



PRINCIPALS DIGITALIZATION OF SCHOOL RECORD FOR EFFECTIVE ADMINISTRATION IN PUBLIC SENIOR SECONDARY SCHOOL IN PORT HARCOURT METROPOLIS, RIVERS STATE

Dr. Cynthia Obiageli Patricia Okere

Department of Educational Management,
Faculty of Education,

Rivers State University Nkpulu-oroworukwo, Port Harcourt, Rivers State,
cynthiyokere@gmail.com

Abstract

The study examined Principal's digitalization of school record for effective administration in public senior secondary schools in rivers state. Two objectives, two research question and two hypotheses were used for the study. The study adopted descriptive survey research design. The population of the study is 105 principals (68 males and 37 female) in 35 public senior secondary schools in Port Harcourt Metropolis which consist of Port Harcourt and Obio/Akpor Local Government Areas in Rivers State. Three (3) principal which include the main-principal, vice-academic and vice-administration principals were selected from each secondary schools in Port Harcourt Metropolis. The census sampling technique was used, which ensured that every member of the population participated in the study. The instrument was a self-structured questionnaire titled, Principals Digitalization of School Records for Effective Administration Questionnaire, validated by experts in Departments of Measurement and Evaluation and Educational Management. Cronbach Alpha was used to establish the reliability of each cluster of the instrument which gave reliability indexes of 0.81 and 0.83. Mean and standard deviation were used to answer the research question, while the hypotheses were tested using the z-test statistical tool at 0.05 level of significance. Result showed that computer and cloud storage are the main digital in school record for effective administration in public senior secondary schools in Rivers State. Base on the findings of the study it was recommended among others that teachers should be trained by school principals on how to use cloud storage for data accessibility and mobility from any location in the world.

Keywords; Digitalization of School Record, Computer, Cloud Storage, and Principal.

Introduction

In all societies, the school is one of the most important establishments. School is established to achieve certain objectives for the society in which they are situated. These objectives can only be achieved by effective administration. It is an effective administration that can help to bring about optimum achievement in the school organization, and one of the most important aspects of school administration is school record is very important in school administration because it affects all other aspects of school administration such as planning, budgeting, staffing, facilities, discipline and so on (Alabi, 2017). The process of procurement, storage and auditing require school record at any level of schooling, school record boosts the administrative effectiveness of such schools.

Digitalization of school record is the act of creating and maintaining records in organization through digital system such as schools, banks, hospitals and other service and non-service organizations such school records give a lot of information about those organizations that enable the authorities take goal-oriented decision and assess the progress of the organization at a glance or holistically. School records is vital to the school system as it generates its information and experiences influx of information and an outflow of the same to the society which demands accountability. In the words of Ibara (2010), without records, there can be no accountability. Dale and Cory (2021) define a school record device as any type of computing hardware that is used for storing, porting or extracting data files and objects through digitalized system. Digitalization of school record devices can hold and store information both temporarily and permanently. Gary and Dave (2021), viewed school record as collective methods and technologies that capture and retain digital information on



electromagnetic, optical or silicon-base school record media.

There are two different types of school record device namely primary record and the secondary record device. The primary record device is generally smaller in size; designed to hold data temporarily and are internal to the computer. They have the fastest data access speed, and these types of devices include RAM and cache memory (Dale and Cory, 2021). The secondary school record devices usually have larger record keeping capacity, and the store data permanently. These types of devices include the hard disk, the optical disk drive and USB school record device (Ryan, Ian, Tracy-lee, and Mohana, 2020). The school record was enshrined in the Public Education Edict of 1974. The edits stipulated that at every public or private institution, records and books shall be kept by the person in charge and produced at the request of an inspecting officer or manager (Koko and Nwiyi, 2019). Under the education law, there are two types of records that a school has to keep. These are and non-statutory school records statutory.

Statutory are those records that are mandatory or compulsory under the law to be kept by each school viz; admission register, class attendance register, syllabus, lesson note, scheme of work, diary, time table, visitors' books, staff record book, corporal punishment book and so on (Gede, 2011). On the other hand, non-statutory school records are those records not required by law to be kept, but are kept because they provide useful source of information not only for members of the school community but for people outside the school system as pointed out by (Peretomode, 2000). For example, school principals may be interested in having particular information about students' scholastic achievement; parents may be interested in knowing how their children behave and perform in the school and alumni may require some information for registering in tertiary institutions. It was further observed that auditors may be interested in checking details of financial transaction; inspectors may need to go through the record of work of a particular teacher who is facing disciplinary action, and the principal may need to collate some information about a students or member of staff to back up a case they are putting across to the school board, etcetera (Peretomode, 2000).

