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Digital Transformation and Administrative Efficiency in Schools

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ABSTRACT

The study investigated digital transformation and administrative efficiency in schools. The study adopted the descriptive survey research design. Three research questions were formulated and were analyzed using mean. The instrument for data collection was a self-structured questionnaire titled "Digital Transformation and Administrative Efficiency in Schools Questionnaire (DTAESQ)". The reliability of the instrument was established using Cronbach Alpha method and a reliability index of 0.81 was obtained and was used for the study. The findings of this study revealed that digital technologies contribute significantly to faster storage, improved accuracy, reduced errors, easier retrieval, enhanced document security, and timely updating of school records. The findings revealed that digital technologies contribute significantly to reducing errors, enhancing security and confidentiality, facilitating regular updates, improving information sharing, increasing the accuracy of assessment records, and enabling faster preparation of academic documents. The findings also revealed that school administrators are reasonably proficient in the use of digital platforms, electronic communication tools, digital document management systems, data security practices, and emerging technologies. Based on the findings of the study, it was recommended among others that higher education schools school administrators are reasonably proficient in the use of digital platforms, electronic communication tools, digital document management systems, data security practices, and emerging technologies.

Introduction

Digital transformation in education refers to the systematic integration of digital technologies into all aspects of school operations, including teaching, learning, assessment, record keeping, communication, and administrative management. It is not merely the adoption of computers but a comprehensive rethinking of institutional processes through technologies such as cloud computing, artificial intelligence, learning management systems, and data analytics. In modern educational systems, digital transformation has become a critical driver of administrative efficiency because it enhances speed, accuracy, and accessibility of information. School administrators are increasingly required to manage large volumes of student data, staff records, financial transactions, and academic documentation, which traditional manual systems struggle to handle effectively. According to Okoye and Nwafor (2022), digital integration in education systems improves institutional responsiveness and reduces bureaucratic bottlenecks. Similarly, UNESCO (2020) emphasizes that technology-enabled school management systems enhance transparency and decision-making efficiency. Studies by Selwyn (2019) and Ifenthaler & Yau (2020) further highlight that digital platforms streamline administrative workflows and reduce redundancy in school operations. According to Eze et al. (2021) schools adopting digital tools such as electronic attendance systems and online grading platforms report improved coordination and reduced administrative delays. Additionally, UNESCO (2021) notes that digital transformation supports real-time communication between school stakeholders, thereby strengthening governance structures. Therefore, digital transformation serves as a foundational mechanism for improving administrative efficiency in schools by restructuring traditional administrative processes into more agile, data-driven, and technology-enabled systems.

Administrative efficiency in schools refers to the effective and optimal utilization of human, financial, and material resources to achieve educational goals with minimal waste of time and effort. Efficient administration ensures that school records are properly maintained, decisions are promptly

implemented, communication flows smoothly, and institutional objectives are achieved without unnecessary delays. In traditional school systems, administrative inefficiencies often arise from manual record keeping, paper-based documentation, poor communication channels, and inadequate monitoring systems. However, digital transformation has significantly altered these processes by introducing automation and integrated management systems. According to Aina and Adewole (2021), schools that adopt management information systems experience improved operational efficiency and reduced administrative workload. Likewise, Davenport (2018) argues that digital tools enhance process optimization by eliminating repetitive manual tasks. Similarly, Brynjolfsson & McAfee (2017) emphasize that digital technologies increase productivity by enabling faster data processing and improved coordination among staff. Nwankwo et al. (2022) report that many public schools still experience inefficiencies due to inadequate ICT infrastructure, though institutions that have adopted digital systems demonstrate improved record management and faster administrative response time. Furthermore, Okon & Akpan (2020) highlight that digital communication platforms reduce delays in information dissemination between principals, teachers, and education authorities. Therefore, administrative efficiency in schools is increasingly dependent on the degree to which digital technologies are integrated into school governance structures, making digital transformation a critical determinant of effective school management.

