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**DIGITAL ADMINISTRATIVE COMPETENCE OF HEAD TEACHERS AND  
INSTITUTIONAL EFFECTIVENESS IN PUBLIC PRIMARY SCHOOLS IN ILESA  
EAST LOCAL GOVERNMENT AREA, OSUN STATE**

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**Abstract**

*Despite global and national ICT reforms aimed at modernizing educational administration, the impact of digital technologies on effective school leadership in Nigerian primary schools, especially in local government areas, remains underexplored. This study therefore investigated the digital administrative competence of head teachers and its relationship with institutional effectiveness in public primary schools in Ilesa East Local Government Area, Osun State, Nigeria. Adopting a descriptive survey research design, the study targeted all 150 head teachers across public primary schools in the area. A stratified sampling technique based on existing school zones (Ilesa Zones I–V) ensured proportional representation of respondents. Data were collected using a validated and reliable questionnaire titled Digital Administrative Competence and Institutional Effectiveness Questionnaire (DACIEQ), which yielded a reliability coefficient of 0.75 using the test–retest method. Descriptive statistics (mean and standard deviation) were used to answer the research questions, while One-Way Analysis of Variance (ANOVA) was used to test the hypothesis at the 0.05 level of significance. The findings revealed that head teachers exhibited a low level of digital administrative competence (overall mean = 1.13), characterized by limited proficiency in using digital tools for record-keeping, communication, planning, and decision-making, compounded by inadequate formal training and insufficient digital resources in schools. Despite this deficiency, a positive relationship was established between digital administrative competence*

*and institutional effectiveness (overall mean = 2.71), indicating that the use of digital tools improves administrative efficiency, transparency, stakeholder communication, and data-driven decision-making. Furthermore, the ANOVA result showed a significant difference in institutional effectiveness among schools led by head teachers with varying levels of digital administrative competence ( $F = 125.78, p < 0.05$ ), suggesting that schools led by digitally competent head teachers demonstrate higher levels of institutional effectiveness. The study concludes that strengthening head teachers' digital capacity through targeted professional training, provision of ICT infrastructure, and continuous technical support is essential for translating national ICT reforms into tangible improvements in school administration and institutional performance. The study therefore recommends that government and educational authorities should enhance the digital competence of head teachers through regular capacity-building programs, provision of adequate digital resources, sustained technical support and supervision, and the integration of digital administrative competence into leadership evaluation and promotion criteria to improve institutional effectiveness in public primary schools.*

**Keywords:** Digital Administrative Competence, Institutional Effectiveness, Head Teachers, Public Primary Schools

## Introduction

Globally, the educational landscape is undergoing a profound transformation driven by the Fourth Industrial Revolution and the emergence of Education 4.0, which emphasizes the integration of digital technologies into all aspects of teaching, learning, and institutional management. Beyond instructional innovation, digitalization has significantly reshaped administrative systems through the adoption of e-governance frameworks that enhance efficiency, transparency, accountability, and inclusivity in public service delivery. In the educational sector, e-governance refers to the application of Information and Communication Technologies (ICT) to streamline administrative processes, improve data accessibility, and optimize resource allocation within institutions (Maharfudeen-Isa & Amodu, 2025).

This transformation includes digital student enrolment systems, electronic staff recruitment processes, automated examination management, digitized record-keeping, adaptive learning platforms, and performance analytics tools, all of which reduce bureaucratic inefficiencies and minimize human errors (Shidawa & Opabunmi, 2026). The global push for digital transformation aligns with the United Nations Sustainable Development Goal 4 (SDG 4), which advocates inclusive, equitable, and quality education supported by modernized educational management systems responsive to technological advancement (UNESCO, 2021). Consequently, digital

administrative competence has become a defining feature of effective educational leadership worldwide.

In Nigeria, the integration of ICT into educational governance has gained increased policy attention. The National Policy on Education and the Universal Basic Education (UBE) Act emphasize the incorporation of ICT into school administration and curriculum delivery as mechanisms for improving transparency, access, and efficiency (Federal Republic of Nigeria, 2014). In recent years, federal initiatives such as the National EdTech Strategy and the integration of NgREN–TERAS into tertiary institutions further demonstrate Nigeria’s commitment to building a digitally responsive education system (Federal Ministry of Information and National Orientation, 2025a; 2025b).

However, despite these reforms, implementation remains uneven across regions. Studies reveal disparities between urban districts with strong digital infrastructure and rural districts struggling with poor internet penetration, limited access to digital tools, and low digital literacy among administrators (Maharfudeen-Isa & Amodu, 2025). Organizational resistance to change, inadequate professional development, and insufficient political will further constrain sustainable digital transformation (Maharfudeen-Isa & Amodu, 2025; Oshowole, 2024). Institutional theory explains that adoption of digital governance practices may sometimes be driven by coercive government mandates, mimetic imitation of successful models, or normative professional pressures rather than genuine readiness or capacity (Maharfudeen-Isa & Amodu, 2025). This dynamic creates a tension between legitimacy and efficiency, leaving gaps between policy formulation and practical implementation.

