Full Length Research

Influence of principals' use of management information system in managing public senior secondary schools in Central Senatorial Zone, Kaduna State, Nigeria

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ABSTRACT: The study assessed principals' use of management information systems (MIS) in managing public secondary schools in Central Senatorial Zone, Kaduna State. The study was guided by three research questions with corresponding 3 objectives and 3 null hypotheses. The research design used for this study was descriptive survey research design. The total population of the study consisted of 168 principals and vice principals drawn from all 168 public senior secondary schools in the central senatorial zone of Kaduna State. The sample size of the study consisted of 84 respondents drawn from 84 secondary schools using a simple random sampling technique. The researcher's self-developed instrument which consisted of 24 items was used for data collection. The instrument was validated and it yielded 0.63 as the logical validity index. The instrument was pilot tested on 20 principal and vice principal and the coefficient of internal consistency of 0.72 was obtained. Descriptive statistics of mean and standard deviation were used to answer the research questions while Pearson product moment correlation was used to test all the hypotheses at a 0.05 level of significance. The major findings of the study indicated that MIS is effective in managing various aspects of staff and students' records and shows a significant relationship between MIS use and the management of students' records, administrative competence, and teachers' computer skills in recording students' scores in public senior secondary schools in Central Senatorial Zone of Kaduna State. This implies that no meaningful records management process can ignore the impact of MIS in effective records management since it is clear that information creation, storage and retrieval have gone from pictorial representations on the walls of caves and artefacts to the invention of writing and computers. The study recommends that efforts should be intensified by government and stakeholders in education in collaboration with the School Based Management Committee (SBMC) to introduce and ensure its implementation of the use of modern technology such as Education Management Information System (MIS) for improved method of record management of students in public senior secondary schools of Central Senatorial Zone, Kaduna State.

Keywords: Kaduna, management information system, Nigeria, principals, secondary schools.

INTRODUCTION

Today, which we call the information age as many technological developments have been experienced; the biggest risk that an organization could take is to stay insensitive to change. Many significant factors such as continuous developments in information systems, information exchange, increasing expectations of society, modern management perceptions and applications cause organizations all over the world to develop new applications in order to survive (Demirci, 2004). Because of their priority in modern societies, Information Systems have reached a state of high priority in education, too. Recently, the contributions of information systems to

education have been among the most emphasized subjects (Selwood and Pilkington, 2005; Pelgrum, 2001; Webber, 2003; Flanagan and Jacobsen, 2003; Yuen *et al.*, 2003). Every country aims to provide their citizens with the most contemporary education in line with their financial efficiency. For this reason, big investment plans for the use of information systems have been put into action all over the world (Yuen *et al.,* 2003; Pelgrum, 2001). In our country Nigeria, in order to support the Secondary Education Program, millions of naira was released by the federal government through the Ministry of Education but little or no effort is significantly done in regards to the improvement of MIS in secondary school. World Bank on June 25, 1998, and July 26, 2004, in the first section of the program, at least two secondary schools in each of the countries of Africa were equipped in terms of information technologies and then activated. In-service training courses about the use of computer in secondary education which was given to 2, 250 coordinators of information technology sections and 35,000 teachers were financed. In the second section of the project, which ended on February 28, 2006, it was expected that information system software would be distributed to the 3,000 secondary education schools around Nigeria and education portal would be established. By training 600 computer teachers, in-service training is planned for all the secondary school inspectors working on the field, and for at least 106,381 educators consisting of managers and teachers of secondary schools which have or will have information system classes, on the use of information systems in education and use of educational software, which will be prepared in line with recent instruction programs (World Bank, 2002). Principals have started to make use of management information systems in the gradually increasing daily management staff as of May 2003.

Generally speaking, the use of information systems can be stated as increasing effectiveness at work by processing information, increasing managerial effectiveness by meeting the need for information and gaining superiority in competitions by directing strategies (Yuen *et al.,* 2003). Principal management information systems aim to provide support for managing the educational activities of school managers through processing information. Telem (1999) defines a principal management information system as "a management information system designed to manage the teachers, structure, management task, instructional processes and special needs of the school". As for a broad definition, contributions of information systems to schools can be defined as making programs more effective, making the teaching process and the changes in learning environment professional, enabling teachers to exchange their experiences in a more systematic way, working in teams, determining the needs of the students (Gurr, 2000; Pegler, 1992), supporting the school managers and other staff in

