



## EDUCATION MANAGEMENT INFORMATION SYSTEM IN THE ADMINISTRATION OF PUBLIC SENIOR SECONDARY SCHOOLS IN IMO STATE

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### **Abstract**

*This study investigated education management information system and administration of public senior secondary schools in Imo State. Two research questions and two hypotheses guided the study. The study adopted correlational survey design. The population of the study comprised all the 395 principals in 395 public senior secondary schools in Imo State. The sample of 395 respondents was drawn through census sampling technique. The instruments used for data collection were titled Education Management Information System Questionnaire and Administration of Secondary Schools Questionnaire. The instruments were validated by two experts in test and measurement. Cronbach alpha statistic was used to determine the reliability of Education Management Information System at 0.81 and Administration of Secondary Schools at 0.82 index. The research questions were answered using simple regression and the hypotheses were tested using t-test associated with simple regression at 0.05 level of significance. The findings showed that network system and file transfer protocol predicted administration of public senior secondary schools by 34% and 38% respectively while the hypotheses showed that network system and file transfer protocol independently significantly predicted administration of public senior secondary schools in Imo State. It was recommended that Government should provide network system to non-teaching and teaching staff for the administration of public senior secondary schools.*

**Key Words:** Management, Information, Dissemination, Administration

### **Introduction**

Education management information system (EMIS) deals with the use of appropriate technological device for carrying out managerial functions in the school system. Similarly, education management information system is a planned ways of using technology for collecting, utilizing and disseminating information that is required for performing management functions of an organization. The essence of developing education management information system in schools is to ensure that information is provided to the users timely and accurately.

Therefore, education management information system (EMIS) is the application of educational related information in the administration of schools. It is the adoption of techniques, principles and facilities used in the management of education. Nganjiozor (2023) explained that EMIS is needed for the collection, integration, processing, maintenance as well as dissemination of data and information to support decision making, planning, policy analysis, monitoring and evaluation at all levels of educational system. This explains the fact that EMIS is a necessity for coordinating the overall activities in education system.

Nganjiozor went further and expatiated that EMIS is a combination of people, technology and procedures needed to produce timely educational data to all stakeholders when needed. Educational scholars have revealed that for any educational institution to succeed in the implementation of EMIS, the needed information technology facilities must be provided in the right quality and quantity. This makes the EMIS



effective at any level of education especially at secondary school level where there are so many interest groups for the good of the students.

Students in public secondary schools no doubt occupy a significant position in the overall activities of the school. There is therefore need for managing student related activities ranging from teaching and learning to keeping academic records and preparing academic reports such as results. Similarly, the EMIS can be used to monitor the progress of students and for the provision of remedial or counseling services to students who are lagging behind in their academic activities. In the same vein, teachers in public secondary schools also need EMIS for monitoring duties covered from time to time, sharing and receiving information from colleagues, time management and so on. This can be done by using the right technological devices such as computers, mobile phones and other digital devices. This makes it easy for teachers to manage the resources at their disposal.

Again, EMIS gives a substantial support in the efforts made to assess the performance of the educational system and monitor the distribution of resources, deployment of teachers, students' performance assessment and review of internal efficiency of the secondary school system. EMIS is also responsible for the promotion of information within the educational system for policy planning and implementation, decision making, monitoring and evaluation. All these attributes make EMIS a reliable and powerful tool for enhancing secondary school system.

Some of the education management information system tools that can be employed in the administration of secondary school include and not limited to network system, file transfer protocol, internet, the extranet, the world wide web, bulletin board, e-mail, model, phones, scanners, optical character readers, magnetic ink character readers, optical mark readers, swipe cards, smart cards, magnetic tapes and disks, optical disks, satellite, internet telephony, web-browsers, database, word processing, spreadsheet and so on. Given the globalized nature of education across the globe and their quest to dominate the 21st century knowledge economy, there is no gainsaying that promoting Education management information system in Nigerian secondary schools, particularly those in Imo State will entrench quality administration required to survive and succeed nationally and internationally.