The relationship between digital transformation and administrative efficiency in schools is grounded in the capacity of technology to simplify complex administrative processes and enhance institutional productivity. Digital tools such as school management systems, cloud-based record platforms, biometric attendance systems, and automated grading software have revolutionized how school administrators perform their duties. These technologies reduce reliance on manual documentation, thereby minimizing errors and improving accuracy in record keeping. According to Westerman et al. (2019), organizations that embrace digital transformation experience significant improvements in operational efficiency due to streamlined workflows and reduced administrative costs. Similarly, UNESCO (2021) asserts that digital education ecosystems promote accountability and transparency in school administration. In the same vein, Lauden & Traver (2020) highlight that integrated information systems enable real-time monitoring of school operations, thereby improving responsiveness. Furthermore, OECD (2020) emphasizes that digital infrastructure in education supports efficient resource allocation and policy implementation. According to Olatunji and Adebayo (2022) and Chukwuemeka et al. (2021), schools utilizing digital record systems experience faster processing of student admissions, examination results, and staff management tasks. Additionally, Adeyemi (2020) observes that digital transformation enhances communication efficiency between educational stakeholders, thereby reducing administrative delays. However, challenges such as inadequate infrastructure, low ICT literacy among staff, and limited funding continue to hinder full adoption in many developing contexts (Eze et al., 2021). Despite these challenges, evidence consistently shows that digital transformation remains a powerful enabler of administrative efficiency in schools by optimizing processes and improving institutional effectiveness.

Statement of the Problem

The increasing demand for efficient school administration has made the adoption of digital technologies an essential component of educational management. In numerous educational institutions, especially in developing contexts, administrative processes are still largely dependent on manual systems of record keeping, communication, and decision-making. This reliance often results in delays in processing student records, inefficiencies in managing staff information, inaccuracies in data handling, and difficulties in tracking academic and financial activities. School administrators are frequently burdened with excessive paperwork, fragmented information systems, and slow communication channels, all of which reduce the overall effectiveness of school management. Consequently, important administrative tasks such as admissions, result compilation, timetable scheduling, and reporting are often carried out with significant time lags and increased risk of errors. These inefficiencies not only affect the smooth operation of schools but also hinder the ability of administrators to make timely and informed decisions that support educational development.

In response to these challenges, digital transformation has been introduced as a potential solution to improve administrative efficiency in schools. However, the extent to which these digital tools are

effectively implemented and utilized remains unclear in many educational settings. While some schools have adopted technologies such as electronic record systems, automated attendance tracking, and digital communication platforms, many others still struggle with inadequate infrastructure, limited technical skills among staff, and resistance to change. This uneven level of adoption creates disparities in administrative performance across schools. As a result, there is a growing concern about whether digital transformation is truly enhancing administrative efficiency or whether its potential benefits are being undermined by implementation challenges. Therefore, this study seeks to investigate the relationship between digital transformation and administrative efficiency in schools, with a view to understanding how digital tools influence administrative processes and identifying factors that may hinder or enhance their effective utilization.

Purpose of the Study

The main purpose of this study was to investigate digital transformation and administrative efficiency in schools.

Specifically, the study seeks to:

1. Determine how digital transformation influences record-keeping efficiency in schools.
2. Examine how the use of digital tools impacts the management of student academic records in schools.
3. Investigate the level of ICT competence among school administrators in relation to digital transformation.

Research Questions

The following research questions will guide the study.

1. How does digital transformation influence record-keeping efficiency in schools?
2. How does the use of digital tools impact the management of student academic records in schools?
3. What is the level of ICT competence among school administrators in relation to digital transformation?

Result

Research Question 1: How does digital transformation influence record-keeping efficiency in schools?