doing their duties, developing their performances, effectiveness and efficiencies (Telem and Buvitski, 1995). In other words, principal management information systems increase effectiveness and efficiency by saving time and facilitating the development of alternative solutions for complex problems. Information systems support not only information processes but also innovations (Haag *et al.,* 1998). As being adaptable to changes, these systems are helpful in coping with the demands of change. Therefore, principal management information systems improve the adaptation of the school to the environment. They enable the school to comprehend and define inner and outer information transfer. Thereby, principal management both meets the demands and expectations of its inner (teacher, student) and outer members; and ensures that school activities are arranged accurately and on time (Pegler, 1992). The introduction of principal management information systems to schools has caused significant changes in the roles and working styles of staff (Telem, 1999). Principal management information systems have changed school management in the areas of leadership, decision-making, workload, human resource management, communication, responsibility and planning (Gurr, 2000). Strategically principal management information systems help the manager determine the aims of the school, make long-term plans, distribute resources, form educational methods of the future, and determine the performances of teachers and the success of the school (Telem, 1991). In this way, principal management information systems can also be used as a tool to initiate and use the educational leadership of the manager. School managers can make more efficient decisions when they get correct and up-to-date information from school management information systems (Christopher, 2003). Decision-making is the heart of educational management. Daily, problematic conditions that require decision-making are based on the complicated and unexpected nature of the school environment. In addition, managers have been required to make more decisions in a short time because of the increasing expectations from the educational system (Christopher, 2003; John, 2011). Moreover, decision-making has been faster, more frequent and more complicated in schools of today. In order to make decisions under these conditions, gathering data that is continuous, up-to-date and that can be accessed on time and analyzing and using this data is an obligation (Telem, 1991; Gentry, 2005; Schott *et al.*, 2020). The success of school development studies is mostly based on data-based decision-making. Additionally, teachers are not updated to the present knowledge of their subject matter due to the inability to conduct research which can be enhanced through principals' initiative strategies of ensuring the use of computers and internet in the school. It is against this background that the researcher is assessing the influence of principals' use of management information systems in managing public secondary

schools in Central Senatorial Zone, Kaduna State.

The interventions in Education Management Information System (EMIS) development in Nigeria could have brought more efficiency and increased the quality of data and its utilization. However, for many years of EMIS development in Nigeria, it could not perform creditably. In many places, EMIS seems not to be in existence and where it is, EMIS continues to produce data and statistics prone to errors and limited access. Data inconsistency and inaccuracy in enrolment, dropouts, repeaters, and quality and quantity of teachers rise and fall unsystematically (Oyedeji, 2013; Stephen, 2017). In view of the above, planning, policy formulation and decision-making on top educational management activities such as school monitoring and supervision, staff deployment, motivation and training, and students' enrolment, performance and assessment seem to be difficult. It also seems to be affecting the quality of graduating students, provision and maintenance of school facilities, resource allocation and number of students seeking admission in different streams, the growth pattern of students in each discipline, and job demand from business or industry among others. Additionally, there is continuous usage of manual records for staff and student information which includes attendance records, financial records, admission records, students' academic records, etc. This kind of manual record can suffer from wear and tear, and may not be able to bring out clearly the information needed 5 or 10 years later or even more. Furthermore, most teachers hardly use computers and their facilities to work. Hence, students' academic records like continuous assessment (CA) and examination scores are recorded in books which can suffer from wear and tear. However, unlike previous studies, the researcher of this present study is concerned over the fact that poor managerial skill of principals in the use of MIS does not enhance the efficient and effective use of MIS in the management of public senior secondary schools in Central Senatorial Zone of Kaduna State.

Significance of the study

The study would be of benefit to stakeholders like school proprietors, principals, teachers, policymakers and future researchers. The findings of this study will help school proprietors, the school owners discover the extent to which utilization of the Education Management Information System (EMIS) facilitates the functions of planning, staffing, organizing, budgeting, motivation and evaluating towards achieving the educational goals. This will encourage them provide their schools with a functional EMIS that can always be able to collect, organize and report accurate, relevant and timely data for planning and decision-making purposes.

The study would be useful to principals who are heads of public senior secondary schools. It will provide them with

data that can be used for decision-making for the schools and progress reports of their staff and students. It will make known to the principals the quality and quantity of staff and their effectiveness in their respective duties for future planning. The extent to which utilization of EMIS can affect school management in the areas of student enrolment, staff training, student assessment, provision of facilities, staff motivation and school supervision among others shall be made known to the principal and this will help them plan well to always have a functional EMIS on the ground for effective achievement of school objectives.

The study would help school owners be it the government or private school owners in discovering of Education Management Information System (EMIS) for planning, budgeting, supervision and evaluation of school programmes as well as staff training and motivation for effective human management and achievement of educational goals. The records of the EMIS will assist them in ensuring adequate and appropriate allocation of funds on programmes for a better achievement of the programme goals in their schools.

It is hoped that teachers who are always in the class will find the study useful. It may assist them in the management of classroom activities and utilization of available scarce resources in the teaching and learning process. The study will demonstrate the significance of applying and using Education Management Information System records in classes and how efficient the utilization of Education Management Information Systems in management could be.

The study will create awareness among educational policymakers to discover the relevance of the Education Management Information System (EMIS) records and its usage in the formulation of policies for the effective development and achievement of educational programmes.

The study will serve as a contribution to the knowledge bank in the educational system. Present and future researchers may find it quite useful in the area of utilization of Education Management Information System (EMIS) and management of public senior secondary schools in Nigeria. The study would explore and present the element of improvement for staff's and management's access to information on the academic and administrative levels.

The study is beneficial to investors in education, philanthropist, Old Boys Club Association who in one way contributes to the academic environment in both primary and secondary education on how their efforts can ensure that proper strategies and techniques are put in place for teachers in public senior secondary schools to under-go workshops, training, seminars, conferences, etc which will enhance their knowledge in the use of computers.