At the basic education level, these implementation challenges are particularly evident in public primary schools, where structural and administrative deficiencies persist. Reports have highlighted systemic issues such as inadequate infrastructure, ghost teachers, poor supervision, weak accountability systems, overcrowded classrooms, and insufficient funding, all of which undermine institutional effectiveness (Punch Newspapers, 2025; Shittu, 2025). While digital tools have been introduced in some schools, emphasis has often focused on student access to devices rather than strengthening the administrative competence of school leaders (Ololube, 2020). In Osun State, and specifically in Ilesa East Local Government Area, public primary schools operate within environments characterized by bureaucratic constraints and infrastructural limitations. Observations suggest that many head teachers continue to rely on manual record-keeping and traditional administrative processes, which may delay reporting to the State Universal Basic Education Board (SUBEB) and hinder timely decision-making (Oluwatayo, 2019). These contextual realities raise concerns about whether national ICT reforms are effectively translating into improved institutional performance at the grassroots level.

The head teacher occupies a central position in addressing these challenges, serving as the chief executive officer responsible for planning, organizing, coordinating, directing, and controlling school resources to achieve educational objectives (Oladimeji, Akanbi, Abdullahi, & Abdulrauf, 2024). Their duties extend across instructional leadership, staff personnel management, student administration, financial management, community relations, and policy implementation (Ezeugbor, 2017). Effective administration requires not only formal qualifications such as a minimum of the Nigeria Certificate in Education or a Bachelor's degree in Education and professional certification from the Teachers Registration Council of Nigeria but also leadership competencies that promote collaboration, discipline, motivation, and accountability (Oladimeji, Akanbi, Abdullahi, & Abdulrauf, 2024). Research demonstrates that strong administrative leadership significantly enhances teacher job performance and overall school effectiveness (Ezepue, Nwachukwu, & Umeano, 2021).

In the digital era, these leadership responsibilities increasingly require digital administrative competence, including the ability to manage electronic records, utilize data-driven decision-making tools, coordinate digital communication platforms, and oversee online reporting systems. Empirical evidence indicates that principals' digital leadership competencies positively influence institutional development and organizational efficiency (Okunlola & Naicker, 2025), while digital technology adoption in school leadership is associated with improved administrative effectiveness and stakeholder engagement (Okunlola, 2024). Therefore, in the context of persistent structural challenges and evolving digital reforms, examining the digital administrative competence of head teachers and its relationship with institutional effectiveness in public primary schools in Ilesa East Local Government Area becomes both timely and necessary.

Despite the recognized importance of digital administrative competence in modern school management, its implementation in public primary schools in Ilesa East remains underexplored. Head teachers often lack the necessary skills and resources to effectively utilize digital tools for administrative tasks, which may negatively affect institutional effectiveness. This raises critical questions about the level of digital administrative competence among head teachers and its impact on institutional effectiveness. Addressing these gaps is essential to fostering inclusive and effective school administration in Ilesa East.

The main purpose of this study is to assess the digital administrative competence of head teachers and institutional effectiveness in public primary schools in Ilesa East Local Government Area, Osun State. Specifically, the study aims to:

- i. To assess the level of digital administrative competence among head teachers in public primary schools in Ilesa East.

- ii. To determine the relationship between digital administrative and institutional effectiveness in public primary schools competence.
- iii. What differences exist in institutional effectiveness among schools led by head teachers with low, moderate, and high levels of digital administrative competence?

The following research questions guided the study:

1. What is the level of digital administrative competence among head teachers in public primary schools in Ilesa East?
2. What is the relationship between digital administrative competence and institutional effectiveness in public primary schools?

This null hypothesis was tested at a 0.05 level of significance:

**H<sub>01</sub>:** There is no significant difference in institutional effectiveness among schools led by head teachers with low, moderate, and high levels of digital administrative competence.

