

**MANAGEMENT INFORMATION SYSTEM AND SCHOOL EFFECTIVENESS IN
PUBLIC SENIOR SECONDARY SCHOOLS IN ILORIN METROPOLIS,
KWARA STATE**

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Abstract

Management information system enhances the level of school administration.. This study was conducted to investigate management information system and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State. Two research questions were raised and answered to guide the conduct of the study. One main and four research hypotheses were formulated and tested. It adopted correlational type of descriptive research design. One hundred and fifty respondents were used for the study. Management Information System Questionnaire and School Effectiveness Questionnaire were used for data collection. Descriptive statistics of mean and standard deviation was used to answer the research questions raised while inferential statistics of Pearson product moment correlation statistic was used to test the hypotheses at 0.05 level of significance. Findings showed that that management information system has positive and significant relationship with school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State. Based on the findings, it was recommended among others that the identified management information system should guide the school principals in utilizing the management information system outputs for school effectiveness.

Keywords: Management Information System, School Effectiveness, Public senior secondary schools

Introduction

The need for effective management information system in complex organizations like the secondary schools cannot be over emphasized. Management information system is a very vital resource and as

such its management is apparently one of the most strategic instruments for efficiency and effectiveness in the school organization. More than ever before in Nigeria, effective management information system is indispensable and eminent to the educational institutional managers as a result of the increasing complexities in the management of their institutions.

Most secondary school heads now depend on robust programmes of management information system to support and facilitate teaching and learning process. Management information system involves the collection, processing, analysing and dissemination of educational data and information and making them available to educational administrators on a timely, routine, reliable and predictable basis for effective and efficient school administration. Management information system according to Lucey (2019), is a system using formalized procedures to provide the management at all levels in all functions with appropriate information, based on data from both internal and external sources to enable them to make timely and effective decisions for planning, directing and controlling the activities for which they are responsible. According to Boorne (2012), management information system as a structured, interacting complex of persons, machines and procedures designed to generate an orderly flow of information for use as the basis for decision-making in an organization. Management information system, therefore, is system that collects, processes, analyses, stores and disseminates information for educational planning and school effectiveness.

In Nigerian educational system, management information system is designed to achieve the following objectives Ó to standardize the system of obtaining reports and analysing statistical information , ensure that such information are accurate and timely and organize such information for planning and decision-making in order to improve utilization of resources in the educational system (Fadekemi & Ajayi, 2017).

Most Nigerian public secondary schools have been observed to be confronted with numerous administrative challenges which could be attributed to the absence of appropriate data management component of the management information system to guide the school administrators in effective and efficient school administration. These administrative problems include clashes of examination timetables, clashes in lectures or no examination Halls, late release of students' results and difficulties in obtaining information relating to students, staff or administrative activities or programmes. Thus, effective and efficient management information system in secondary schools may not usually be based on accurate and reliable data since these data are not readily available in these public secondary schools (Fadekemi & Ajayi, 2017).

Inadequate data management component could not provide the required and timely information to guide the school administrators in the educational system. A well packaged management information system through effective data collection in Nigerian secondary schools will assist the secondary education administrators in solving some of the administrative problems arising due to absence of accurate, reliable and timely information for decision-making. Management information system could be utilized to improve decisions and thus enhance effective administration in the secondary education in such areas as, planning lecture and examination timetables electronically to avoid clashes,

providing the needed information relating to students, staff and the school activities, managing school equipment and resources, recruitment and promotion of staff, appointment of rector and other principals officers that taking decisions on students' enrolments, hostels, offices, staff quarters allocations among others (Fabunmi, 2013).

Management information system is undoubtedly a veritable tool for the sustenance of any organization and hence, its proper management is a panacea for organizational success. The major challenge for the millennium is to exploit the potential of computer technology to help managers of organizations and decision-makers to achieve their organizational objectives. The role of information in decision-making in the educational system is very significant for decision-making to be effective. There is need for accurate, timely and relevant dissemination of information. Information resource is one of the major issues and indices of planning when the relevant information required for planning are not available at the appropriate time, there is bound to be poor planning, inappropriate decision making, poor priority of needs, defective programming or scheduling of activities (Aminu, 2016). The implication is that, the secondary education system will not be effective or efficient in its operation towards effective school administration. Poor management of management information system in the secondary education has been perceived as a bottleneck to the successful management of Nigerian educational system (Murdick & Ross, 2011).

