Use of Educational Management Information System in University of Lagos Distance Learning Education

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Abstract: *This paper examined the use of educational management information system in distance learning education University of Lagos. Descriptive Survey research method was adopted for the purpose of this study. A total of one hundred and twenty students participated and returned questionnaire were found useful for analysis. The test of hypothesis was done using simple percentage. This article revealed that EMIS will help to properly measure and evaluate the performance of distance learning education University of Lagos, that EMIS is useful for effective planning of distance learning education University of Lagos and that there is a significant relationship between EMIS and quality Distance education delivery in University of Lagos. There is need for reengineering and integration of Education management information system with learning management system software in University of Lagos.*

Keywords: Educational Management, Information System, Educational Management Information System, Management Information System, Distance Learning, Education, Learning, Information System, Distance Education, University of Lagos, Nigeria

1. INTRODUCTION

The acronym EMIS stands for "Educational Management Information System". By definition an EMIS is an organized group of information and documentation services that collects, stores processes analyzes and disseminates information for educational planning and management. It is a collection of component parts that include inputs processes outputs and feed backs that are integrated to achieve a specific objective. It is a system for managing a large body of data and information that can be readily retrieved, processed, analyzed, and made available for use and dissemination. It is a tool that uses systems theory, together with developments in computerization, to create a comprehensive approach to the collection and use of vast quantities of information on the education and training system. As the potential users of data, managers are systematically provided with accurate and timely information so that decision-making, planning, project development and other management functions and operations can be carried out effectively. It is therefore imperative that all educational managers and programme implementors be conscious and capable of performing or managing their information systems either manually or with computers. The latter is preferred considering the new knowledge and power of the information age.

Education Management Information System (EMIS) is a system for the collection, integration, processing, maintenance and dissemination of data and information to support decision making, planning, policy-analysis, monitoring and evaluation of all levels of education system. It is a system of people, technology, models, methods, processes, procedures, rules and regulations that function together to provide comprehensive, integrated set of relevant and timely education data to planners, decision makers and managers of education at all levels. It is an education database that aims at ensuring timely, accurate and appropriate education data and information that are available for decision making. It is a global concept for educational management that encompasses the application of modern information and communication technology in collection, collation, storage and analysis of education data. Lack of accurate and timely data has long been the bane of policy formulation and planning in all sectors of the Nigerian economy. In fact, an ILO Mission to Nigeria in 1981 noted that "policy making in Nigeria, given the present state of statistics, is like trying to run through the forest in dark without a torch light" It was in an attempt to redress this ugly situation that led to the establishment of the National Data Bank (NDB) in 1986 now NBS and later the sectoral data banks in 1988, including Education data Bank (EDB) now known as Nigeria Education Management Information System (NEMIS).

The Minister of State for Education in a maiden conference in 2017 reported that Nigeria education sector within the last two decades had faced numerous challenges, ranging from large number of out-of-school children to weak governance, but stressed that reliable data collection was key activity towards closing the gaps created by these challenges (Idoko, 2017). He said the absence of reliable data has hampered quality education delivery in Nigeria. The development of an efficient and robust Educational Management Information System (EMIS) capable of providing credible data to support decision-makers and planners implement national policies.

Statement of Problems of the Study

The administration and management of distance learning education programme is been hampered by poor educational data for evaluation of education programme performance, effective planning of education programme and quality delivery of education programme. Besides, few studies have been carried out on the relationship between educational management information system

and distance learning education in Nigeria. Therefore, this study intends to examine the use of educational management information system in university of Lagos distance learning education.

Research Objectives

This study investigated the use of educational management information system in distance learning education University of Lagos. Other objectives are as follows;

➢ Discover whether EMIS has helped to properly measure and evaluate the performance of University of Lagos distance learning education.
➢ Find out whether EMIS is useful for effective planning of University of Lagos distance learning Education.
➢ Determine whether there is a significant relationship between EMIS and quality of University of Lagos Distance education delivery.
➢ Recommend on how to improve the use of educational management information system in University of Lagos distance learning education.

Research Questions

The following research questions were sought so as to provide solutions to the problems of the study.

1. Can EMIS help to properly measure and evaluate the performance of distance learning education University of Lagos?
2. Will EMIS be useful for effective planning of University of Lagos distance learning?
3. Is there a significant relationship between EMIS and quality of Distance education delivery in University of Lagos?

2. REVIEW OF LITERATURE

2.1 The Concept and Objective of Educational Management Information System

According to Stephen and Cummings (2009), EMIS is concerned with gathering statistics from the schools, following people, models, methods, procedures, processes, rules and regulations. It also relates with the use of computer technology to get all the mentioned functions work together to provide comprehensive, integrated, relevant, reliable, unambiguous and timely data to education leaders, decision makers, planners and managers to perform their responsibilities efficiently to achieve set goals (Haiyan and Herstin, 2003). The Nigerian Educational Management Information System (NEMIS) policy maintains that EMIS is a database used to support the effective management of the educational system as a whole and of students in particular. EMIS is therefore a process used to provide the basis for monitoring the effectiveness and efficiency of an educational system at all levels (Haiyan and Herstein, 2003).