Such records include duty roaster, staff movement book, school calendar, cash book, fees register, inventory book, record of club activities, ex-students report file etcetera. Therefore, because of their usefulness, school records should be easily accessible but at the same time be safely kept where they cannot be easily destroyed by weather conditions and pest. School records are kept by principals in order to aid then with the information on the extent to which efforts are being made by schools for the purpose of meeting the expectations of the society. They contain information on students, background and progress, enrolment pattern, strength of staff, and activities undertaken in the schools.

According to Omoha (2013), it is from the school records that school principals also obtain information on past activities involving the school and other schools or the community. School records provide the principals with useful information on the activities that go on in the school, as well as enhancing smooth handing over from one administration to another in the school system. They are a good source of information for inspectors of education during school inspection, while serving as data bank for teachers, parents, and other visitors to the school (Edem, 2006).

Computer applications commonly list the minimum and recommended capacity requirements needed to run then. The flash drive is now replacing magnetic record keeping device as it is economical, more functional and dependable. The memory card is an electronic flash memory device used to store digital information and commonly used in mobile electronic devices. The hard drive is an internal hard drive is the main record keeping device in a computer. An external hard drive is also known as removable hard drive for digitalized system of school records. It is used to store portable data backups. Another digitalize school record tools is the cloud storage. The cloud storage is managed remotely and made available over a network. Basic features are free to use but upgraded version is paid monthly as a per consumption rate. In the view of Krishna (2019), it is a way of storing data online through ICT instead of a local computer. It requires an internet connection in order to upload, modify, and share documents. Presentation, spreadsheets, images, audio, video, etcetera with others online storage service providers don't store any data on the hard disk of a PC. There is no gain-saying that school records are an integral part of any serious organization. The success and failure of any organization is dependent on school record keeping. Coincidentally, in the twenty-first century, school record is digitalized to achieve administrative effectiveness, it is no more necessary for organizations to keep records in files and drawers for fear of being vulnerable to destruction by rodents, fire, flood and the like. Proper school records in the twenty-first century is done by digitalize system, electronically, as enhanced information management system that involve the use of ICT electronic devices such as computer, CD Roms, flash drives, etc. this system saves the managers in organizations from the embarrassment which may likely occur when records are inappropriately kept. This kind of information management system makes records keeping to



remain reliable, authentic and usable as long as the record is needed.

Despite the importance of keeping records in school, records are still traditional kept on pieces of paper stocked in files, which are parked inside drawers, lockers, book shelves and boxes. This style of record keeping in school is detrimental to school records as they are in danger of being destroyed by pests, rodents, fire out-break, rain, flooding, theft and eventual loss (McLeod, Hare & Johare, 2004). The implication for this is that the education industry is bound to be deprived of useful information if perpetration of traditional method of record keeping persists in secondary schools. The digitalized system uses technology driven, which infers that 21st century school records in file is obsolete. Information and communication technology should be embraced in storing and dissemination information.

Computer-based record keeping storage has a very great advantage over paper storage in file because of the digitalization of school records information are stored in the computer is not prone to destruction by rain, fire, theft, termites or rodents. Schools are becoming increasingly complex in all ramifications in terms of staff and student population, programme and activities as well as the increasing need for accurate planning and improved outputs. These afore listed indices require improved methods school record keeping, storing and retrieving school records for effective school administration. Based on these problems, the study hopes to unravel principal school records practices for enhanced administrative effectiveness in public senior secondary schools in rivers state.

Computers do not work in isolation but with human intervention. They are electronic machines that undergo three processes; input, transformation and output. These processes are actualized by human manipulations. It serves the purpose of information storage, retrieval and use at any point in time and relevance. These functions have made the use of the computer so paramount in all institutions including schools. A computer is also viewed as a machine that perform tasks and calculation based on a set of instructions or program operations Norton (2021) define a computer as a programmable machine which responds to a specific set of instructions in a well define manner and execute pre-recorded list of instructions.

Modern computers are said to be electronic and digital consisting of machinery wires, transistors and circuit referred to as hardware and the instruction and data called software. All the definitions are pointers to the fact that computers cannot be operated in isolation but with the aid of human intervention. The emphasis on the use of technology in schools have also initiated the utilization of computers in school record keeping by school administrators for the effectiveness of their day-to-day activities. Egwunyenga (2000) asserted that good school records when properly and effectively kept provide information for teachers, counselors, curriculum planners and instructional supervisors for planning and implementing instructional and administrative activities. Independent studies by researchers have shown co-relationships between the use of electronic record keeping and administrative effectiveness.