Nigerian educational system particularly at the secondary level needs continuous flow of information in order to make appropriate decisions towards school effectiveness. Effective management information system depends to a large extent, on accurate, timely and relevant information available to the administrators. Management information system is the backbone of administrative functions (Fabunmi, 2013). According to Aminu (2016), management information system is one of the major issues for the dissemination of tangible information and indices of planning and administration of secondary education.

School effectiveness referred to the following instructional leadership, clear vision and mission, safe and orderly environment, high expectations for students achievement, continuous assessment of student achievement, opportunity and time on task and positive home-school relations. Student achievements should be the basic products of effective schools. School effectiveness is the collecting inputs which can fuel the school processes and lead to school success. There are six different models whereby school effectiveness can be classified, namely goals, system resource, internal process, strategic constituencies, legitimacy, and organizational learning. An effective school is one in which essentially all of the students acquire the basic skills and other desired behaviour within the school such as literacy and mathematics competence, as well as problem solving and social skills. School effectiveness depends on people and the resources available. Therefore, the study examined management information system and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State.

Statement of the Problem

Effective management information system is lacking in most public secondary schools in Nigeria.

Lack of information render decision-making to be made under conditions of risk and uncertainty, while adequate information help in making decisions under certainty. If the management is to make correct decisions, and take correct course of actions it is necessary that there should not be any confusion by (a) superfluous, (b) delayed or (c) confusing information. Management information system is utilization of organized information for managerial decision making. The need for using information in an organized manner is further increased in modern complex organizations, particularly when all such organizations are flooded with an enormous amount of data related to personnel, financial, marketing, production, service, et cetera.

Presently, data are regularly provided by the school principals and Heads of Departments, on continuous basis for school effectiveness and for submission of reports to statutory agencies. Most of the time, a lot of files are created and duplicated within and across departments and Units without control over their creations, causing data redundancy and wasteful spending due largely to the inadequacies of data management. Most of these public secondary schools do not possess facilities yet the management information system on data generation and usage are poor in the public secondary schools due to the inefficiency of the data management. Thus, this study examined management information system and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State as the gap filled.

Purpose of the Study

The main purpose of this study was to investigate management information system and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State. The study aimed to:

1. determine the indices of management information system in public senior secondary schools in Ilorin Metropolis, Kwara State;
2. find out the level of school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State;
3. establish the relationship between management information system based on collection technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State;
4. ascertain the relationship between management information system based on processing technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State;
5. find out the relationship between management information system based on analysis technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State; and
6. ascertain the relationship between management information system based on dissemination technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State.

Research Questions

The following research questions were raised to guide the conduct of the study:

1. What are the indices of management information system in public senior secondary schools in Ilorin Metropolis, Kwara State?
2. What is the level of school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State?

Research Hypotheses

H₀₁: There is no significant relationship between management information system and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State

H₀₁: There is no significant relationship between management information system based on collection technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State.

H₀₂: There is no significant relationship between management information system based on processing technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State.

H₀₃: There is no significant relationship between management information system based on analysis technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State.

H₀₄: There is no significant relationship between management information system based on dissemination technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State.

Conceptual Review

Concept of Management Information System

Harnwell (2017) defined management information system as a system of collecting, analysing, and processing data to providing the basis for effective management decision making. According to Jones (2019), management information system as an information system that managers plan and design to provide them with the specific information they need to perform their roles effectively. Management information system is a formal method of collecting timely information in a presentable form in order to facilitate effective decision making and implementation in order to carry out organizational operations for the purpose of achieving the organizational goals.