### **Statement of the Problem**

Administratively, the use of old approach characterized by paper-based information collection, storage, procession, retrieval, transmission, sharing and exchange with near zero safety need to fizzle away in secondary schools in this new era driven by EMIS technologies. The problem of the study centered on none digitalization of financial and material procurements records, conveyance of directives, new policies, rules and regulations, notice of meetings, staff and students records keeping and communication, interactions, registration, staff payment records, official decision making, youth service related information records, among others, are either largely paper-based or face-to-face based. It is against this backdrop that this study investigated education management information system and administration of public senior secondary schools in Imo State.

### **Aim and Objectives of the Study**

The aim of this study investigated education management information system and administration of public senior secondary schools in Imo State. Specifically, the objectives sought to:

1. examine the extent network system predicts administration of public senior secondary schools in Imo State.
2. assess the extent file transfer protocol predicts administration of public senior secondary schools in Imo State.

### **Research Questions**

The following research questions guided this study

1. To what extent does network system predict administration of public senior secondary schools in Imo State?
2. To what extent does file transfer protocol predict administration of public senior secondary schools in Imo State?



## Hypotheses

The following research hypotheses tested at 0.05 level of significance guided this study

1. Network system does not significantly predict administration of public senior secondary schools in Imo State.
2. File transfer protocol does not significantly predict administration of public senior secondary schools in Imo State.

## Reviews

### Education Management Information System

Neumann (2021) viewed education management information system as a collection of hardware, software, database and the internet resources that are designed to generate information that supports the day-to-day, short-range and long range educational activities. Neumann maintained that EMIS is specially designed for educational activities as information generated served as management resources for educational managers and all users of educational information. From this view, it becomes understandable that EMIS involves generating information through the hardware, software and database.

In furtherance to the above, Joseph (2022) emphasized that EMIS is often integrated with transaction processing systems (TPS) and decision support systems (DSS). Siddique (2017) described transaction process systems as a system that captures and process data generated during an organization's day-to-day transaction. A transaction processing is a method where each transaction is carried out immediately by direct interaction between the operator and the system. It is used when it is important that information held on computer is up-to-date.

Clerical member of staff typically perform the activities associated with transaction processing which include following recording social and economic activities and data related to the organisation. It can also be used in making schedule, sending and receiving invoice from across members of the secondary school community (Fisher, 2021). Internal sources of data might include the number of staff employed, or students admitted, inventory or financial data from a secondary school data base (Ekhaguere, 2020).

### Administration of Secondary Schools

Fasasi (2020) perceived administration of public secondary schools as the consistent provision and utilization of good and resources to foster effective teaching and learning. Ajayi and Adeghesan, (2021) argued that administration is related to accountability of which is concerned with maximizing effectiveness and efficiency in educational system. What Ajayi and Adeghesan seem to be suggesting is that, administration of public secondary schools is associated with accountability because secondary school system can be viewed by the society as being accountable where it promotes the effectiveness and efficiency of its products (students) and services that form its main focus, missions and objectives. EMIS accounts for accuracy, flexibility resource waste reduction, speed, time and energy saving and so on (Wysocki & Young, 2000).

### Network System and Administration of Public secondary schools

Williams (2020) opined that network communication are integral part of education management information. The reason for EMIS is because electronic communication plays important role in educational activities. Many educational activities are carried out on a day-to-day basis on a computer and are effective on network environment. In other to communicate effectively, the secondary school depends on network for such communication.

Networks can be either Wide Areas Networks (WANs) which link systems over a large geographical area, or Local Area Networks (LANs) which link systems over much smaller area (Espejo et al. 2020). Similarly, Williams (2021) stressed that local area network (LAN) exist where computer are located within relatively short distances of one another, usually within the same building. These are often used so that people within a secondary school community can share resources like printers, high- capacity disk storage devices and software and to enable a range of users have access to the same data. Usually, if the distances involved are less than two kilometres, the network is a LAN. The system will be connected together using the organisations own cabling. Most LANs are connected to a powerful machine called a server. A server contains one or more hard drives which can be accessed very quickly by other PCs on the network (Williams, 2021).