## Methodology

The study adopted a descriptive survey research design. The target population comprised 150 head teachers from public primary schools in Ilesa East Local Government Area. To ensure adequate representation of respondents across the study area, a stratified sampling technique was employed. The stratification was based on the existing school zones within the Local Government Area, which include Ilesa Zone I, Ilesa Zone II, Ilesa Zone III, Ilesa Zone IV, and Ilesa Zone V. These zones served as the strata for the study. From the total population of 150 head teachers, the samples were proportionally distributed across the five zones to ensure fair representation. Accordingly, 30 head teachers were selected from Ilesa Zone I, 28 from Ilesa Zone II, 32 from Ilesa Zone III, 29 from Ilesa Zone IV, and 31 from Ilesa Zone V. This proportional allocation ensured that the characteristics of each zone were adequately reflected in the sample used for the study. Data were collected using a structured and validated questionnaire developed by the researchers, titled the Digital Administrative Competence and Institutional Effectiveness Questionnaire (DACIEQ). The instrument was designed on a 4-point Likert-type scale. Content validity was established through expert review by two specialists in educational management and primary education, who examined the items for clarity, relevance, and adequacy in measuring the variables under investigation. The reliability of the instrument was determined using the test-retest method, which yielded a reliability coefficient of 0.75, indicating an acceptable level of internal consistency. The data collected were analyzed using mean scores and standard deviations. The Likert scale ranged from 1 (Strongly Disagree) to 4 (Strongly Agree), with a criterion mean score of 2.50 used as the

decision benchmark for interpreting respondents' responses. Also, One-Way Analysis of Variance (ANOVA) was used to test null hypothesis and the significance level was set at 0.05.

## Results

**Research Questions 1:** What is the level of digital administrative competence among head teachers in public primary schools in Ilesa East?

**Table 1:** Level of Digital Administrative Competence Among Head Teachers

S/N	Item Description	Mean	S.D	Remarks
1	I am proficient in using digital tools for record-keeping.	1.15	0.12	Disagree
2	I regularly use digital platforms for communication.	1.20	0.15	Disagree
3	I have received formal training on digital tools.	1.18	0.20	Disagree
4	I use digital tools for planning and decision-making.	1.10	0.25	Disagree
5	My school provides adequate digital resources.	1.05	0.30	Disagree
	Overall Mean Weight	1.13		Low Competence

The data in Table 1 reveal that the level of digital administrative competence among head teachers in public primary schools in Ilesa East Local Government Area is low. All items recorded mean scores well below the criterion mean of 2.50, indicating disagreement among respondents regarding their proficiency and use of digital tools. Specifically, head teachers disagreed that they are proficient in using digital tools for record-keeping (Mean = 1.15, SD = 0.12), regularly use digital platforms for communication (Mean = 1.20, SD = 0.15), have received formal training on digital tools (Mean = 1.18, SD = 0.20), and utilize digital tools for planning and decision-making (Mean = 1.10, SD = 0.25). Furthermore, respondents indicated that their schools do not provide adequate digital resources (Mean = 1.05, SD = 0.30). The overall mean score of 1.13 confirms a low level of digital administrative competence, suggesting that most head teachers in the study area lack the skills, training, and institutional support necessary to effectively integrate digital technologies into school administration.

**Research Questions 2:** What is the relationship between digital administrative competence and institutional effectiveness in public primary schools?

**Table 2:** Relationship Between Digital Administrative Competence and Institutional Effectiveness

S/N	Item Description	Mean	S.D	Remarks
1	Digital tools improve administrative efficiency.	2.60	1.00	Agree
2	Digital tools enhance transparency in school operations.	2.55	1.10	Agree
3	Digital tools foster better communication with stakeholders.	2.68	1.15	Agree
4	Digital tools support data-driven decision-making.	2.50	1.20	Agree
5	Digital tools contribute to overall institutional effectiveness.	3.20	1.25	Agree
	Overall Mean Weight	2.71		Positive Relationship

The data in Table 2 indicate a positive relationship between digital administrative competence and institutional effectiveness in public primary schools. All items received mean scores above the criterion of 2.50, suggesting that head teachers generally agree that the use of digital tools contributes to effective school administration. Specifically, respondents agreed that digital tools improve administrative efficiency (Mean = 2.60, SD = 1.00), enhance transparency in school operations (Mean = 2.55, SD = 1.10), foster better communication with stakeholders (Mean = 2.68, SD = 1.15), and support data-driven decision-making (Mean = 2.50, SD = 1.20). The highest agreement was observed in the item relating digital tools to overall institutional effectiveness (Mean = 3.20, SD = 1.25). The overall mean of 2.71 indicates that digital administrative competence is positively associated with institutional effectiveness, implying that the integration of digital tools by head teachers plays a significant role in enhancing the efficiency, transparency, and performance of public primary schools.

**H<sub>01</sub>:** There is no significant difference in institutional effectiveness among schools led by head teachers with low, moderate, and high levels of digital administrative competence.

**Table 3:** One-Way ANOVA Summary Table for Difference in Institutional Effectiveness by Competence Level

Source of Variation	Sum of Squares (SS)	df	Mean Square (MS)	F-ratio	p-value	Decision
Between Groups	40.25	2	20.125	125.78	0.000	
Within Groups	23.52	147	0.16			Significant
Total	63.77	149				

Table 3 confirms that these observed differences are statistically significant. The ANOVA test yielded an F-ratio of 125.78 with a p-value of 0.000, which is less than the 0.05 significance level. Therefore, the null hypothesis ( $H_{02}$ ) is rejected. This means that the level of a head teacher's digital administrative competence significantly influences the institutional effectiveness of their school.