Sharma (2016) opined that management information system is the network of communication channels and information processing centres collecting information from its sources of origin, and supplying the processed information to the various users managing the organization. Ajayi and Omirin (2017) viewed the following as objectives of management information system which include: to making information available when needed, where needed and in the format needed, to supply accurate information, to use the most efficient methods of processing data, to provide requested

information at a reasonable cost, to provide necessary security for important and for confidential information and to keep the information function up to date.

Bhagwan and Bhushan (2015) identified the advantages of management information system to include: it provides data base through management information system concept result in the development of database that contains data generated by each of the functional areas of the organization. It results in greater efficiency. Resources are properly utilised since the system frees people to perform those functions that machine cannot perform. It brings about greater efficiency, management information system concepts enables organizations to improve operations that are already being performed well and it results in reduction of operating costs and better control (Hakimpoor & Khairabadi, 2021).

MIS stands for management information system. In short, management information systems are a collection of systems, tools, procedures, and people that all work together to process, store and produce useful information for every organization. Management information systems are created as a facility for the use of information technology, people, and business processes for recording, storing and processing data that aims to produce information that can be used by decision-makers to make day-to-day decisions. When defined separately for each purpose of the management information system, management is the process of addressing the things that control people, while the information system is an organized system for the collection, organization, storage and communication of information (Hakimpoor & Khairabadi, 2021).

Management information system cannot be successful in the following circumstances: inadequate requirements definition, no clear definition of mission and purpose, lack of management participation, disorganization, poor performance of key personnel, non-response to business plans, and lack of planning. Management information system is a system designed to systematically organize information related to different aspects of school and organizational management. It is responsible for the collection, processing, analysing, publication, distribution and rendering information services for users of educational information (Bodo, 2016). Management information system, in the opinion of Zwass (2019), is the entire portfolio of computer-based systems and their complementary manual operations. Management information system aids the production and use of information for policy-planning and implementation, decision-making, monitoring and evaluation of educational systems.

Concept of School Effectiveness

School is an organization where a child grows up with the development of both personal and social aspects. It provides optimum learning environment where cognitive, emotional, psychomotor, social and aesthetic developments of a child takes place. An effective school is one which is mostly dedicated to the development of students in all aspects and doing so is responsible for the advancement of society and the nation. School effectiveness is not only the achievement of students in their subjects. It depends on other variables including the academic achievement. The responsiveness of the school to the community, school environment and activity of staff must be considered. School effectiveness is the level of contemporary goal attainment of a school. School effectiveness 'refers to an organization accomplishing its specific objectives (Beare, Caldwell & Millikan, 2022). School effectiveness

therefore means ‘the school accomplishes its objectives’.

School effectiveness can therefore be regarded as a distinct characteristic of an effective school. Bennet, Crawford and Cartwright (2020) defined an effective school as ‘a school in which students’ progress and achievement was high’. There are various definitions of school effectiveness that focus on academic achievement of students while some others focus on the relationship between the school and the society, the management, the socio-economic background of learners, et cetera.

Management Information System and School Effectiveness

Computers are seen to have the potential to make a significant contribution to the teaching, learning, and administration in schools. An extensive amount of investment that has gone into introducing information and communications technology (ICT) into schools including hardware, software, networking, and staff development will be considered worthwhile if there is evidence that it has made a commensurate impact on school performance and effectiveness. Today, which we call information age as many technological developments have occurred, the biggest risk that an organization could take is to stay insensitive to change. Many significant factors such as continuous developments in information technologies, information exchange, increasing expectations of the society, modern managing perceptions and applications cause organizations all over the world to develop new applications in order to survive (Condie, Munro, Seagraves, & Kenesson, 2020).

Management information systems (MIS) are being used by schools to support a range of administrative activities including attendance monitoring, assessment records, reporting, financial management, and resource and staff allocation. MIS provides managers with the information required to manage organizations efficiently and effectively. These systems are distinct from other information systems in that they are designed to be used to analyse and facilitate strategic and operational activities in the organization (Obi, 2021). Draft (2010) concluded that management information system based on dissemination technique is a mechanism that collects, organizes, and disseminates data used by managers or administrators in performing their management functions.