Cloud storage is a tool for business owners and consumers to save data securely online so that it can be accessed anytime from any location and easily shared with those who are granted permission. Cloud storage also backs up data to facilitate recovery off-site. Today, individuals have access to several free cloud computing services such as Google drive, Dropbox, and Box, which come with upgraded subscription packages the offer larger storage sizes and additional cloud services. Cloud storage has grown increasingly popular among individuals who need larger storage space and for business seeking an efficient off-site data back-up solution. Due to cloud storages increasing popularity and use, cloud security has become a major concern to protect data integrity, prevent hacking attempts, and avoid file or identity theft (Jake and Khadija, 2021). In the view of Krishna (2019) and Samman and Smug (2021), it is a way of storing data online instead of a local computer but through a cloud computing provider who manages and operates record keeping as a service. It requires an internet connection in order to upload, modify, and share documents, presentations, spreadsheets, images, audio, video, etcetera with others. With the emergence of digitalized system practices cloud storages is a model of compute data storage in which the digital data is stored in local pools, said to be on the cloud, the physical storage spans through multiple servers (sometimes in multiple locations) and the physical environment is typically owned and managed by a hosting company. These cloud storage providers are responsible for keeping the data available and accessible, and the physical environment protected and running.

Cloud storage stores and moves data in a secure and safe manner, thereby allowing principal to keep their files stored with the cloud services provider for on-demand access on any of their devices. Cloud storage can also be used to archive data that require long tern storage that does not need to be accessed frequently, such as certain financial records. Increasingly, files stored in the cloud, are utilized for group collaboration. It is delivered on demand with just-in-time capacity and costs and eliminates buying and managing a record



keeping infrastructure (Samman and Smug, 2021). In schools, cloud storage could be efficient and effectively used by principals to enhance administrative effectiveness. Also, the latest school management system currently available, affords school administrators to automate their files into a system that allow then access then conveniently. It saves labour and effort to retrieve a record no matter the number of years it has been kept at the click of a button. Therefore, a school administrator does not need to keep large files in a large room and consume more paper. What the administrator needs is to integrate technology into the school system and work smart and not necessarily hard as the technology permits access to files every time they need then even when they are not in the school premises (Falana, 2018).

Statement of the Problem

Prior to the introduction of the 21st record keeping tools (through the use of Information and Communication Technology) in secondary schools; principals in Nigeria and other developing countries stored school records mainly on papers stocked in files, which were packed inside drawers, lockers, book shelves and boxes. This type of school record keeping practice exposed important school records to destruction by pests, termites, cockroaches, rodents, rainfall, flooding, pilfering, fire outbreaks and eventual loss. In the 21st century, it is expected that record keeping in secondary schools should be done electronically using computers and cloud storage. Unfortunately, it is perceived that most public secondary school principals in Rivers State seem not to adopt information management system of digitalization which involves the use of cloud storage, flash drive, memory cards, CD Roms, flash drives, audio recorders, and other information management devices for proper record keeping to improve on their administrative tasks. Giving credence to the above statement posited that the twenty-first century is an era of global use of digital technologies by institutions and business organizations in order to have a competitive advantage over their rivals in the labour market. If principals must remain relevant in secondary school administration, their mode of record keeping ought to be reversed in keeping with best global practices for safety and accountability.

It was against this background that the study investigated computers and cloud storage as principals' digitalized record keeping practices for Effective Administration in Public Senior Secondary School in Port Harcourt Metropolis, Rivers State.

Purpose of the Study

The aim of the study was to examine principals' digitalization of school record for effective administration in public senior secondary school in Port Harcourt Metropolis, Rivers State. The specific objectives of the study were to;

1. Determine the ways principals' digitalization of school record with the use of computer enhanced administrative effectiveness in public senior secondary school in Port Harcourt Metropolis, Rivers State.
2. Ascertain how principals digitalized financial record keeping with cloud storage facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State.

Research Question

The following research questions guided the study:

1. What are the ways principals' digitalized record keeping with computers facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State?
2. How do principals digitalized financial record keeping with cloud storage facilitate administrative effectiveness in public senior secondary schools in Rivers State?

Hypotheses

The study was guided by the following null hypotheses which will be tested at 0.05 level of significance:

1. There is no significant difference between the mean opinion scores of male and female principals on the ways principals' digitalized record keeping with computers facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State.
2. There is no significant difference between the mean opinion scores of experienced and inexperienced principals on how principals digitalized financial record keeping with cloud storage facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State.



