



## IMPACT OF INTEGRATING DIGITALIZATION OF RECORDS ON ADMINISTRATIVE EFFICIENCY IN SECONDARY SCHOOLS IN GOMBE STATE

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### **Abstract**

*This study assessed the impact of integrating digitalization of records on administrative efficiency in secondary schools in Gombe state. Two specific objectives and two research questions were formulated. Descriptive survey design was adopted and the population of the study was 1,021 which comprise 17 principals and 1,004 secondary school teachers in Gombe metropolis. A sample of 279 respondents was used for the study. That is, 17 principals and 262 teachers. Instrument used was a structured questionnaire with a four rating scale titled "Impact of Integrating Digitalization of Records Questionnaire (IIDRQ)". It was validated by three senior researchers in the faculty of education UsmanuDanfodiyo University, Sokoto. Pilot study was carried out and Cronbach's Alpha was used to compute the reliability coefficient of 0.85. Descriptive statistics (mean and standard deviation) was used to answer the research questions. The findings of the study revealed that using computer and cloud storage as instrument of records digitalization has positive impact on administrative efficiency in secondary schools in Gombe state. It was therefore recommended among others that Ministry of Education should ensure all schools have access to computers, internet and necessary software for digital record-keeping in secondary schools. This will enhance effective record of students and staff information, academic performance, attendance and effective administration of secondary schools in Gombe state.*

**Key Words:** Integrating Digitalization, Secondary School Records, Administrative Efficiency

### **Introduction**

The importance of digitalizing secondary schools records in today's educational system cannot be over emphasized. Digitalization in education involves the integration of digital technologies into administrative and educational processes. This transformation has significant implications for secondary school management, impacting efficiency, data accuracy, accessibility, and decision-making. Digitalization began with basic computerization efforts in schools, gradually evolving to encompass comprehensive digital systems. These systems manage student information, staff records, academic performance, attendance, and more (Sunday, Balogun, Ajao, and Olawale, 2020). Generally, digitalization in education has been driven by the need for better management, transparency, and accountability. In Nigeria, and specifically in Gombe State, the push towards digitalization is part of broader educational reforms aimed at improving the quality of education.

Secondary school management refers to the organized and systematic administration of secondary educational institutions, focusing on creating an environment conducive to learning and development for students. Effective management in secondary schools involves a range of activities and responsibilities, including planning, organizing, directing, and controlling various school operations and resources. The goal is to ensure that educational objectives are met, and the school operates efficiently and effectively. However, the importance of adopting computer technology in schools has also prompted school authorities to use computers in schools to maintain daily job efficiency and to actualize the educational objectives. Good school records,



when kept and maintained properly and effectively, provide information to teachers, counselors, educators, and management in order to plan and implement educational and management activities (Falana, 2018).

Effective records management is crucial for the smooth functioning of schools. It involves the systematic control of records from their creation to their eventual disposal. Digitalization can streamline this process, reducing paperwork, minimizing errors, and ensuring that records are easily accessible. Records digitalization refers to the process of converting paper-based records into digital formats. This transformation can have a significant impact on the management of secondary schools, influencing various aspects such as administrative efficiency, data accessibility, and overall school management.

School records refer to the systematic documentation and management of various types of information related to students, staff, and the overall functioning of the school. These records are essential for ensuring the smooth operation of the school, supporting educational outcomes, and fulfilling legal and administrative requirements. School records are a vital component of effective school management, supporting administrative efficiency, student achievement, legal compliance, and stakeholder engagement. Proper management of these records, including addressing challenges such as data accuracy, privacy, and resource constraints, is essential for the overall success and accountability of secondary educational institutions.

Information and communication technology (ICT) as instrument for digitalization is a broad word that encompasses a wide range of technologies that aid in the creation, manipulation, storage, communication, and/or dissemination of information. Computers, being one of the instruments for digitalization, play an important role in record keeping, preserving staff and students' records and effective management of schools (Haruna and Idris, 2022). It aids in the preparation of employee payroll and the delivery of information to staff and students via email, SMS, and graphic platforms. According to Ziraba (2009), digitalization aids in test management, which includes exam scheduling, time management, students' placement, and grading.

According to Pierre and Andalas (2020) ICT is a critical instrument for digitalization that affects school record keeping, syllabus covering, and content delivery. According to Owo and Nweze (2014) employing digitalization in school record keeping aids in the retention of financial data such as pay slips, balance sheets, and wages. In fact, the majority of principals stated that using computers has benefited their record keeping as well as keeping accurate and timely records. Furthermore, digitalization enhances the effectiveness of instructional delivery.