Obi (2021) described management information system (MIS) as an organizational method of providing past, present and projected information related to internal operations and external intelligence. It supports the planning, control and operation functions of an organization by furnishing uniform information in the proper time frame to assist the decision makers’. Telem (2020) defined MIS as ‘a management information system designed to match the structure, management task, instructional processes, and special needs of the school’. MIS as ‘a term given to the discipline focused on the integration of computer systems with the aims and objectives of an organization’. Based on the foregoing definitions, MIS refers to a system that uses the information required by the organization’s management at every level in making operational, tactical, and strategic decisions. Its main objective is to design and implement procedures, processes, and routines that provide suitably detailed reports in an accurate, consistent, and timely manner.

MIS plays a vital role in the area of decision making as it can monitor by itself disturbances in a system, determine a course of action and take action to get the system in control. It is also

relevant in non-programmed decisions as it provides support by supplying information for the search, the analysis, the evaluation and the choice and implementation process of decision making. These systems have the ability to provide its users the processed information, analytical models, real-time updates and hypothetical scenarios to assist their decision making process. Management information systems have also changed school management in the areas of leadership, decision making, workload, human resource management, communication, responsibility and planning. Strategically, management information systems help the manager in determining the aims of the school, making long term plans, distributing resources, and forming educational methods for the future, determining performances of teachers and success of the school.

Empirical Studies on Management Information System and School Effectiveness

Erwat and Fabunmi (2006) studied the Information Acquisition and Information Management Capacity as a Correlate of Administrators' Decision making Effectiveness in Tertiary Institutions in South West, Nigeria. The survey study investigated the extent to which information acquisition and Management Capacity of administrators contributed to their decision making effectiveness. The random sampling technique was used to select 1,357 out of 1,799 administrators in tertiary Institutions in Ekiti, Lagos and Oyo states of South West, Nigeria. The one-way Analysis of variance was used to determine the composite impact of information acquisition and information management on administrators' decision making effectiveness, while the stepwise Multiple Regression was used to determine the relative contribution of each of information acquisition and information management to administrators' decision-making effectiveness. The 0.05 level of significance was chosen test the research hypothesis. Their findings revealed that information acquisition and information management made significant contributions to the decision making effectiveness of administrators in tertiary institutions in the zone.

Momoh and Abdulsalam (2014) investigated Information Management Efficiency in Universities in Northern Nigeria. A survey design was employed to carry out the study. The study used multistage sampling technique to select 15 Universities drawn from a population of 44 Universities across the three geo-political zones in the Northern Nigeria on the basis of ratio 1: 3—1 in each stratum of Federal, State and Private universities respectively. The study used questionnaire with interview guide to elicit data from the two groups of respondents; Information providers' and information users'. A total of 300 copies of questionnaire were administered in the 15 sampled universities, 20 copies of questionnaire per university. Data were analysed with descriptive statistics, Pearson chi-square and one sample- test statistics. The study found that information resources are not efficiently managed, because the universities were found deficient in terms of generating timely information, poor utilization of MIS capacity and high cost of generating pieces of information. The study also observed that the views of the technical staff and information users in the universities are the same on information management.

Odeh (2004) investigated the Utilization of the Management Information Systems(MIS) in Nigerian Federal Universities. The study examined the use of Management Information Systems

(MIS), identified the calibre of personnel who have access to it, ascertained the training opportunities available for the staff, identified the benefits and the problems of using Management Information Systems (MIS) and offered suggestions on improving MIS use in the universities. The study was guided by six (6) research questions. The questionnaire was used to elicit information from the respondents made up of Management Information Systems (MIS) Directors, programme analysts and chief Information Officers from the six universities obtained from the six geopolitical zones of Nigeria. The study revealed that, most federal universities adequately use MIS, lack of sufficient funds constrains the development of MIS project and the Management Information Systems (MIS) use was restricted to top management and principal Officers of the universities.