Methodology

The study adopted descriptive survey research design. The population of the study is 105 principals (68 males and 37 female) in 35 public senior secondary schools in Port Harcourt Metropolis which consist of Port Harcourt and Obio/Akpor Local Government Areas in Rivers State. Three (3) principal which include the main-principal, vice-academic and vice-administration principals were selected from each secondary schools in Port Harcourt Metropolis. The census sampling technique was used, which ensured that every member of the population participated in the study. The instrument was a self-structured questionnaire titled, Principals Digitalization of School Records for Effective Administration Questionnaire, validated by experts in Departments of Measurement and Evaluation and Educational Management. Cronbach Alpha was used to establish the reliability of each cluster of the instrument which gave reliability indexes of 0.81 and 0.83. Mean and standard deviation were used to answer the research question with a criterion mean of 2.50. Questionnaire items with mean opinion scores below 2.50 denoted 'Disagreed' while 2.50 and above signified 'Agreed', while the hypotheses were tested using the z-test statistical tool at 0.05 level of significance.

Results Presentation

Research Question 1: What are the ways principals' digitalized record keeping with computers facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State?

Table 1: Mean Opinion Scores of Male and Female Principals on Ways principals' digitalized record keeping with computers facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State

S/N	Items	Male Principal sN=68			Female Principal sN= 37		
		Mea n	Std	Decision	Mean	Std	Decision
1.	Record keeping with computer's hard drive-in schools boosts academic and financial record keeping.	2.52	0.90	Agree	2.51	0.49	Agree
2	Record keeping in schools with flash drive helps to provide useful information on the academic progress and development of students.	2.75	0.73	Agree	2.80	0.82	Agree
3.	Record keeping in schools with memory card helps in planning and budgetary purposes.	2.47	0.81	Disagree	2.46	0.31	Disagree
4.	Record keeping in schools with CD Rom helps in making information readily available to employers of labour and stakeholders.	2.74	0.52	Agree	2.70	0.39	Agree
5.	Record keeping with cloud storage in schools provide information for assessment of teachers, students and school financial accounts.	2.80	0.20	Agree	2.78	0.90	Agree
Grand Mean/SD		2.66	0.63	Agree	2.65	0.58	Agree

Source: Field Survey, 2024



The results on table 1 revealed that questionnaire items 1, 2, 4 and 5 had mean values of 2.52, 2.75, 2.74 and 2.80 for male principals and 2.51, 2.80, 2.70 and 2.78 for female principals while questionnaire item 3 had mean values of 2.47 for male principals and 2.46 for female principals. The grand mean score for both male and female principals on the table were above the criterion mean which implies that male and female principals agreed that principals' digitalized record keeping with computers facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State.

Research Question 2: How do principals digitalized financial record keeping with cloud storage facilitate administrative effectiveness in public senior secondary schools in Rivers State?

Table 2: Mean Opinion Scores of Male and Female Principals' on How principals digitalized financial record keeping with cloud storage facilitate administrative effectiveness in public senior secondary schools in Rivers State.

S/N	Items	Male Principals N=68			Female Principals N=37		
		Mean	Std	Decision	Mean	Std	Decision
1.	Record keeping with cloud storage helps in decision making in schools	2.79	0.99	Agree	2.82	0.85	Agree
2.	Financial record keeping with cloud storage in schools help principals in accountability purposes	2.55	0.67	Agree	2.57	0.80	Agree
3.	Financial record keeping with cloud storage in schools help principals to organize school finances	2.63	0.12	Agree	2.60	0.25	Agree
4.	Cloud storage helps in having details of all school income and expenditure	2.77	0.52	Agree	2.80	0.35	Agree
5.	Financial record keeping with cloud storage help principals to show stock levels in schools	2.55	0.61	Agree	2.51	0.24	Agree
6.	Financial record keeping with cloud storage stores school financial information for auditing purposes	2.90	0.30	Agree	2.89	0.33	Agree
7.	Financial record keeping with cloud storage aid in planning areas of financial needs in schools.	2.77	0.99	Agree	2.80	0.85	Agree
Grand Mean		2.71	0.60	Agree	2.71	0.52	Agree

Source: Field Survey, 2024

The results on table 2 revealed that questionnaire items (6-12) had mean values of 2.79, 2.55, 2.63, 2.77, 2.55, 2.90 and 2.77 for male principals and 2.82, 2.57, 2.60, 2.80, 2.51, 2.89 and 2.80 for female principals. Again, the grand mean scores on the table were above the criterion mean of 2.50 which implied that male and female principals agreed that principals digitalized financial record keeping with cloud storage facilitate administrative effectiveness in public senior secondary schools in Rivers State.