It may also expose the government and policymakers in the educational sector in Nigeria to formulate policies that will enhance the good use and management of MIS in students' records management, and also ensure that

sufficient funds are made available for the supply of ICT components in schools to enhance effective school administration and thereby achieve the goals and objectives of secondary education in Nigeria.

Scope of the study

This study will be limited to the principal use of the Education Management Information System (EMIS) in managing public senior secondary schools in the Central Senatorial Zone, Kaduna State, Nigeria. Basically, the study will focus on determining the principal use of Education Management Information Systems in managing staff and student records, administrative competence and teacher computer skills in public senior secondary schools in the Central Senatorial Zone of Kaduna State Nigeria.

The choice of public senior secondary schools is predicated on the assumption that EMIS exist in these schools and the use of EMIS in the schools is more than any section of education in the study area. The choice of the variables is based on the assumption that in the cause of managing public secondary schools in the Central Senatorial Zone of Kaduna State Nigeria. This study will concentrate on the assessment of the use of MIS by administrators in public senior secondary schools in managing schools. The academic coverage of this study emphasizes how study principals' administrative skills can enhance the effective use of MIS in enhancing teachers' job performance, including how teachers' competencies in the use of MIS can improve their job performance and enhance the teaching and learning process in public senior secondary schools. Geographically, this study will cover all public senior secondary schools in the Central Senatorial Zone of Kaduna State.

The main purpose of this study is to assess principals' use of Educational Management Information Systems in managing public secondary schools in Central Senatorial Zone, Kaduna state.

METHODOLOGY

The study made use of a descriptive survey research design. Descriptive survey research design is a data collection technique in which information is gathered from respondents (Otsuka *et al.,* 2004). Specifically, the study used a cross-sectional survey because it requires that data are collected at a particular time, from a large sample for the purpose of describing a population represented by the sample at that particular time. Anikweze (2013) looked at cross-sectional design as involving the collection of data within a short span of time from a random sample of the targeted population. This design is considered suitable because it assisted the researcher in collecting data in assessing principals' use of management information

systems in managing public secondary schools in the Central Senatorial Zone, Kaduna State.

Population of the study

The target population for this study is 168 which comprises fifty-six (56) principals and one hundred and twelve (112) vice-principals in the 56 public senior secondary schools in the Central Senatorial Zone of Kaduna State. The distribution of the schools, principals and vice-principals according to Local Government Area, is shown in Table 1.

Sample and sampling procedure

The simple random sampling procedure was adopted in selecting the sample size. The sample size is 84 representing 50% of the total population of 168 which comprised 56 principals and 112 vice-principals in the Central Senatorial Zone of Kaduna State. Gleen (2013) was of the opinion that in survey research, the 56 schools were spread in the seven local government areas in the Central Senatorial Zone of Kaduna State. It is shown in Table 2.

Instrument for data collection

A structured questionnaire in 2 sections A and B was used in this study. The questionnaire was designed by the researcher and it is called Questionnaire on Assessment on the Use of MIS by Administrators in Public Senior Secondary Schools in Managing Schools (QAMISAPSSSMS). Section A elicits essential information about the bio-data of the respondents while Section B was constructed based on the modified 4-point Likert's scales of measurement of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). The options of the items were modified in the Likert format with SA=4, A=3, D=2, and SD=1. Section B of the questionnaire contained 24 items on principals' use of management information systems in managing public secondary schools in the Central Senatorial Zone, Kaduna State.

Validity of instrument

To establish the validity of the instrument, the questionnaires were given out to an expert in Educational Management, Nasarawa State University, Keffi; and the expert scored the instrument. The critical appraisal of the content of the questionnaire relative to the objectives of the study was helpful to the study; improved the quality of the questionnaire and indeed provided face validity for the instrument. The mean scores of the validation scale

Table 1. Central Senatorial Zone of Kaduna principals and vice-principals population by Local Government Area Local.

Local Government Area	Number of schools	Number of principals	Number of vice principals
Birnin Gwari	8	8	16
Chikun	8	8	16
Giwa	8	8	16
Igabi	8	8	16
Kaduna North	8	8	16
Kaduna South	8	8	16
Kajuru	8	8	16
Total	56	56	112

Source: Kaduna State Ministry of Education, 2017.

Table 2. Sample distribution of principals and vice – principals.

S/N	Area councils	Total No of principals 50%	Total No of vice principals 50%
1	Birnin Gwari	4	8
2	Chikun	4	8
3	Giwa	4	8
4	Igabi	4	8
5	Kaduna North	4	8
6	Kaduna South	4	8
7	Kajuru	4	8
Total		28	56

yielded a logical validity index of 0.63%. The instruments were adjudged comprehensively and appropriate for the purpose of the study by expert.

Reliability of instrument

To ascertain the reliability of the instrument, a pilot test was carried out using a sample of principals and vice-principals. The instrument was administered to this pilot group of principals and vice-principals in the Central Senatorial Zone Kaduna State. Twenty schools were used for the pilot study. Twenty principals and vice principals, from 20 schools were administered with the instruments accordingly. Their responses from were scored and analyzed using Cronbach alpha in SPSS software for the reliability test method to obtain the coefficient of internal consistency which gave a 0.72 per cent index.