Ajayi and Omirin (2007) investigated The Use of Management Information Systems (MIS) in Decision-making on Long-term planning, Short term planning and Budgeting in the South-West Nigerian Universities. The study used descriptive survey research design. Data were collected through questionnaire from a sample of 600 subjects consisting of 400 academic staff and 200 senior administrative staff obtained through stratified random sampling technique. Data were analysed using frequency counts, percentages, means, standard deviation and t-test. The study revealed that Management Information Systems (MIS) was not adequately used in decision-making process on long-term planning, short-term planning and budgeting. It also showed that there was no significance difference between federal and state universities in terms of the use of Management Information Systems (MIS) for decision-making on long-term and short-term planning. There was significant difference in the use of Management Information System (MIS) for decision-making on budgeting between Federal and State universities in favour of federal universities.

Ebuara and Mbon (2012) investigated Management Information Systems (MIS) and Institutional Effectiveness of Universities in South-South geo-Political Zone of Nigeria. The researchers formulated three research hypotheses to guide the study. Ex-post-facto design was adopted for the study. The population consisted of 6,000 staff from four universities in the zone. The study adopted the purposive sampling technique to draw a sample of 414 staff from the universities. A researcher-developed questionnaire, 'Management Information Systems Usage, and Universities Effectiveness Assessment Scale' (MISUUEAS) was used to elicit information for the study. The instrument was a 30-item questionnaire on a four-point Likert-type scale that measured the respondents' responses. The instrument was face-validated by experts in the Department of Mathematics/Statistics, University of Calabar. The reliability of the instrument was confirmed through a trial test to ensure appropriateness of the instrument in measuring the variables. The data obtained were analysed using the Pearson's Product Moment Correlation Coefficient. The findings of the study revealed that there is a relationship between Management Information Systems (MIS) and institutional effectiveness of the universities in terms of examination conduct, students' record keeping, staff appraisal and library services. Based on the findings, the study concluded that the use of Management Information Systems (MIS) influences institutional effectiveness of the universities.

Abdulkareem, Alabi, Fashiku, and Akinnubi (2012), examined the relationship between the Use of Management Information Systems (MIS) and Senior Staff Job Performance in Polytechnics

in Kwara State, Nigeria. Three hundred and twenty (320) respondents were selected using random sampling from two polytechnics in Kwara State. These were: Kwara State Polytechnic, Ilorin and Federal Polytechnic, Offa. The sample was made up of 200 academic staff and 120 senior non-academic staff from the institutions. Researcher-designed instruments, tagged: 'Management Information Systems Questionnaire' (MISQ) and 'Job Performance Appraisal Questionnaire' (JPAQ) were used to elicit information from the respondents. The data were analysed using frequency counts and percentages to answer the research questions raised, while Pearson Product-Moment Correlation Coefficient was used to test the hypotheses formulated at 0.05 level of significance. The findings revealed that senior staff in the Polytechnics in Kwara State made effective use of MIS. There was significant relationship between the use of MIS and senior staff job performance in the institutions.

Purpose of the Study

The main purpose of this study was to investigate management information system and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State. The study aimed to:

1. determine the indices of management information system in public senior secondary schools in Ilorin Metropolis, Kwara State;
2. find out the level of school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State;
3. establish the relationship between management information system based on collection technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State;
4. ascertain the relationship between management information system based on processing technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State;
5. find out the relationship between management information system based on analysis technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State; and
6. ascertain the relationship between management information system based on dissemination technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State.

Research Questions

The following research questions were raised to guide the conduct of the study:

RQ1: What are the indices of management information system in public senior secondary schools in Ilorin Metropolis, Kwara State?

RQ2: What is the level of school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State?

Research Hypotheses

- H₀ 1:** There is no significant relationship between management information system and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State
- H₀₁:** There is no significant relationship between management information system based on collection technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State.
- H₀₂:** There is no significant relationship between management information system based on processing technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State.
- H₀₃:** There is no significant relationship between management information system based on analysis technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State.
- H₀₄:** There is no significant relationship between management information system based on dissemination technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State.