The main purpose of an EMIS is to integrate information related to the management of educational activities, and to make it available in comprehensive yet succinct ways to a variety of users. These include teachers, principals, curriculum planners, inspectorate officials, financial controllers, planners, policy advisers and political leaders, as well as parents and students. In this way, the combined information resources of the EMIS are at the service of the entire community.

The overall concept of an EMIS has given to the following objectives:

a. To improve capacities in data processing, storage, analysis and supply of educational management information so that education planners and administrators can avail themselves of reliable and timely data
b. To co-ordinate and further improve dispersed efforts in the acquisition, processing, storage, transmission, analysis, repackaging, dissemination and use of educational management information
c. To facilitate and promote the use of relevant information by various agencies and individuals at all levels for more effective educational planning implementation and management.
d. To streamline the flow of information for decision-making by reducing and eliminating duplications as well as filling information gaps.
e. To provide information for policy dialogue and scenarios for development of the education system
f. To strengthen the education statistical system in Nigeria by linking and assembling different existing information systems, integrates and synthesizes them in one single system of all education data both the quantitative and qualitative; and
g. To produce more relevant, reliable and timely data needed at every tier of government for strategic planning, policy formulation and decision support initiative in education in Nigeria

2.2 The Challenges of Educational Management Information System in Nigeria

Some of the challenges of EMIS in Nigeria are discussed below as highlighted by Shooebridge, (2005).

Inadequate funding: How to fund EMIS development and maintenance is no doubt the biggest challenge facing some countries including Nigeria. This is an issue beyond the scope of the current review. Inadequate funding has prevented most schools from having well equipped computer laboratories.

Inability to integrate data and data systems: Integration is the most significant supply side challenge facing those responsible for EMIS development in Nigeria today. As observed by Shooebridge (2005), most of the integration challenge has to do with organizational constraints. There is much more reliable and useful data and information available today in most countries than in the past but even in the countries considered to be leading in terms of EMIS development, e.g., Chile, Mexico, Argentina, Brazil, data is rarely integrated in ways that make it readily available to support monitoring and evaluation, policy analysis and planning at multiple levels. This is largely difficult because past efforts to improve data quality were efforts designed to meet the particular needs of specific ministry offices and extra organizations. Haiyan and Herstein (2003) maintained that the development and maintenance of an integrated EMIS requires a high degree of coordination and collaboration at all levels in the educational system as well as with other ministries and with external agencies. This is not an easy task as organizations are as complex as educational systems which tend to resist change. More timely integration of data across units will only be possible if standard definitions and coding schemes are developed and put in place across the system.

Inadequate development of skills in data use at all levels: Considerable knowledge and skills are required to build, maintain and use an EMIS. Lack of available human resource capacity significantly limits EMIS development. Building human resource capacity has long been known as a critical factor in the success of EMIS development. Limited capacity for more effective use of data in management and decision making, particularly at the school levels is often cited by local educators and external evaluators as a critical factor limiting the development of EMIS in Nigeria. Several categories of knowledge and skills are often referenced as deficient: (i) knowledge and skills to lead and manage EMIS development; (ii) knowledge and skills to use technology; and (iii) knowledge and skills to use data effectively for decision making, policy analysis and planning (Salako, 2012).

Inability to capture expenditure and budget data in EMIS: The lack of access to desegregate data on educational expenditures or even education budgets is often cited as a major constraint to more informed dialogue on education policy. The lack of budget transparency has been cited as a serious limitation to wider citizen participation in policy debates in Nigeria.

Inability to develop student-record based EMIS: The debate in Nigeria is about whether, or not, to pursue the development of individual student-based EMIS. Proponents of such systems often point to the need for individual student records to monitor the progress of all students and to support student-based financing schemes, which are emerging in a number of countries. The implications for EMIS of a decision to build a student-based EMIS and maintain student records at state and federal levels are considerable. The development of a student-based system is conceptually straight-forward and not particularly difficult to accomplish technically. The challenge, when building and maintaining a national EMIS based on individual student records is how to manage the complexities involved with tracking and updating student records from year to year. The administrative management demands of such a system are considerable. Maintaining national level student record based EMIS requires a level of administrative and management discipline that is often beyond the means of current administrative-bureaucratic-management systems. Most systems are not disciplined enough to sustain such systems for a long time (Salako 2012). Experience in other countries suggests that the decision to build an EMIS up from individual student records should be weighed carefully against existing management capacities, administrative-bureaucratic discipline and available resources (Stephen and Cummings, 2009).