However, technologies are being developed at every interval. There are now systems which use radio signals and infrared for networking without cables. These are wireless local area networks (WLANs). WLANs are more flexible than a traditional wired network and can transmit and receive information through the air,



walls and ceilings. Many schools and colleges are using this type of networks so that students can use laptop computers in any classroom and still log on to the network to do their work (Wischhusen et al., 2022).

Furthermore, Preece (2023) stressed that an electronic mail system can also be established. Similar networks can also be set up using telecommunication systems so that communication and sharing resources can take place over a wide area network (WAN). From the foregoing, it can be divided that e-mail, the internet, the World Wide Web, cable television, and so on are another set of education management information support tools. Williams (2021) added that E-mail is a way of ensuring rapid text-based communication both in and outside an organisation (secondary school). In many organisations, the use of e-mail has replaced the memo and sometimes even letters. Email can improve considering the internal communications of an organisation, particularly if it is introduced with an appropriate training programme to ensure it is used effectively. Advantages of email include sending a message instantly to someone and at a time when one chooses. Sending e-mail to several people at once, the cost is cheaper than using post and more reliable form of communication when using the telephone because it notifies the user if the message fails to reach its destination and when an e-mail has been read by recipient, colour graphics can be attached, e-mails can be sent from a variety of devices including many mobile phones and others.

Shneiderman (2021) submitted that e-mail systems operate readily not only across networks within the organisation but also across world wide networks. Many organizations also provide e-mail for their employees, usually as part of their links across the internet, External e-mail has all the features of internal mail and can make a significant difference to schools business communication.

### **File Transfer Protocol and Administration of Public secondary schools**

Rather than logging into a remote computer as a telnet session and using that computer software to access and run application, it may be desirable to obtain a copy of a file that can then be stored on the client's home computer for later use. In order that this can be achieved over the internet, file transfer protocol (FTP) is used. As with internet, there may be security levels allowing access to files only by a login account and a password. Some organisations may allow open access for transfer of files, for example, public service or research organisation FTP is a popular method of transforming web pages that have been developed on a local computer across to the website that will host them and is located on a remote system (Bickerton et al. 2020).

Frost (2022) maintained that internet relay chat (IRC) was first developed in 1988 as an aspect of file transfer protocol. It enables a group of users to interact with one another over the Internet in the same way a group of people talk to one another in a social situation or at a meeting, unlike verbal interactions, all interactions over an IRC is by way of typed text. Each can view the conversations of the others. Internet relay chat groups are called channels. Each channel has one or more operators responsible for managing the channel. These conferencing channels usually concentrate on specific subject. The main feature that distinguishes IRCs from newsgroups is the immediacy of the interaction between participating members (Frost, 2022).

Frost (2022) continued that during the registration process and prior to the resumption of teaching and learning, EMIS which involves scanners, computers, the Internet or the Intranet Web-cam, e-mail, touch screen and printers are important. Scanners optically scan students' pictures or documents into the computer in an editable form for onward downloading into the Internet or the Intranet, or alternatively, the web-cam or touch-screen can be used to capture students' face images and from the web-cam or touch screen the students' pictures or documents' are downloaded into the Internet or the Intranet hosting the school's web-site from where the pictures or documents become accessible to the registration unit of the school for decision making, whether or not a student is qualified to study.

### **Methodology**

The study adopted correlational survey design. The population of the study comprised all the 395 principals in 395 public senior secondary schools in Imo State. The sample of 395 respondents was drawn through census sampling technique. The instruments used for data collection were titled Education Management Information System Questionnaire (EMISQ) and Administration of Secondary Schools Questionnaire (ASSQ). The instruments were validated by two experts in test and measurement. Cronbach alpha statistic was used to determine the reliability of the instrument of Education Management Information System at 0.81 and Administration of Secondary Schools was 0.82 while the subscales are as follows: network system 0.73 and file transfer protocol 0.75 index. The researchers engaged two research assistants who assisted in the administration of the questionnaire. The research questions were answered using simple





regression and the hypotheses were tested using t-test associated with simple regression at 0.05 level of significance.