Methodology

The appropriate research design adopted for this study was correlational type of descriptive research design. This is because the study tried to explain the relationship between the two variables. The population for this study comprised 250 teachers in the 45 public senior secondary schools in Ilorin Metropolis, Kwara State. Purposive sampling technique was used to sample 150 teachers. This was because, the study basically focused on teachers. The procedure that was used to select the sample for the study was proportional sampling technique using Research – Advisor (2006) sample size determination. ‘Management Information System Questionnaire’ (MISQ) and ‘School Effectiveness Questionnaire’ (SEQ) were used to collect data for this study from the respondents. The instruments were designed based on the indicators of the variables. The coefficients of MISQ and SEQ were 0.65 and 0.68 respectively, indicating that the two instruments were reliable for data collection. The research questions raised for the study were answered using descriptive statistics of mean and standard deviation. Any mean score that was less than 2.50 was rejected and any mean score that was greater than 2.50 and above was accepted respectively. The research hypotheses formulated were tested using inferential statistics of Pearson Product Moment Correlation statistic at 0.05 level of significance. Pearson Product Moment Correlation statistic was used to determine the relationship between the two variables.

Results

Answering of Research Questions

Research Question 1: What are the indices of management information system in public senior secondary schools in Ilorin Metropolis, Kwara State?

Table 1

Mean Ratings and Standard Deviations of Indices of Management Information System in Public Senior Secondary Schools in Ilorin Metropolis, Kwara State

Management Information System	Mean	SD	Decision	Ranking
Collection Technique	23.77	2.11	Accepted	1 st
Processing Technique	20.56	2.25	Accepted	3 rd
Analysis Technique	19.45	2.49	Accepted	4 th
Dissemination Technique	22.45	2.80	Accepted	2 nd

Source: Field Work, 2022

Table 1 shows the mean ratings and standard deviations of the indices of management information system in public senior secondary schools in Ilorin Metropolis, Kwara State. The dimensions have mean ratings of 23.77, 20.56, 19.45 and 22.45 respectively. The standard deviations are 2.11, 2.25, 2.49, and 2.80 respectively. The analysis implies that the mean ratings of these items are greater than 2.50 bench mark which, indicating that all were accepted. Collection technique was ranked 1st with the mean of 23.77 and dissemination technique was ranked 2nd with the mean of 22.45 respectively. This by implication shows that, the dimensions are management information system adopted by principals in public senior secondary schools in Ilorin Metropolis, Kwara State

Research Question Two: What is the level of school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State?

Table 2
Mean Ratings and Standard Deviations of Level of School Effectiveness in Public Senior Secondary Schools in Ilorin Metropolis, Kwara State.

Effective management information system on school effectiveness	Mean	SD	Decision
improves information collection technique of school principals	2.53	.477	Accepted
improves information processing technique	2.49	.589	Rejected
improves information analysis technique	2.98	.783	Accepted
improves information collection technique	2.51	.633	Accepted
improves information dissemination technique	2.68	.490	Accepted
enhances systematic process of diagnosis and resolution of a problem	2.55	.490	Accepted
ascertains on the issues relating to students, both teaching staff, non teaching staff and the school activities in the school	2.57	.580	Accepted
chooses among alternative courses of action for the purposes of attaining goals.	2.72	.576	Accepted
becomes crucial for the school manager if he is to achieve effectiveness in the school.	2.20	.625	Rejected
The quality of school supervision is the yardstick of their effectiveness and of their values to the schools.	2.29	.661	Rejected
Average Mean	2.55	0.59	Rejected

Source: Field Work, 2023

Table 2 shows the mean ratings on the level of school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State. The average means was 2.55 with the standard deviation of 0.59. The average mean is greater than 2.50 the bench mark mean and since the average mean of 2.55 was greater than the benchmark of 2.50, therefore the findings indicate that the level of school effectiveness was high in public senior secondary schools in Ilorin Metropolis, Kwara State.

