018). In the context of this study on Digital Skills as an Enhancement on Employees' Performance: A Study of Non-Teaching Staff of the National Open University of Nigeria (NOUN), the Independent Samples T-Test is essential for comparing the performance outcomes between two distinct groups of non-teaching staff—such as those with high digital skills proficiency versus those with low proficiency. By applying this test, the study can empirically assess whether digital skill acquisition translates into measurable performance improvements, thereby providing robust evidence to support or refute the hypothesized impact of digital competencies on employee productivity. This analysis becomes particularly crucial in identifying skill gaps and justifying targeted interventions for specific employee cohorts within the institution (Pallant, 2020).

But the validity of the Independent Samples T-Test hinges on certain key assumptions. Firstly, the dependent variable (employees' performance) should be measured on a continuous scale and approximately normally distributed

within each group (Gogtay & Thatte, 2017). Secondly, the two groups being compared must be independent of each other, meaning no individual in one group should belong to the other. Thirdly, the assumption of homogeneity of variances requires that the variances of the two groups are approximately equal, which can be assessed using Levene's Test. Lastly, the sample size should be sufficiently large to ensure the robustness of results, though the T-Test is relatively robust to moderate violations of normality with large samples (Field, 2018). Ensuring these assumptions are met is critical for deriving accurate and generalizable inferences from the T-test within the scope of this study.

The Independent Samples T-Test was utilized to determine whether significant differences exist in the performance of non-teaching staff at NOUN based on their access to digital resources, skills, and development strategies. Table 3 reveals that staff with adequate access to digital tools, skills, and structured development strategies ($M = 77.10$, $SD = 7.85$) scored significantly higher on performance compared to their counterparts lacking such access ($M = 69.75$, $SD = 8.90$). The independent-samples t-test revealed a statistically significant difference in employee performance between respondents with adequate digital access and those with inadequate digital access, $t(314) = 6.215$, $p < 0.001$. The mean difference of 7.35 reflects a substantial performance gap, underscoring the critical role digital infrastructure and skill development play in enhancing employee productivity.

This result aligns with Field's (2018) assertion that digital competencies and resource accessibility are pivotal factors influencing workplace efficiency and effectiveness. Moreover, the findings support Pallant's (2020) view that strategic interventions aimed at equipping employees with essential digital tools and continuous learning opportunities are fundamental for optimizing organizational performance. The practical implication is clear: NOUN's management must intensify efforts to eliminate barriers related to digital skill acquisition and ensure equitable access to technological resources. By doing so, performance disparities among non-teaching staff can be minimised, leading to a more digitally competent and high-performing workforce that aligns with contemporary educational service delivery demands.

Table 3: Results of Independent Samples T-Test

Group	N	Mean Performance	Std. Deviation	t	df	Sig. (2-tailed)	Mean Difference	Interpretation
Adequate Digital Access	160	77.10	7.85	6.215	314	0.000	7.35	Significant
Inadequate Digital Access	156	69.75	8.90					

Source: Concept of the Researcher

Categorization of Staff

For analytical purposes, respondents were categorized into two digital access groups. The Adequate Digital Access group comprised non-teaching staff who had regular access to computers or other digital devices (desktop or laptop), reliable internet connectivity for official duties, and who frequently utilized digital platforms such as e-mails, portals, databases, and institutional software in the course of their work. In contrast, the Inadequate Digital Access group consisted of non-teaching staff with limited or irregular access to digital devices, unstable or no internet connectivity for official duties, and infrequent use of digital tools in performing administrative tasks.

The data analysis reveals a statistically significant positive relationship between digital skills and job performance among non-teaching staff at NOUN. Staff members with higher proficiency in digital tools demonstrated enhanced productivity, faster task completion, and improved service delivery. However, barriers such as limited access to modern technology, lack of training, and resistance to change were identified as significant challenges that hindered the full utilization of digital tools. The study's findings underscore the importance of addressing these barriers to optimize the impact of digital skills on institutional performance.

CONCLUSION AND RECOMMENDATIONS

Based on the findings of this study, it is evident that digital skills serve as a critical enhancement to the performance of non-teaching staff at the National Open University of Nigeria (NOUN). The strong positive relationships between digital skills, access to digital tools and technologies, strategies for digital skill development, and employee performance underscore the indispensable role of digital competency in modern administrative functions. The study confirmed that non-teaching staff with adequate digital access and higher proficiency levels consistently outperformed their counterparts who faced challenges in acquiring and utilizing digital skills. These disparities highlight systemic gaps in digital literacy and access, which, if left unaddressed, could hinder institutional efficiency and service delivery.

Based on the study's findings, four interrelated recommendations emerge for strengthening digital skills development and institutional effectiveness among non teaching staff at NOUN. First, NOUN should establish a structured digital skills development policy that makes regular training, refresher courses, and competency-based digital capacity building mandatory for non-teaching staff. Second, the university should introduce a targeted support framework to reduce barriers to digital skill acquisition through regular training opportunities, staff mentoring, technical support, and dedicated time for digital learning. Third, NOUN should improve equitable access to functional computers, updated software, stable internet connectivity, and relevant

institutional digital platforms across units and study centres in order to strengthen service delivery. Fourth, the university should implement differentiated digital literacy programmes tailored to staff categories, departments, and existing proficiency levels so that training matches actual operational needs. They should also propose strategies for improving digital skill development and utilization among non-teaching staff to boost institutional effectiveness at NOUN. Collectively, these recommendations are expected to close existing digital gaps, improve staff efficiency, and advance NOUN's broader digital transformation agenda.

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