## Results

**Research Question 1:** To what extent does network system predict administration of public senior secondary schools in Imo State?

**Table 1: Simple regression analysis on the extent network system predict administration of public senior secondary schools in Imo State**

Model	R	R Square	Adjusted R Square	Remarks
1	.374	.340	.072	34% contribution

Table 1 revealed that the regression coefficient R was calculated to be .374 while the regression squared value was computed to be .340. This shows that there is a prediction between network system and administration of public senior secondary schools in Imo State. Judging by the coefficient of determinism, it shows that network system predicted administration of public senior secondary schools by 34% while the remaining 66% was accounted by other variables.

**Research Question 2:** To what extent does file transfer protocol predict administration of public senior secondary schools in Imo State?

**Table 2: Simple regression analysis on the extent file transfer protocol predict administration of public senior secondary schools in Imo State**

Model	R	R Square	Adjusted R Square	Remarks
1	.257	.380	.326	38% contribution

Table 2 revealed that the regression coefficient R was calculated to be .257 while the regression squared value was computed to be .380. This shows that there is a prediction between file transfer protocol and administration of public senior secondary schools in Imo State. Judging by the coefficient of determinism, it shows that file transfer protocol predicted administration of public senior secondary schools by 38% while the remaining 62% was accounted by other variables.

**Hypothesis 1:** Network system does not significantly predict administration of public senior secondary schools in Imo State.

**Table 3: t-test associated with simple regression on the extent Network system predict administration of public senior secondary schools in Imo State**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1	(Constant)	34.675	.829	35.352	.000
	Network system	-.272	.027	-.374	.000

Table 3 revealed that network system predicted administration of public senior secondary schools in public senior secondary schools by -.374. The t-test value -5.574 associated with simple regression was statistically significant at .05 when subjected to 0.00 alpha level of significance. By implication, there is a significant prediction between network system and administration of public senior secondary schools in Imo State.



**Hypothesis 2:** File transfer protocol does not significantly predict administration of public senior secondary schools in Imo State.

**Table 4: t-test associated with simple regression on the extent file transfer protocol predict administration of public senior secondary schools in Imo State.**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	14.772	1.231		12.112	.000
	File transfer protocol	.511	.021	.257	16.403	.000

Table 4 revealed that file transfer protocol predicted administration of public senior secondary schools in public senior secondary schools by .257. The t-test value 16.403 associated with simple regression was statistically significant at .05 when subjected to 0.05 alpha level of significance. By implication, there is a significant prediction between file transfer protocol and administration of public senior secondary schools in Imo State.

### Summary of Findings

1. Network system predicted administration of public senior secondary schools by 34% while the remaining 66% was accounted by other variables.
2. File transfer protocol predicted administration of public senior secondary schools by 38% while the remaining 62% was accounted by other variables.
3. There is a significant prediction between network system and administration of public senior secondary schools in Imo State.
4. There is a significant prediction between file transfer protocol and administration of public senior secondary schools in Imo State.

### Discussion of Findings

#### Network System and Administration of Public secondary schools

The findings showed that network system predicted administration of public senior secondary schools by 34% while the remaining 66% was accounted by other variables. This was in line with the work of Espejo et al. (2020) who opined that networks can be either Wide Areas Network (WANs), which link systems over a large geographical area, or Local Area Networks (LANs) which link systems over a much smaller area. Similarly, Williams (2021) stressed that local area network (LANs) exist where computer are located within relatively short distances of one another, usually within the same budding. These are often used so that people within a secondary school community can share resources such as printers, high- capacity disk storage devices and software, and to enable a range of users have access to the same data. Usually, if the distances involved are less than two kilometers, the network is a LAN. The system will be connected together using the organisations own cabling. Most LANs are connected to a powerful machine called a server. A server contains one or more hard drives which can be accessed very quickly by other PCs on the network (Williams, 2021). However, There is a significant prediction between network system and administration of public senior secondary schools in Imo State.