Furthermore, cloud storage as one of the major instrument for digitalization is used to securely store data online for effective school administration. Educational administrators can access several free cloud services, such as Google Drive, Dropbox, and Box, with enhanced packages that offer increased storage and other cloud services. It is a way of storing data online that is managed and operated by a cloud service provider (Fasasi, 2010). Secondary school administrators can benefit from cloud storage and data movement as needed. It can also be used to store long-term, infrequently accessed data. By eliminating the need to purchase and manage data storage, cloud storage has satisfied the need for speed and cost. According to Sammon and Smug (2021) Cloud storage can help school administrators improve management in their schools. This innovative school administration system enables school administrators to refresh their skills without feeling rushed. As a result, school managers do not need to keep material in a large room, which consumes more paper and space. All school leaders want is to incorporate technology into the school and work smarter without breaking the money, because technology allows them.

Literature search revealed that, a number of studies have been carried out on the various aspects of digitalization and record-keeping in secondary schools. Timotheou, Miliou, Dimitriadis, Sobrino, Giannoutsou, Cachia and Ioannou (2023) carried out a research on impacts of digital technologies on education and factors influencing schools' digital capacity and transformation: A literature review. The findings revealed that ICT integration in schools impacts more than just students' performance; it affects several other school-related aspects and stakeholders. Furthermore, various factors affect the impact of digital technologies on education. These factors are interconnected and play a vital role in the digital transformation process. The study results shed light on how ICTs can positively contribute to the digital transformation of schools and which factors should be considered for schools to achieve effective and efficient change. Navaridas-NaldaClavel-San Emeterio, Fernández-Ortiz and Arias-Oliva (2020) conducted a research on strategic influence of school principal leadership in the digital transformation of schools. The results show how useful school principals perceive EDRs to be is the most influential variable in the digital transformation of schools. Other key factors include school contextual variables, the technical support and service related to the EDRs, and the principal's professional and personal profile. Ossai (2024) carried out a research on effect of Secondary School Principals' Record-Keeping Practice on Administrative Effectiveness in Delta State, Nigeria. The findings indicated that



school administrators are using computers and cloud storage as management tools to enhance the efficiency of Delta Public Secondary Schools. Amaefule, and Eshiet (2024) conducted a study on school record management and its impact on teaching and learning in secondary schools in Akwalbom State. The finding revealed that there is no significant relationship between academic record keeping and administrative effectiveness of secondary school principals in the study area. The finding also revealed that there is a significant relationship between adequate financial record keeping and administrative effectiveness of principals in the study area.

The above reviewed works have a relationship with the present study as they all focused on various aspects of digitalization and record-keeping in secondary schools; however, they also differed significantly from the present study in content, geographical scope, and methodology. Hence, the present study is aimed at investigating the impact of integrating digitalization of records on administrative efficiency in secondary schools in Gombe State.

### **Statement of the Problem**

Integrating digitalization in record keeping in Nigerian secondary schools can significantly enhance administrative efficiency, accuracy, and overall effectiveness. In Gombe State, the management of secondary schools faces numerous challenges related to the efficiency, accuracy, and accessibility of administrative records. Traditional paper-based record-keeping systems are often plagued by issues such as data loss, inaccuracies, and inefficiencies in retrieving information. These challenges hinder effective school management and decision-making processes.

Despite the potential benefits of digitalization, the transition from paper-based to digital records in secondary schools in Gombe state has been slow and uneven. Many schools lack the necessary infrastructure, resources, and training to implement and sustain digital record-keeping systems. This disparity creates a digital divide, where some schools benefit from modern technological advancements, while others continue to struggle with outdated and inefficient methods.

Despite the benefit of integrating digitalization in record keeping in secondary schools, there are several challenges associated to it. These include inadequate infrastructure, resistance to change, lack of digital literacy among staff, and limited funding. Addressing these challenges requires a strategic approach, including investment in infrastructure, training and development programs, and fostering a culture of innovation. Therefore, there is an urgent need to explore and address the barriers to digital record keeping integration in Nigerian secondary schools to enhance administrative efficiency, improve human resource functions, and ultimately contribute to the overall effectiveness and efficiency of our educational institutions in the country.

Furthermore, there is limited empirical research on the specific impacts of records digitalization on school management within the context of Gombe State. Understanding how digital records influence administrative efficiency, data accessibility, and educational outcomes is crucial for policymakers, educators, and stakeholders to make informed decisions and investments in educational technology. It is therefore based on this that the researchers intend to investigate the impact of integrating digitalization of records on administrative efficiency in secondary schools in Gombe State

### **Objectives of the study**

The major purpose of this study is to investigate the impact of integrating digitalization of records on administrative efficiency in secondary schools in Gombe state. Specifically, the study is designed to:

1. To find out the impact of using computer as instrument of records digitalization on administrative efficiency in secondary schools in Gombe state.
2. To find out the impact of using cloud storage as instrument of records digitalization on administrative efficiency in secondary schools in Gombe state.