Administration of the instrument

The questionnaires were administered personally by the researcher with prior arrangement with the public senior secondary schools concerned using the researcher's introductory letter obtained from the Department of Educational Management, Nasarawa State University,

Keffi. The privacy of information and other ethical sureties was guaranteed. Immediately after the permission was granted, the researcher administered the instrument to the selected respondents. Freedom to ask questions for clarification was equally granted and a period of 3 days was given to the respondents to respond to the items after which the researcher retrieved the questionnaire from them.

Procedure for data analysis

The data was analyzed using descriptive statistics. A test of hypotheses was carried out using the Chi-squares statistical tool. Chi-square is a measure of association between two variables using the procedure of observed and expected frequencies. Chi-square is helpful in evaluating the probability of obtaining a relationship between the observed frequencies and expected frequencies. It was useful in testing the relationship of variables as depicted in the hypotheses of this study.

Justification of methods

The descriptive survey design was used for the study because it allows the researcher to collect data from

respondents and subject it to statistical analysis. It also describes things as they are in their natural settings. The population of the study target the schools across the central senatorial zone of Kaduna State capturing vice principals and principals. The sample of the study from the population was taken to be small so that the validity and reliability of the data is achieved. This agrees with Krejcie and Morgan (1970) that a small percentage of the sample should be taken to represent the entire population. The instrument questionnaire was used as this helped to collect data from the respondents. The instrument is validated by experts at 0.63% and 0.72% was determined by Cronbach alpha in SPSS operation determining the reliability of the instrument. Descriptive statistic of mean and standard deviation was used to determine the level of acceptance of the research questions and inferential statistics of PPMC was used to determine the level of significance at 0.05 because the hypothesis testing deals with relationship.

DATA ANALYSIS AND RESULTS

The data obtained on the MIS use in managing staff and students' records in public senior secondary schools are presented in Table 3. The field data are presented here according to the research questions and hypotheses posed in the study. The data were analyzed using the mean score and standard deviation to answer the research question. Pearson product-moment correlation was used for the research hypothesis checked at 0.05 level of significance. A cut-off point of 2.50 mean was set as a standard for acceptance on a rating scale of 4 while making decisions in determining the mean scores having a relationship on the research question, while any mean below 2.50 was rejected as not having any relation. The null hypothesis postulated was determined by the outcome of Pearson product-moment correlation (r) carried out by the social science statistical package (SPSS) operation. The Pearson product-moment correlation of positive sign values have significant relationship and negative sign values have no significant relationship. The result from the analysis so far has shown that the principals' use of management information systems in managing public secondary schools in Central Senatorial Zone, Kaduna State is very effective.

Research Questions 1: To what extent is MIS usefulness in managing various aspects of staff and student records in public senior secondary schools in the Central Senatorial Zone of Kaduna State?

Table 4 shows responses on MIS usefulness in managing various aspects of staff and student records in public senior secondary schools in the Central Senatorial Zone,

Kaduna State. Item 1 has a mean score of 3.61 and a standard deviation of 1.90 which shows that schools need computers for effective admission records. Item 2 has a mean score of 3.59 and a standard deviation of 1.89 which shows that schools need computers for effective financial records. Item 3 has a mean score of 3.35 and a standard deviation of 1.83 that schools need computers for recording important events in the school. Item 4 has a mean score of 3.82 and a standard deviation of 1.95 which shows that schools need computers for recording student's personal information. Item 5 has a mean score of 3.89 and a standard deviation of 1.97 that schools need computers for recording students' academic records. Item 6 has a mean score of 3.69 and a standard deviation of 1.92 which shows that schools need computers for retrieving student records for a long time. Item 7 has a mean score of 3.53 and a standard deviation of 1.87 which shows that schools need computers for good record keeping and decision-making.

Research question 2: To what extent does principals' use of MIS enhance their administrative competence in the management of public senior secondary schools in the Central Senatorial Zone of Kaduna State?

Table 5 shows responses to principals' use of MIS to enhance their administrative competence in the management of public senior secondary schools in the Central Senatorial Zone of Kaduna State. Item 9 has a mean score of 3.57 and a standard deviation of 1.88 which shows that the principal's knowledge of computers affects the use of computers in the school. Item 10 has a mean score of 3.63 and a standard deviation of 1.90 that the principal's knowledge of computers leads to the regular use of computers in the school. Item 11 has a mean score of 3.62 and a standard deviation of 1.90 which shows that principal who know the importance of computers will want all financial records stored in the computer. Item 12 has a mean score of 3.75 and a standard deviation of 1.94 which shows that principals who know the value of computers will want all admission records to be recorded in the computer. Item 13 has a mean score of 3.88 and a standard deviation of 1.97 which shows that principals who are so attached to the importance of computers will always make sure the computers in the school are always in order. Item 14 has a mean score of 3.71 and a standard deviation of 1.93 which shows that principal low knowledge of computers does not lead to all using computers in the school. Item 15 has a mean score of 3.71 and a standard deviation of 1.92 that principals who has low value on the use of computers may not see the need for all staff to use it. Item 16 has a mean score of 3.64 and a standard deviation of 1.90 that principals who lack the value of computer maintenance may not always regulate the maintenance level of the

Table 3. MIS use in managing staff and students' records in public senior secondary schools.