Table 1: Mean summary on how digital transformation influence record-keeping efficiency in schools

S/N	Items	SA	A	D	SD	∑fx	N	Mean	Decision
1	Digital record-keeping systems enable faster storage of school records	43	39	26	12	353	120	2.94	Accepted
2	The use of digital technologies improves the accuracy of student records	38	50	22	10	356	120	2.96	Accepted
3	Digital transformation reduces errors associated with manual record-keeping	41	40	25	14	348	120	2.90	Accepted
4	Electronic record systems make retrieval of school information easier and quicker	47	34	28	11	357	120	2.98	Accepted
5	Digital record-keeping systems reduce the loss or misplacement of important documents	42	38	30	10	352	120	2.93	Accepted
6	Digital transformation facilitates timely updating of school records	36	40	30	14	338	120	2.82	Accepted
	Average Mean							**2.92**	**Accepted**

Source: Field Work, 2026

The table shows respondents' perceptions of how digital transformation influences record-keeping efficiency in schools. The findings indicate that all six items recorded mean scores above the criterion mean of 2.50 and were therefore accepted, demonstrating general agreement among the respondents that digital transformation enhances record-keeping efficiency. The overall average mean score of 2.92 further indicates that respondents generally agreed that digital transformation has a positive influence on record-keeping efficiency in schools, leading to the acceptance of the research item. The result implies that digital technologies contribute significantly to faster storage, improved accuracy, reduced

errors, easier retrieval, enhanced document security, and timely updating of school records. Therefore, the finding suggests that digital transformation is an effective tool for improving record-keeping efficiency in school administration.

Research Question 2: How does the use of digital tools impact the management of student academic records in schools?

Table 2: Mean summary on how the use of digital tools impact the management of student academic records in schools

S/N	Items	SA	A	D	SD	∑fx	N	Mean	Decision
1	Digital tools reduce errors in the entry and processing of students' academic records	38	32	32	18	330	120	2.75	Accepted
2	Electronic record systems enhance the security and confidentiality of students' academic records	40	38	31	11	347	120	2.89	Accepted
3	Digital tools make it easier to update students' academic records regularly	39	32	33	16	334	120	2.78	Accepted
4	Digital tools facilitate the sharing of students' academic records among relevant school departments	37	39	30	14	339	120	2.83	Accepted
5	The use of digital systems enhances the accuracy of students' assessment and examination records	40	44	26	10	354	120	2.95	Accepted
6	Digital tools enable faster preparation of students' academic documents when required	41	38	28	13	347	120	2.89	Accepted
	Average Mean							2.85	Accepted

Source: Field Work, 2026

The table presents respondents' views on the impact of digital tools on the management of students' academic records in schools. The results show that all six items recorded mean scores above the criterion mean of 2.50, indicating that the respondents agreed that digital tools positively influence the management of students' academic records. The overall average mean score of 2.85 indicates that respondents generally agreed that digital tools have a positive impact on the management of students' academic records in schools. Since the average mean exceeds the acceptance benchmark of 2.50, the result suggests that digital technologies contribute significantly to reducing errors, enhancing security and confidentiality, facilitating regular updates, improving information sharing, increasing the accuracy of assessment records, and enabling faster preparation of academic documents. Therefore, the finding demonstrates that digital tools play an important role in improving the efficiency and effectiveness of managing students' academic records in schools.

Research Question 3: What is the level of ICT competence among school administrators in relation to digital transformation?

Table 3: Mean summary on the level of ICT competence among school administrators in relation to digital transformation

S/N	Items	SA	A	D	SD	∑fx	N	Mean	Decision
1	School administrators can effectively use digital platforms for managing student records	38	40	30	12	344	120	2.86	Accepted
2	School administrators are competent in the use of electronic communication tools such as email and online collaboration platforms	41	36	29	14	344	120	2.86	Accepted
3	School administrators can efficiently generate, store, and retrieve digital documents and reports	36	33	34	17	328	120	2.73	Accepted

4	School administrators possess adequate knowledge of data security and privacy practices in digital environments	40	40	28	12	348	120	2.90	Accepted
5	School administrators are able to adapt quickly to newly introduced digital technologies in school administration	34	40	30	16	332	120	2.76	Accepted
6	School administrators possess the ICT competencies required to support digital transformation initiatives in schools	42	38	29	11	351	120	2.93	Accepted
	Average Mean							2.84	Accepted