### **Research Questions**

The following questions were formulated to guide the study.

1. What are the impacts of using computer as instrument of records digitalization on administrative efficiency in secondary schools in Gombe state?
2. What are the impacts of using cloud storage as instrument of records digitalization on administrative efficiency in secondary schools in Gombe state?

### **Methodology**

Descriptive survey design was adopted for the study and the population of the study was 1,021 which



comprise 17 principals and 1,004 secondary school teachers in Gombe metropolis. A sample of 279 respondents was used for the study. That is, 17 principals and 262 teachers. The selection of this sample size is based on the recommendation of Research Advisors (2006) who recommended that in a population of between 1,000 and 1,125, the sample size of 279 is enough for good representation. The entire 17 principals were used for the study while 262 teachers were selected using proportionate random sampling.

### Instrument for Data Collection

A structured questionnaire with a four-point scale titled Impact of Integrating Digitalization of Records Questionnaire (IIDRQ) was used for data collection. The questionnaire comprised of 10 item statement which included close ended questions that the respondents were limited or confined to options given by the researchers. Thus, a four-point scale was used: Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2 and Strongly Disagree (SD) = 1.

### Validity of the Instrument

The instrument was validated by three senior researchers in the Faculty of education Usmanu Danfodiyo University, Sokoto who compared items in the research instruments with the research questions and determined their appropriateness. The inputs of the three experts were incorporated together and used for the study.

### Method of Data Collection

The researchers personally distributed the instruments to the respondents, in the course of distributing the instruments; the researchers explained to the respondents areas in the instruments which they found confusing thereby helping them not to rush into giving responses without understanding what they were supposed to do and it facilitated prompt response from the respondents.

### Procedure for Data Analysis

Data collected were analyzed using descriptive statistics (mean score and standard deviation). In answering the research questions, any item with a mean score of 2.50 and above was considered agreed and less than 2.50 was considered disagreed.

### Data Presentation and Analysis

**Research Question One:** What are the impacts of using computer as instrument of records digitalization on administrative efficiency in secondary schools in Gombe state?

Table 1: Mean and Standard Deviation of Respondent's Opinions on the Impact of using Computer as Instrument of Records Digitalization on Administrative Efficiency in Secondary Schools in Gombe State

S/N	Item statement	Respondents	Opinions of Respondents				Mean	SD
			SA %	A %	D %	SD %		
1.	Keeping school records with computers helps in providing information quickly for administrative effectiveness	Principals	100	0.00	0.0	0.0	4.00	0.181
		Teachers	98.1	0.4	1.5	0.4	3.95	0.216
2.	Keeping school records in CD Rom helps in making information readily available to employers and stakeholders	Principals	100	0.0	0.0	0.0	4.00	0.970
		Teachers	92.7	3.8	3.1	0.4	3.85	0.518
3.	Record keeping through internet services helps in planning and implementation of policies in secondary schools	Principals	100	0.0	0.0	0.0	4.00	0.312
		Teachers	88.5	8.4	2.7	0.8	3.82	0.850
4.	Keeping records in flash drives helps to provide useful information for administrative efficiency.	Principals	76.5	0.0	17.6	0.0	3.41	0.179
		Teachers	77.1	8.8	13.7	0.0	3.48	0.865
5.	Record keeping through computer hard drive foster accuracy and administrative efficiency in secondary schools	Principals	52.9	0.0	41.2	0.0	3.12	0.951
		Teachers	65.6	10.7	22.1	0.4	3.17	0.943





Table 1 shows the analysis of item statements 1-5 used to answer the research question one on the impacts of using computer as instrument of records digitalization on administrative efficiency in secondary schools in Gombe state. The table revealed that, both the teachers and principals agreed to the statement that keeping school records using computer, CD Rom, flash drives, computer hard drive and internet promote accuracy, efficiency and effective storage of information for smooth administration of secondary schools in Gombe state. As presented on the table, all the items were agreed by both the principals and secondary school teachers, and item number 1 attracted the highest mean score of 3.87 for the principals and 3.86 for secondary school teachers, with details showing 84.1% of secondary school principals agreed with the item. For the secondary school teachers, 65.1% agreed with the item. The standard deviation recorded for the item statements was 0.181 for the principals and 0.216 for the secondary school teachers. All the items have the mean score of 3.00 and above indicating that using computer as instrument of records digitalization has positive impact on administrative efficiency in secondary schools in Gombe state.

**Research Question One:** What are the impacts of using cloud storage as instrument of records digitalization on administrative efficiency in secondary schools in Gombe state?