Hypotheses

1. There is no significant difference between the mean opinion scores of male and female principals on the ways principals' digitalized record keeping with computers facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State.



Table 3: z-test Analysis of Difference Between the Mean Opinion Scores of Male and Female Principals on Ways principals' digitalized record keeping with computers facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State.

Gender	N	\bar{X}	Std	Df	z-Cal	z-Crit.	LS	Decision
Male Principals	221	2.66	0.63	266	0.45	± 1.96	0.05	HO1: Failed to Reject
Female Principals	47	2.65	0.58					No Significant Difference

Source: Field Survey, 2024

Data on table 3 above shows a z-calculated value of 0.45, which was less than the z-critical value of ± 1.96 at 0.05 level of significance and 266 degree of freedom. Since the z-calculated value of 0.45 was less than the z-critical value of ± 1.96 , the null hypothesis was accepted which states that there is no significant difference between the mean opinion scores of male and female principals on the ways principals' digitalized record keeping with computers facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State.

2. There is no significant difference between the mean opinion scores of experienced and inexperienced principals on how principals digitalized financial record keeping with cloud storage facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State.

Table 4: z-test Analysis of Difference Between the Mean Responses of Experienced and Inexperienced Principals' on How principals digitalized financial record keeping with cloud storage facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State.

Class	N	\bar{X}	Std	Df	z-Cal	z-Crit.	LS	Decision
Male Principals	169	2.71	0.60	266	0.72	± 1.96	0.05	HO2: Failed to Reject
Female Principals	99	2.71	0.52					No Significant Difference

Source: Field Survey, 2024

Data on table 4 above shows a z-calculated value of 0.72, which was less than the z-critical value of ± 1.96 at 0.05 level of significance and 266 degree of freedom. Since the z-calculated value of 0.72 was less than the z-critical value of ± 1.96 , the null hypothesis was accepted which states that there is no significant difference between the mean opinion scores of experienced and inexperienced principals on how principals digitalized financial record keeping with cloud storage facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State.

Discussion of Findings

Findings on research question 1 on table 1 revealed that male and female principals agreed that principals' digitalized record keeping with computers facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State with grand mean values of 2.66 and 2.65. Hypothesis 1 on table 3 also showed that there is no significant difference between the mean opinion scores of male and female principals on the ways principals' digitalized record keeping with computers facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State with z-calculated value of 0.45 which was less than z-critical value of ± 1.96 . This finding is in agreement with Gama (2010) who posited that the State Universal Education Board through the Local Education Authority should provide additional storage facilities in schools to enable them preserve their records for posterity, and



concluded that since records are better generated and preserved using computers, the authorities should provide the facility in schools. In addition, Garry and Dave (2021) opined that record keeping with the computer captures and retains digital information on electromagnetic, optical or silicon-based recording keeping media for future use which invariably would enhance school administrators' effectiveness.

Findings on research question 2 on table 2 revealed that male and female principals agreed that principals digitalized financial record keeping with cloud storage facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State with grand mean values of 2.71 and 2.71. Hypothesis 2 on table 4 also showed no significant difference between the mean opinion scores of experienced and inexperienced principals on how principals digitalized financial record keeping with cloud storage facilitate administrative effectiveness in public senior secondary schools in Port Harcourt Metropolis, Rivers State with z-calculated value of 0.72 which was less than z-critical value of ± 1.96 . The finding corroborated with Samman and Smug (2021) who noted that cloud storage is a cloud computing model that stores data on the Internet through a cloud computing provider that manages and operates record keeping as a service. It is delivered on demand with just-in-time capacity and costs, and eliminates buying and managing a record keeping infrastructure. It thus allows principals to keep their files stored with the cloud service provider and on-demand is retrieved and accessed easily. The finding is also in line with Falana (2018) who was of the view that the school administrator does not need to keep large files in a large room and consume more paper but what the administrator needs is to integrate digitalized technology into the school system and work smart and not necessarily hard. Moreover, the technology is cloud-based, meaning they can access their files any time they need them even when they are not in the school premises.

Conclusion

Based on the findings of the study, it was concluded that record keeping with computers and cloud storage aid administrative effectiveness in public senior secondary schools in Rivers State.

Recommendations

The following recommendations were made based on the findings of the study:

- The State government should supply the necessary electronic and digital record keeping devices such as computers and their accessories to all senior public secondary schools in Rivers State. This could be done by providing funds for the purchase and maintenance of ICT facilities and accessories.
- Principals should use cloud storage for financial record keeping in public senior secondary schools in Rivers State for accountability, mobility and accessibility of data from anywhere in the world.

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