### Discussion of Findings

The results of this study reveal a prevalent deficiency in digital administrative competence among head teachers in public primary schools within Ilesa East Local Government Area. This indicates that the majority of school leaders operate without the requisite technical skills or strategic knowledge needed to leverage digital tools for management tasks, such as data management, financial reporting, and official communication. This observation aligns with the position of Ololube (2020), who noted that despite policy interventions, the administrative capacity of school leaders often lags behind technological advancements, resulting in a significant gap between policy intent and practical outcomes in Nigerian schools. Furthermore, the lack of institutional support and training highlighted in this study corroborates the findings of Maharfudeen-Isa and Amodu (2025), who argued that the uneven adoption of digital tools is compounded by inadequate training programs and a lack of sustained political will to invest comprehensively in digital transformation. Consequently, the reliance on manual administrative processes persists, hindering efficiency, transparency, and overall institutional effectiveness in the study area.

The findings of this study demonstrate a positive association between digital administrative competence and institutional effectiveness in public primary schools, indicating that head teachers who effectively integrate digital tools into school management significantly enhance operational efficiency, transparency, and overall institutional performance. This suggests that when school leaders possess the skills to utilize digital platforms for record-keeping, financial management, and stakeholder communication, schools are better positioned to achieve their educational objectives and respond to administrative demands. This outcome supports the assertion of Okunlola and Naicker (2025), who found that principals' digital leadership competencies

significantly influence teachers' performance and institutional development, particularly within the context of the Fourth Industrial Revolution. Similarly, the result aligns with the position of Shidawa and Opabunmi (2026), who argued that the digitization of administrative processes such as student enrolment, examination management, and data reporting reduces bureaucratic inefficiencies, minimizes human errors, and fosters accountability in educational institutions. Therefore, the positive relationship observed in this study underscores the strategic value of digital competence as a critical leadership asset for driving institutional effectiveness in public primary schools.

The finding from the hypothesis one suggests that digital administrative competence plays a crucial role in enhancing school management practices, communication, record keeping, and overall administrative efficiency within primary schools. This finding is consistent with the study conducted by Ogunode, Dahir, Danjuma, and Jegede, (2021), who reported that the digital competence of school administrators significantly improves administrative efficiency and institutional performance in Nigerian schools. They further emphasized that school leaders who effectively utilize digital technologies in school administration are better positioned to enhance institutional productivity, improve record management, and strengthen communication systems within schools. Similarly, the finding aligns with the work of Adeseko, Omisore-Abdulazeez, Adeoye, Ayoku, and Olaifa, (2024), who found that administrative competence, particularly the integration of ICT skills among school leaders, significantly influences school effectiveness and the overall management of educational institutions in Nigeria. According to them, school administrators with higher levels of technological competence are more capable of implementing innovative administrative strategies that enhance school performance and organizational effectiveness

## Conclusion

This study investigated the digital administrative competence of head teachers and its relationship with institutional effectiveness in public primary schools in Ilesa East Local Government Area, Osun State. The findings revealed that head teachers generally lack proficiency in using digital tools for administrative tasks, have limited access to formal training, and operate in schools with insufficient digital resources, which results in continued reliance on manual administrative processes. Despite these challenges, the findings also indicate that digital administrative competence plays a significant role in improving institutional effectiveness. Head teachers who demonstrate higher levels of competence in the use of digital tools are better able to enhance school management practices, improve communication systems, maintain accurate records, and promote efficient administrative operations within their schools. The effective use of digital technologies for planning, monitoring school activities, and making data-driven decisions contributes significantly to improved school efficiency, transparency, and overall institutional performance. Furthermore, the results suggest that strengthening the digital administrative capacity of head

teachers can greatly enhance the effectiveness of school leadership and management in public primary schools. The study therefore underscores the importance of equipping school leaders with relevant digital skills and providing adequate technological resources to support modern administrative practices. Improving the digital competence of head teachers will not only enhance institutional effectiveness but will also facilitate more responsive, efficient, and innovative school administration capable of meeting the demands of contemporary educational systems.

### Recommendations

1. Schools and the government should prioritize building the digital capacity of head teachers by organizing regular training programs and workshops on digital administrative skills, including data management, communication platforms, and e-governance systems.
2. Schools should be provided with adequate digital resources such as computers, internet connectivity, and digital record-keeping tools to support effective administration.
3. Educational authorities should offer continuous technical support, supervision, and monitoring to ensure that digital tools are fully utilized for school management.
4. Digital administrative competence should be integrated into the evaluation and promotion criteria for head teachers to encourage the adoption of technology and enhance overall institutional effectiveness.

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