S/N	Question	SA (4)	A (3)	D (2)	SD (1)
	MIS is use in managing various aspects of staff and students records in public senior secondary schools				
1	School need computers for effective admission records	56	25	2	1
2	School need computers for effective financial records	52	31	0	1
3	School need computers for recording important events in the school	46	24	12	2
4	School need computers for recording students personal information	61	23	0	0
5	School need computers for recording students' academic records	77	6	0	1
6	School need computers for retrieving students records for a long time	58	26	0	0
7	School need computers for good record keeping and decision-making	49	32	2	1
8	School need computers for recording staff transfers and promotion for a period of time	66	16	1	1
	How principals use of MIS enhance their administrative competence in the management of public senior secondary schools				
9	Principals knowledge of computers affect the use of it in the school	53	28	1	2
10	Principals knowledge of computers leads to the regular use of computers in the school	59	22	2	1
11	Principals who know the importance of computers will want all financial records be stored in the computer	56	25	2	1
12	Principals who know the value of computers will want all admission records be recorded in the computer	63	21	0	0
13	Principals who are so attached with the importance of computers will always make sure the computers in the school are always in order	76	7	0	1
14	Principals low knowledge of computers does not lead to all using computers in the school	66	15	0	3
15	Principals who has low value on the use of computers may not see the need for all staff to use it	62	21	0	1
16	Principals who lack the value of computer maintenance may not always regulate the maintenance level of the systems in the school	57	24	3	0
	How principals application of MIS enhance teachers computer skills in recording students' activities in public senior secondary schools				
17	Principals who allow the use of computers in the school makes teachers prepares well for lessons in the class	46	36	1	1
18	Teachers use of computers makes them have proper records of students' activities	55	26	2	1
19	Teachers use of computers and internet makes them advance further research in their areas of studies	54	27	2	1
20	Teachers use of computers makes teachers get upgraded in their styles of teaching	55	26	3	0
21	Principals who makes provision for teachers to use the computer and internet will get the best from them	51	30	2	1
22	Teachers use of computers and internet will make them advanced in their teaching methodologies	49	32	2	1
23	Teachers use of computers and internet will lead to better preparation of lesson notes and lesson plan	56	25	2	1
24	Teachers use of computers will enable better retrieval of students information	46	35	2	1

systems in the school. The cluster mean is 3.68 above the benchmark of 2.50, this shows that MIS enhance their administrative competence in the management of public senior secondary schools in the Central Senatorial Zone of Kaduna State.

Table 4. Showing mean and standard deviation of MIS **usefulness** in managing various aspects of staff and students records in public senior secondary schools in Central Senatorial Zone, Kaduna State.

S/N	Items	SA (4)	A (3)	D (2)	SD (1)	x̄	Std Dev	Decision
1	School need computers for effective admission records	56	25	2	1	3.61	1.90	Accepted
2	School need computers for effective financial records	52	31	0	1	3.59	1.89	Accepted
3	School need computers for recording important events in the school	46	24	12	2	3.35	1.83	Accepted
4	School need computers for recording students personal information	61	23	0	0	3.82	1.95	Accepted
5	School need computers for recording students' academic records	77	6	0	1	3.89	1.97	Accepted
6	School need computers for retrieving students records for a long time	58	26	0	0	3.69	1.92	Accepted
7	School need computers for good record keeping and decision-making	49	32	2	1	3.53	1.87	Accepted
8	School need computers for recording staff transfers and promotion for a period of time	66	16	1	1	3.75	1.94	Accepted
	Cluster mean					3.65	1.91	Accepted

Source: Field work (2019) Mean cut off point of 2.50.

Table 5. Showing Mean and Standard Deviation for principals' use of MIS enhance their administrative competence in the management of public senior secondary schools in Central Senatorial Zone, Kaduna State.

S/N	Items	SA (4)	A (3)	D (2)	SD (1)	x̄	Std Dev	Decision
9	Principals knowledge of computers affect the use of it in the school	53	28	1	2	3.57	1.88	Accepted
10	Principals knowledge of computers leads to the regular use of computers in the school	59	22	2	1	3.63	1.90	Accepted
11	Principals who know the importance of computers will want all financial records be stored in the computer	56	25	2	1	3.62	1.90	Accepted
12	Principals who know the value of computers will want all admission records be recorded in the computer	63	21	0	0	3.75	1.94	Accepted
13	Principals who are so attached with the importance of computers will always make sure the computers in the school are always in order	76	7	0	1	3.88	1.97	Accepted
14	Principals low knowledge of computers does not lead to all using computers in the school	66	15	0	3	3.71	1.93	Accepted
15	Principals who has low value on the use of computers may not see the need for all staff to use it	62	21	0	1	3.71	1.92	accepted
16	Principals who lack the value of computer maintenance may not always regulate the maintenance level of the systems in the school	57	24	3	0	3.64	1.90	Accepted
	Cluster mean					3.68	1.91	Accepted

Source: Field work (2019) Mean cut off point of 2.50.