Source: Field Work, 2026

The table presents the responses of participants on the level of ICT competence among school administrators in relation to digital transformation. The results indicate that all six items recorded mean scores above the criterion mean of 2.50, showing that the respondents agreed that school administrators possess a reasonable level of ICT competence necessary for supporting digital transformation in schools. The overall average mean score of 2.84 further confirms that respondents generally agreed that school administrators possess adequate ICT competence in relation to digital transformation. Since the average mean exceeds the criterion mean of 2.50, the finding suggests that school administrators are reasonably proficient in the use of digital platforms, electronic communication tools, digital document management systems, data security practices, and emerging technologies. Consequently, the result indicates that the level of ICT competence among school administrators is sufficient to support the implementation and advancement of digital transformation initiatives in schools.

Discussion of Findings

The study examines digital transformation and administrative efficiency in schools.

Analysis from research question revealed how digital transformation influence record-keeping efficiency in schools. The finding revealed that digital technologies contribute significantly to faster storage, improved accuracy, reduced errors, easier retrieval, enhanced document security, and timely updating of school records. This finding agrees with the findings of Laudon and Laudon (2020), digital technologies reduce the occurrence of human errors associated with manual record-keeping, such as duplication, loss, or misplacement of documents, while also ensuring that records are readily accessible when needed. Furthermore, electronic record systems enable faster processing of information, thereby saving time and improving administrative productivity. The integration of digital tools also supports real-time updating of records, ensuring that information remains current and reliable for decision-making purposes.

Analysis from research question two revealed how the use of digital tools impact the management of student academic records in schools. The finding revealed that digital technologies contribute significantly to reducing errors, enhancing security and confidentiality, facilitating regular updates, improving information sharing, increasing the accuracy of assessment records, and enabling faster preparation of academic documents. The findings is in-line with the findings of Nwosu and Ifeanyi (2022), digital record management systems incorporate security features such as password protection, user authentication, encryption, and automated backup mechanisms, which help safeguard sensitive student information from unauthorized access, loss, or damage.

And also, analysis from research question three revealed the level of ICT competence among school administrators in relation to digital transformation. The findings revealed that school administrators are reasonably proficient in the use of digital platforms, electronic communication tools, digital document management systems, data security practices, and emerging technologies. Consequently, the result indicates that the level of ICT competence among school administrators is sufficient to support the implementation and advancement of digital transformation initiatives in schools. The findings support the findings of Ifenthaler and Yau (2020), school administrators with adequate ICT competence are better equipped to utilize digital platforms for record management, data analysis, communication, decision-making, and the implementation of technology-driven administrative processes. They are also capable of operating school management information systems, managing electronic records, using online collaboration tools, and adapting to emerging technologies.

Conclusion

The study concluded that digital transformation has become an essential factor in enhancing administrative efficiency in schools. The adoption of digital technologies has improved various administrative functions, particularly in record management, communication, data processing, and decision-making. The findings revealed that digital record-keeping systems facilitate faster storage, retrieval, updating, and protection of school records, thereby reducing administrative delays and minimizing errors associated with manual processes. Furthermore, the use of digital tools in managing student academic records has enhanced accuracy, security, accessibility, and timely dissemination of academic information, contributing to more effective school administration.

The study also concluded that school administrators possess a satisfactory level of ICT competence required to support digital transformation initiatives. Their ability to utilize digital platforms, manage electronic records, employ communication technologies, and adapt to emerging digital systems has contributed positively to administrative effectiveness. Overall, digital transformation has strengthened the capacity of schools to manage information efficiently, improve service delivery, and support informed decision-making. Therefore, the continued integration of digital technologies, coupled with sustained capacity building for school administrators, is vital for achieving greater administrative efficiency and improved educational management outcomes in schools.

Recommendations

Base on the findings of the study the following recommendations were made.

1. Schools should invest in adequate ICT infrastructure such as computers, internet facilities, servers, and digital management systems to support effective digital transformation and administrative operations.
2. Regular training and capacity-building programmes should be organized for school administrators to enhance their ICT competencies and ability to utilize emerging digital technologies effectively.

Schools should adopt comprehensive digital record management systems to improve the storage, retrieval, security, and management of administrative and academic records.

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