Table 2: Mean and Standard Deviation of Respondent's Opinions on the Impact of using Cloud Storage as Instrument of Records Digitalization on Administrative Efficiency in Secondary Schools in Gombe State

S/N	Item statement	Respondents	Opinions of Respondents					
			SA %	A %	D %	SD %	Mean	SD
6.	Record keeping using cloud storage helps school administrators in accountability purposes.	Principals	85.3	4.7	0.00	0.00	3.87	0.181
		Teachers	86.9	2.00	10.0	1.10	3.86	0.216
7.	Record keeping using cloud storage aids in planning and identifying areas of school needs	Principals	72.4	27.6	0.00	0.00	3.76	0.970
		Teachers	61.0	23.8	11.0	4.20	3.48	0.518
8.	Record keeping using cloud storage helps in having detail knowledge of all schools income and expenditure.	Principals	84.1	15.9	0.00	0.00	3.29	0.312
		Teachers	65.1	17.4	17.0	6.50	3.68	0.850
9.	Record keeping using cloud storage promotes effective decision making in secondary schools	Principals	82.4	17.6	0.00	0.00	3.57	0.179
		Teachers	67.9	5.90	19.0	7.30	3.68	0.865
10.	Record keeping using cloud storage helps school administrators to organize school finances.	Principals	74.1	5.00	16.0	4.90	3.54	0.951
		Teachers	73.1	0.00	20.0	6.90	3.43	0.943

Table 2 shows the analysis of item statements 6-10 used to answer the research question one on the impacts of using cloud storage as instrument of records digitalization on administrative efficiency in secondary schools in Gombe state. The table revealed that, both the teachers and principals agreed to the statement that keeping school records using cloud storage promote planning of school activities, accountability, detail knowledge of all schools income and expenditure, accuracy in decision making and effective administration of secondary schools in Gombe state. As presented on the table, all the items were agreed by both the principals and secondary school teachers, and item number 1 attracted the highest mean score of 3.87 for the principals and 3.86 for secondary school teachers, with details showing 84.1% of secondary school principals agreed with the item. For the secondary school teachers, 65.1% agreed with the item. The standard deviation recorded for the item statements was 0.181 for the principals and 0.216 for the secondary school teachers. All the items have the mean score of 3.00 and above indicating that using cloud storage as instrument of records digitalization has positive impact on administrative efficiency in secondary schools in Gombe state.

### Discussion of Major Findings

The first finding of this study revealed that using computer as instrument of records digitalization has positive impact on administrative efficiency in secondary schools in Gombe state. This finding was presented



on table 1 by answers to research question 1 where both principals and teachers all agreed to that. The finding is in line with the views of Garry and Dave(2021) who stated that using computers as instruments of digitalization in secondary schools offers numerous benefits such as improved accessibility and organization, enhanced data security by reducing the risk of unauthorized access, loss, or damage; contributing to environmental conservation; reduce costs associated with printing, storage, and physical record maintenance. This is also in line with the view of Godwin (2013) who asserted that digital records can be integrated with data analysis tools, allowing schools to analyze trends, identify areas for improvement, and make informed decisions based on accurate data.

The second findings of the study showed that using cloud storage as instrument of records digitalization has positive impact on administrative efficiency in secondary schools in Gombe state. The finding is in line with the view of Osakwe(2012) who stated that cloud storage reduces the need for physical storage infrastructure and maintenance because most a times cloud services are scalable, allowing schools to pay for only what they use. Providers typically offer robust security measures including encryption, backups, and disaster recovery solutions. The findings is also in line with the views of Owan, Arop and Agunwa (2019) who posited that by adopting cloud storage, secondary schools can enhance their administrative efficiency, improve access to educational resources, and foster a more collaborative and innovative learning environment.

## Conclusion

Based on the findings of this study, it was concluded that using computer and cloud storage as instrument of records digitalization has positive impact on administrative efficiency in secondary schools in Gombe state. This can help streamline various administrative processes such as record-keeping, data retrieval, and communication. This shift leads to reduced paperwork, minimizes errors, and faster access to information, enabling more efficient management of student's record, attendance, and academic performance tracking. Therefore, digitalization of records in secondary schools in Gombe state offers a promising avenue for improving administrative efficiency in secondary schools.

## Recommendations

Based on the findings of this study, the researchers recommend the following:

1. The Ministry of Education should ensure all schools have access to computers, internet and necessary software for digital record-keeping in secondary schools. This will enhance effective record of students and staff information, academic performance, attendance and effective administration of secondary schools in Gombe state.
2. Teachers should be exposed to seminars, conferences, workshops and regular professional training in the area of records digitalization to improve their skills and new experience in handling effective records in the era of digitalization. This will enhance their productivity in the schools and also enable them keep abreast with the challenges in the discharge of their responsibilities.

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