Hypotheses Testing and Discussion of Findings

One main hypothesis and four operational hypotheses were generated and tested for the study using inferential statistics of Pearson Product Moment Correlation statistic at 0.05 level of significance.

Main Hypothesis

Ho: There is no significant relationship between management information system and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State

Table 3

Management Information System and School Effectiveness

Variables	N	Mean	SD	Df	Cal. r-value	p-value	Decision
Management Information System	150	29.87	2.45				
				148	.439	0.03	Ho Rejected
School Effectiveness	150	12.56	2.81				

P<0.05

Table 3 shows that the p-value of 0.03 was less than the significant level at 0.05 for 148 degrees of freedom. Therefore, the null hypothesis which states that there is no significant relationship between management information system and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State was rejected. This suggests that there was significant relationship between management information system and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State. This implies that management information system influences school effectiveness.

Operational Hypotheses

Ho₁: There is no significant relationship between management information system based on collection technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State

Table 4
Management Information System based on Collection Technique and School Effectiveness

Variables	N	Mean	SD	Df	Cal. r-value	p-value	Decision
Management Information System based on Collection Technique	150	23.77	2.11	148	.402	0.02	H₀₁ Rejected
School Effectiveness	150	12.56	2.81				

$P < 0.05$

Table 4 shows that the p-value of 0.02 was less than the significant level at 0.05 for 148 degrees of freedom. Therefore, the null hypothesis which states that there is no significant relationship between management information system based on collection technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State was rejected. This suggests that there was significant relationship between management information system based on collection technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State. This indicates that management information system based on collection technique has impact on school effectiveness.

H₀₂: There is no significant relationship between management information system based on processing technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State.

Table 5: Management Information System Based on Processing Technique and School Effectiveness

Variables	N	Mean	SD	Df	Cal. r-value	p-value	Decision
Management Information System Based on Processing Technique	150	20.56	2.25	148	.367	0.00	H₀₂ Rejected
School Effectiveness	150	12.56	2.81				

Note: $P < 0.05$

Table 5 indicates that the p-value of 0.00 was less than the significant level at 0.05 for 148 degrees of freedom. Therefore, the null hypothesis was rejected. This shows that there was significant relationship between management information system based on processing technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State. This implies that management information system based on processing technique determines school effectiveness.

Ho₃: There is no significant relationship between management information system based on analysis technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State

Table 6: Management Information System Based on Analysis Technique and School Effectiveness

Variables	N	Mean	SD	Df	Cal. r-value	p-value	Decision
Management Information System Based on Analysis Technique	150	19.45	2.49				
				148	.289	0.01	Ho₃ Rejected
School Effectiveness	150	12.56	2.81				

$P < 0.05$

Table 6 shows that the p-value of 0.01 was less than the significant level at 0.05 for 148 degrees of freedom. Therefore, the null hypothesis was rejected. This indicates that there was significant relationship between management information system based on analysis technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State. This implies that management information system based on analysis technique improves the level of school effectiveness.

Ho₄: There is no significant relationship between management information system based on dissemination technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State

Table 7: Management Information System Based on Dissemination Technique and School Effectiveness

Variables	N	Mean	SD	Df	Cal. r-value	p-value	Decision
Management Information System Based on Dissemination Technique	150	22.45	2.80				
				148	.315	0.02	Ho₄ Rejected
School Effectiveness	150	12.56	2.81				

$P < 0.05$

Table 7 shows that the p-value of 0.02 was less than the significant level at 0.05 for 98 degrees of freedom. Therefore, the null hypothesis which states that there is no significant relationship between management information system based on dissemination technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State was rejected. This suggests that there was significant relationship between management information system based on dissemination technique and school effectiveness in in public senior secondary schools in Ilorin Metropolis, Kwara State. This implies that management information system based on dissemination technique enhances school effectiveness.