#### File transfer Protocol and Administration of Public secondary schools

The study showed that file transfer protocol predicted administration of public senior secondary schools by 38% while the remaining 62% was accounted by other variables. This was supported by Tinito (2018) who noted that there are 6 necessary things to be done for an EMIS policy to be workable. These are: Analysis of the system, Goals specification, Stakeholders identification, Piloting of IS based models, Implementation and Specification of sources of finance. Education being a system, having schools as subsystems, could have Education management information system effectively utilized if policies made are followed with action plans that are achievable. Since implementation of educational policies have transitory



effect on activities in schools. Notwithstanding, there is a significant prediction between file transfer protocol and administration of public senior secondary schools in Imo State.

## Conclusion

The study was concluded that network system predicted administration of public senior secondary schools by 34% while the remaining 66% was accounted by other variables while the hypothesis showed that there is a significant prediction between network system and administration of public senior secondary schools in Imo State. File transfer protocol predicted administration of public senior secondary schools by 38% while the remaining 62% was accounted by other variables when there is a significant prediction between file transfer protocol and administration of public senior secondary schools in Imo State.

## Recommendations

1. Government should provide network system to non-teaching and teaching staff for the administration of public senior secondary schools.
2. The school management should train Non-teaching and teaching staff on the use of file transfer protocol for the administration of public senior secondary schools.

## References

- Ajayi, B. & Adeghesan, N. (2021). *Bridging the gap between planning and implementation. Turning transformative visions into strategic projects*. Taylor & Francis Press.
- Bickerton, P., Bickerton, M. & Padesis, U. (2020). *Cyber marketing: how to use the Super highway to market your products and services*. Butterworth-Jzleinemann
- Ekhaguere, G. O. S. (2020). *Strengthening the internal quality assurance mechanisms in Nigeria Universities*: University of Nigeria Press.
- Espejo, R., Schuhmann W., Schwaninger, M. & Bilello, B. (2020). *Organizational transformation and learning*. John Wiley.
- Fisher, N. (2021). The integration and use of education management information system across the secondary schools in South West England. <http://www.hr mars.com>.
- Fasasi, K. (2020). *Modern office technologies in private sector*. [www.academic journals.org](http://www.academic journals.org)
- Frost, A. (2022). *Exploiting the internet*. Wiley Lines
- Joseph, R. (2022). Services delivery through information systems in Salaam and Mwanza. *Journal of information System*, 1, 89-114.
- Neumann, B. (2021). *Strategic management and information systems. An Integrated Approach*. Pitman
- Nganjiozor, M. O. (2023). *A general overview of education management information system in Nigeria*. <http://www.sesric.org/imgs/news/1584>
- Preece, J. (2023). *Human-Computer Interaction*. Addison- Wesley.
- Shneiderman, B. (2021). *Designing the user interface*. Addison Wesley.
- Siddique, A. S. (2017). Role of Radio and TV in distance education system of Allama Iqbal Open University. *Pakistan Journal of Distance Education*. 5, (2)34-50.
- Tinito, R. (2018). *Info Development in ICT Education*. <http://www.infodev.org>.
- Williams, M. C. (2020). *Using information technology*. Heinemann Educational Publishers.
- Wishhusen, T., Fadipe, J. O. & Adepoju, T. L. (2022). Change and innovation process in formal organizations. In J. B. Babalola & A. O. Ayeni (Eds). *Educational management. Theories and tasks*. (486-516) Macmillan Nigeria Publishers.
- Williams, M. C. (2021). Remedying education: Evidence from two randomized experiment in India. *Quarterly Journal of economic* 122 (1235-1264)
- Wysocki, R. & Young, J. (2022). *Information Systems: Management Principles in Action*. Wiley Lines.