Research question 3: To what extent does principals' application of MIS enhance teachers' computer skills in recording students' scores in public senior secondary schools in the Central Senatorial Zone of Kaduna State?

Table 6 shows responses of principals' application of MIS enhances teachers' computer skills in recording students' scores in public senior secondary schools in the Central Senatorial Zone of Kaduna State. Item 17 has a mean score of 3.51 and a standard deviation of 1.87 which shows that principals who allow the use of computers in the school make teachers prepare well for lessons in the class. Item 18 has a mean score of 3.60 and a standard deviation of 1.89 which shows that teachers' use of computers makes them have proper records of students'

Table 6. Shows Mean and Standard Deviation of principal's application of MIS enhance teacher's computer skills in recording students' activities in public senior secondary schools in Central Senatorial Zone, Kaduna State.

S/N	Items	SA (4)	A (3)	D (2)	SD (1)	x̄	Std Dev	Decision
17	Principals who allow the use of computers in the school makes teachers prepares well for lessons in the class	46	36	1	1	3.51	1.87	Accepted
18	Teachers use of computers makes them have proper records of students' activities	55	26	2	1	3.60	1.89	Accepted
19	Teachers use of computers and internet makes them advance further research in their areas of studies	54	27	2	1	3.59	1.89	Accepted
20	Teachers use of computers makes teachers get upgraded in their styles of teaching	55	26	3	0	3.61	1.90	Accepted
21	Principals who makes provision for teachers to use the computer and internet will get the best from them	51	30	2	1	3.55	1.88	Accepted
22	Teachers use of computers and internet will make them advanced in their teaching methodologies	49	32	2	1	3.53	1.87	Accepted
23	Teachers use of computers and internet will lead to better preparation of lesson notes and lesson plan	56	25	2	1	3.62	1.90	Accepted
24	Teachers use of computers will enable better retrieval of students information	46	35	2	1	3.50	1.87	Accepted
	Cluster mean					3.56	1.88	Accepted

Source: Field work (2019) Mean cut off point of 2.50.

activities. Item 19 has a mean score of 3.59 and a standard deviation of 1.89 that teachers use of computers and the internet makes them advance further research in their areas of study. Item 20 has a mean score of 3.61 and a standard deviation of 1.90 which shows that teachers use of computers makes teachers get upgraded in their styles of teaching. Item 21 has a mean score of 3.55 and a standard deviation of 1.88 which shows that principals who make provision for teachers to use the computer and internet will get the best from them. Item 22 has a mean score of 3.53 and a standard deviation 1.87 which shows that teachers use of computers and the internet will make them advanced in their teaching methodologies. Item 23 have a mean score of 3.62 and a standard deviation of 1.90 which shows that teachers use of computers and internet will lead to better preparation of lesson notes and lesson plan. Item 24 has a mean score of 3.50 and a standard deviation of 1.87 that teachers use of computers will enable better retrieval of student's information. The cluster mean of 3.56 above the cut-off point of 2.50 shows principals' application of MIS enhances teachers' computer skills in recording students' scores in public senior secondary schools in the Central Senatorial Zone of Kaduna State.

Testing of null hypotheses

The hypotheses for this study were tested at a 0.05 level of significance using Spearman correlation. The hypotheses tested are presented and interpreted below.

H01: There is no significant relationship between MIS use and the management of students' records in public senior secondary schools in the Central Senatorial Zone of Kaduna State

The result of the analysis presented in Table 7 revealed that the correlation is significant at 0.01 less than the level of significance at 0.05 in 8 degrees of freedom. The r- r-value calculated indicates a strong positive correlation. This means that the null hypothesis was rejected, hence, there is a significant relationship between MIS use and the management of students' records in public senior secondary schools in the Central Senatorial Zone of Kaduna State.

H02: There is no significant relationship between MIS use and administrative competence in the management of public senior secondary schools in the Central Senatorial Zone of Kaduna State

The result of the analysis presented in Table 8 revealed that the correlation is significant at 0.01 less than the level of significance at 0.05 in 8 degrees of freedom. The r- r-value calculated indicates a strong positive correlation.

Table 7. Pearson product moment correlation analysis showing relationship between MIS use and the management of students' records in public senior secondary schools in Central Senatorial Zone of Kaduna State.

S/N	Items	N	r-calculated	r-obtained	df	Significant	decision
1	MIS USE	84	0.7	0.2	5	0.05	Rejected
2	Management of student records						

**Correlation is significant at the 0.01 level (2-tailed). Values in the parenthesis shows df=8, level of sig. =0.05. r- Value calculated = 0.7.

Table 8. Pearson product moment correlation analysis showing relationship between MIS use and administrative competence in the management of public senior secondary schools in Central Senatorial Zone of Kaduna State.

S/N	Items	N	r-calculated	r-obtained	df	Significant	decision
1	MIS Use	84	0.6	0.2	5	0.05	Rejected
2	Administrative competence						

**Correlation is significant at the 0.01 level (2-tailed). Values in the parenthesis shows df=8, level of sig. =0.05, r- Value calculated = 0.6.