Discussion of Findings

Findings of research question one revealed that the dimensions of management information system were adopted by principals in public senior secondary schools in Ilorin Metropolis, Kwara State.

to make timely and effective decisions for planning, directing and controlling the activities for which they are responsible. Boorne (2012) agrees with the findings that, management information system as a structured, interacting complex of persons, machines and procedures were designed to generate an orderly flow of information for use as the basis for decision-making in an organization, particularly tertiary institutions. Harnwell (2017) supports the findings that, management information system is a system that collects, processes, analyses, stores and disseminates information for educational planning and school effectiveness.

Hypothesis one revealed that there was significant relationship between management information system based on collection technique and school effectiveness. The result of this finding conforms to the findings of Fabunmi (2013) who concluded that an inappropriate data management component could not provide the required and timely information to guide the administrators in decision-making in most polytechnics. A well packaged information management technique through effective data collection in Nigerian schools will assist the school principals in solving some of the administrative problems arising due to absence of accurate, reliable and timely information system for decision-making. Fabunmi further concluded that information collection technique could be utilized to improve decisions and thus enhance effective administration in the polytechnics in such areas as, planning lecture and examination timetables electronically to avoid clashes, providing the needed information relating to students, staff and the school activities, managing school equipment and resources, recruitment and promotion of staff, appointment of rector and principals taking decisions on students' enrolments, hostels, offices, staff quarters allocations, among others. The finding is in consonance with Bodo (2016) who found out that, management information system based on collection technique which include data collection, processing and analysis, publication and dissemination of educational data and information, and making available to educational stakeholders on a timely, routine, realisable and predictable basis via uncomplicated and user friendly interfaces.

Hypothesis two revealed that there was significant relationship between management information system based on processing technique and school effectiveness. The findings of Sharma (2016) agrees with this finding that, management information system based on processing technique is the network of communication channels and information processing centres collecting information from its sources of origin, and supplying the processed information to the various users managing the organization. Management information system based on processing technique is a system designed to systematically organize information related to different aspects of school and organizational management. The findings agree with the findings of Bodo (2016) that, management information system based on processing technique is responsible for the collection, processing, analysing, publication, distribution and rendering information services for users of educational information.

Hypothesis three revealed that there was significant relationship between management information system based on analysis technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State. Fadekemi and Ajayi (2017), agree with the findings that, management information system based on analysis technique is designed to achieve the following

objectives: to standardize the system of obtaining reports and analysing statistical information , ensure that such information are accurate and timely and organize such information for planning and decision-making in order to improve utilization of resources in Nigerian tertiary educational system. Information management technique is a system designed to systematically organize information related to different aspects of school and organizational management.

Hypothesis four revealed that there was significant relationship between management information system based on dissemination technique and school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State. This finding is in line with the findings of Aminu (2016) who stated that management information system based on dissemination technique is one of the major issues for dissemination of tangible information and indices of planning and administration of polytechnics. Draft (2010) concluded that management information system based on dissemination technique is a mechanism that collects, organizes, and disseminates data used by managers or administrators in performing their management functions.

Conclusion

This study has shown that management information system has positive and significant relationship with school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State. This implies that management information system based on collection technique, processing technique, analysis technique and dissemination technique will go a long way in improving school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State. In addition to that, findings of this study would enable the school principals to attain the set goals and objectives in public senior secondary schools in Ilorin Metropolis, Kwara State.

Recommendations

The following recommendations were made to enhance management information system and to improve school effectiveness in public senior secondary schools in Ilorin Metropolis, Kwara State:

1. It is recommended that the information collection personnel should use the identified information collection system in providing the relevant data for decision activities in the schools.
2. More information processing facilities should be made available in the schools since the task facing educational institutions are complex; staff handling students' records should be computer literate in order to enhance the utilization and processing of students' records and other academic records.
3. The information analysis personnel should use the data processing and analysis methods identified to process the captured data and transform them into information. This information should be used for school effectiveness.
4. The information dissemination personnel should distribute the information through the identified electronic and manual data dissemination methods to the target users for effective decision making in secondary schools.

5. Secondary school principals should use management information system outputs for school effectiveness in the identified areas in public senior secondary schools in Ilorin Metropolis, Kwara State.

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