Table 9. Pearson product moment correlation analysis showing relationship between Principals' application of MIS and teachers' computer skills in recording students' scores in public senior secondary schools in Central Senatorial Zone of Kaduna State

S/N	Items	N	r-calculated	r-obtained	df	Significant	decision
1	Principals' application of MIS	84	0.7	0.2	5	0.05	Rejected
2	Teachers' computer skills in recording students' scores						

**Correlation is significant at the 0.01 level (2-tailed). Values in the parenthesis shows df=8, level of sig.=0.05, r- Value calculated = 0.7.

This means that the null hypothesis was rejected, hence, there is a significant relationship between MIS use and administrative competence in the management of public senior secondary schools in the Central Senatorial Zone of Kaduna State.

H03: There is no significant relationship between principals' application of MIS and teachers' computer skills in recording students' scores in public senior secondary schools in the Central Senatorial Zone of Kaduna State

The result of the analysis presented in Table 9 revealed that the correlation is significant at 0.01 less than the level of significance at 0.05 in 8 degrees of freedom. The r-value calculated indicates a strong positive correlation. This means that the null hypothesis was rejected, hence, there is a significant relationship between principals' application of MIS and teachers' computer skills in recording students' scores in public senior secondary schools in the Central Senatorial Zone of Kaduna State.

DISCUSSION

From the findings of this study, it was discovered that the EMIS is effective in managing various aspects of staff and student records in public senior secondary schools in the Central Senatorial Zone of Kaduna State. That the respondents who gave the highest number agree that schools need EMIS for good decision-making. In order to cope with the ever-rising challenges of the system, the school principal must be ready to see himself as a change agent. Ibukun *et al.* (2011) and Schott *et al.* (2020) admit that, in order for principals to cope with the ever-rising challenges of the system, the roles of the school's principal should involve managing, administering the curriculum and teaching, discipline, assessment evaluation and examinations, resource allocation, costing and forward planning, staff appraisal relationship with the community, use of the practical skills necessary for surviving the policies of organization such as decision-making, negotiation, bargaining, communication, conflict handling, etc. In all of these, Management Information System (MIS) plays a significant role in ensuring that the school's aims and objectives are achieved through efficient and effective management of student records, personnel records, financial records, teaching and learning materials, including storing infrastructures electronically in such a way that different authorized users can have access to the information. This is in agreement with the report of previous researchers (Breaches and Light, 2014; Carry, 2014; Moorthy, 2015). There is a significant relationship between MIS use and the management of students' records in public senior secondary schools in the Central

Senatorial Zone of Kaduna State. The result of the analysis presented in Tables 7 and 8 revealed that the correlation is significant at 0.01 less than the level of significance at 0.05 in 8 degrees of freedom. The r- r-value calculated indicates a strong positive correlation. This means that the null hypothesis was rejected, hence, there is a significant relationship between MIS use and the management of students' records in public senior secondary schools in the Central Senatorial Zone of Kaduna State.

More so, MIS enhance their administrative competence in the management of public senior secondary schools in the Central Senatorial Zone of Kaduna State. The respondents who gave the highest number agree that principals who attach great importance to MIS will always make sure the computers in the school are always in order. In fact, Stephen (2017) opined that MIS serve very useful purposes which are beneficial to the school. It could be used for both staff and student management. It is used for storing records of academic and non-academic staff. Thus, staff bio-data and other information can be stored as well as staff work schedules. In this way, it is easy to monitor and track staff at each point in time. Staff employment, performance assessment, training/retraining needs promotion and even time of retirement can be closely followed up. Teachers and other staff can sign in online as they come to school. Students' attendance can also be taken and recorded using the MIS. Other students' information ranging from their admission status, personal records, parents, address, phone numbers and email, continuous assessment records can be recorded and updated electronically. MIS can be used for infrastructure and fees management, hostel space allocation and management, and tracking students who have defaulted in payment of fees or other things, just as Maduabuchi (2011), Oyewole (2012) and Oyedeji, (2013) reported. There is a significant relationship between MIS use and administrative competence in the management of public senior secondary schools in the Central Senatorial Zone of Kaduna State. The result of the analysis presented in Table 5 revealed that the correlation is significant at 0.01 less than the level of significance at 0.05 in 8 degrees of freedom. The r- r-value calculated indicates a strong positive correlation. This means that the null hypothesis was rejected. Hence, there is a significant relationship between MIS use and administrative competence in the management of public senior secondary schools in the Central Senatorial Zone of Kaduna State.

Also, principals' application of EMIS enhances teachers' computer skills in recording students' scores in public senior secondary schools in the Central Senatorial Zone of Kaduna State. The respondents who gave the highest number agree that teachers' use of MIS makes them advance in further research in their areas of study. Teachers' effective use of MIS will enhance teachers' access to computers and the internet in research to further develop the knowledge of their subject matter while in school before their lesson periods. The use of computers in recording students' classroom information like attendance, result scores, and also setting of continuous assessment tests and examinations. The advantage of MIS to the teacher in all of these is to ensure proper documentation of students' information which can ease quick retrieval when needed, retain information of students in a class for a long time even when there is a change of another teacher which will aid the new teacher to work with the available information, etc. This is in agreement with the report of John (2011) and Nguyen *et al.* (2020). There is a significant relationship between principals' application of MIS and teachers' computer skills in recording students' scores in public senior secondary schools in the Central Senatorial Zone of Kaduna State. The result of the analysis presented in Table 9 revealed that the correlation is significant at 0.01 less than the level of significance at 0.05 in 8 degrees of freedom. The r- r-value calculated indicates a strong positive correlation. This means that the null hypothesis was rejected. Hence, there is a significant relationship between principals' application of EMIS and teachers' computer skills in recording students' scores in public senior secondary schools in the Central Senatorial Zone of Kaduna State. This is in agreement with the findings of Nguyen *et al.* (2020).

Summary

The study shows that the use of EMIS provides quality services to users. Moreover, EMIS have revolutionized activities in all spheres of life, especially in management and information services in institutions especially secondary education. However, the application of EMIS is not a matter of being imported and used. Instead, it requires a specific level of knowledge and skills before one would be able to operate the equipment properly and it will depend on a specific level of applicability. This research therefore rose to establish the levels of usability of EMIS in teacher computer skills, administrative competence and management of students' records. Concept of relevant literature as well as empirical study of researcher and scholars were thoroughly discussed and gap was established. Descriptive research design, population of 168 and sample of 84 principals and vice principal were used for the study. Instrument contains 24 items with modified likert scale of SA=4, A= 3 , D= 2, SD= 1 was used to collect data . Instrument is validated by expert and reliability of the instrument was determine by crombatch alpha internal consistency at reliability index of 0.72. Mean and standard deviation was used to answer research questions and pearson product moment correlation was used to answer the test of null hypothesis. The major findings are highlighted below:

1. EMIS is effective in managing various aspects of staff and students records in public senior secondary schools in the Central Senatorial Zone of Kaduna State. There is a significance relationship between EMIS use and the management of students' records in public senior secondary schools in Central Senatorial Zone of Kaduna State.
2. EMIS enhance their administrative competence in the management of public senior secondary schools in the Central Senatorial Zone of Kaduna State. There is a significance relationship between EMIS use and administrative competence in the management of public senior secondary schools in Central Senatorial Zone of Kaduna State.
3. Principals' application of EMIS enhances teachers' computer skills in recording students' scores in public senior secondary schools in Central Senatorial Zone of Kaduna State. There is a significance relationship between principals' application of EMIS and teachers' computer skills in recording students' scores in public senior secondary schools in the Central Senatorial Zone of Kaduna State.

Conclusion

The practice of records management has undergone significant changes in recent times. It has transited from a paper-based assignment concerned with the storage of an organization's diverse documents, to a profession occupied with the management of specified internal records in a multitude of media. The introduction of computers into records management which widely developed in the 1550s, has "offered speed, precision diversity, flexibility and a rich and comprehensive documentation of process. This has been quickly embraced around the world as a critical information management and communication tool". Further, the use of electronic systems in records management has also brought about space savings since most documents can be filed electronically which has reduced risk in event of loss. The research also concluded that, no meaningful records management process can ignore the impact of EMIS in effective records management since it is clear that information creation, storage and retrieval has gone from pictorial representations on the walls of caves and artifacts, to the invention of writing and computers. Thus, if MIS infrastructures like word processors, electronic databases, e-mail and management information systems can result in more efficient communications and administration of academic records in Central Senatorial Zone of Kaduna State, it is necessary to understand the evolution that is taking place in the use of technology. The application of MIS to the management of records therefore, will go a long way in decision making in public senior secondary schools in the Central Senatorial Zone of Kaduna State efficiently and effectiveness.

Recommendations

Based on the findings, the following recommendations were made:

Efforts should be intensified by government and stakeholders in education in collaboration with School Based Management Committee (SBMC) to introduce and ensure its implementation on the use of modern technology such as Management Information System (MIS) for improved method of record management of students in public senior secondary schools of Central Senatorial Zone, Kaduna State. Kaduna State Government should fast track the provision of necessary computer hard- and soft-ware to all schools since information and communication technology has become a way of ameliorating the challenges encountered by principals in effective management of schools in achieving its objectives, mission and vision. Kaduna State Government should intensify effort in the area of implementation of policies guiding principals' application of MIS in public senior secondary schools of Central Senatorial Zone, Kaduna State so as to ensure efficient and effective principals' management of the school in achieving its aims and objectives.

Limitations of the study

This study has the following limitations: The study geographical scope is restricted to the Central Senatorial Zone of Kaduna State. The academic scope is restricted to principals' use management information system in managing public secondary schools in Central Senatorial Zone, Kaduna State.

Suggestions for further studies

Based on this study, further study can be carried out in the area of: Investigating the reasons for the significant relationship between EMIS, principals' managerial roles and teachers' job performance in public secondary schools in Kaduna State. Investigating the relationship between principals' application of EMIS, teachers' job performance and students' academic performance in public secondary schools in North West Geo-Political Zone, Nigeria.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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