2.3 Domains of Educational Management Information System

Given the imperative of developing an EMIS at the state level, there is a need to Address how this can be done without support from the Federal Ministry of Education. At present the only possible solution to ensure the development and utilization of an effective EMIS is through continued donor support until the capacity of the Federal Ministry of Education is improved. However, this raises another important question, namely the appropriateness of existing donor support. For instance, it is generally recognized that information systems take between three and five years to become institutionalized in efficient and accountable environments. In an operating environment such as Nigeria, which exhibits complex institutional structures, lack of accountability and an excess of waste, it would be assumed that institutionalization would take considerably longer period. This indicates that sustaining long term support for EMIS becomes critical.

External donors required governments to measure progress and achievement of EFA goals and objectives (Adam, et al 2011) by monitoring and evaluating educational quality standards. UNESCO (2010) classifies these standards into three domains:

1. **quality of inputs to education**, which include teachers, curricula and teaching/learning materials, school environment and physical facilities, and financial resources;

2. **quality of process**, such as teaching and learning methodologies, teacher/pupil interactions, management and community support; and

3. **quality of outputs and outcomes**, including completion rate of a level, specific acquired knowledge, skills, values and behavior, ability to access or create jobs, participation and contribution to the society and local community and continuity in terms of learning, doing, being and living together (UNESCO, 2010).

3. METHODOLOGY

The setting of this research is University of Lagos. A cross sectional descriptive survey research design is adopted for this study. The population of the study is made up of teaching staff and administrative staff of University of Lagos both male and female with similar job nature and levels of work. Data was collected via the questionnaire. A sample size of 120 of the total population was selected through the stratified random probability sampling method. Data were analyzed using descriptive statistics such as frequencies and percentages with the aid of Statistical Package for Social Science (SPSS) version 15.0.

4. RESULT AND DATA ANALYSIS

Research Question One
Can EMIS help to properly measure and evaluate the performance of University of Lagos distance learning education?

Table 4.1: EMIS and Distance Learning Education performance measurement

QUESTION	RESPONSE	FREQUENCY	PERCENTAGE (%)	CUMULATIVE
Can EMIS helped to properly measure and evaluate the performance of distance learning education University of Lagos?	SA	67	55.83	55.83
	A	52	43.3	99.13
	INDF	1	0.83	100.0
	SD	-	-	
	D	-	-	
Total		120	100	

Source: Field Survey, 2018

The analysis on the above table shows that 99.13% of the respondents agreed that EMIS can help to properly measure and evaluate the performance of distance learning education in University of Lagos. Findings from this study is in line with Haiyan and Herstin (2003) affirmation that EMIS is concerned with gathering statistics from the schools, following people, models, methods, procedures, processes, rules and regulations. It also relates with the use of computer technology to get all the mentioned functions work together to provide comprehensive, integrated, relevant, reliable, unambiguous and timely data to education leaders, decision makers, planners and managers to perform their responsibilities efficiently to achieve set goals.

Research Question Two
Will EMIS be useful for effective planning of University of Lagos distance learning education?

Table 4.2: EMIS and Effective Planning of Distance Learning Education Unilag

QUESTION	RESPONSE	FREQUENCY	PERCENTAGE (%)	CUMULATIVE
Will EMIS be useful for effective planning of distance learning education University of Lagos?	SA	38	31.67	31.67
	A	65	54.167	85.837
	INDF	17	14.167	100
	SD	-	-	
	D	-	-	
		120	100	

Source: Field Survey, 2018

Table 4.2 shows that 85.84% of the respondents agreed that EMIS is useful for effective planning of distance learning education in University of Lagos. Findings from this study is in agreement with Salako (2012) assertion that an education management information system (EMIS) provides systematic, quality data in a well-structured enabling environment that facilitates utilization of the information produced in planning and policy dialogue. It is crucial for tracking changes, ensuring data quality and timely reporting of essential information for planning and management, and for facilitating the utilization of information in decision making by policy makers. The system's effectiveness is dependent upon its sustainability, accountability, and efficiency. A successful EMIS is credible and operational in planning and policy dialogue.

Research Question Three

Is there a significant relationship between EMIS and quality distance learning education delivery in University of Lagos?

Table 4.3: EMIS and Quality Distance Learning Education Delivery in Unilag

QUESTION	RESPONSE	FREQUENCY	PERCENTAGE (%)	CUMULATIVE
Is there a significant relationship between EMIS and quality Distance education delivery in University of Lagos?	SA	63	52.5	52.5
	A	57	47.5	100.0
	INDF	-	-	
	SD	-	-	
	D	-	-	
Total		120	100	

Source: Field Survey, 2018

Table 4.3 shows that 100% of the respondents support the opinion that there is a significant relationship between EMIS and quality Distance learning education delivery in University of Lagos. The entire respondents holds the view that EMIS is a strong predictor of quality Distance learning education delivery in University of Lagos. Findings from this study is consistent with Hanushek and Wöessmann (2007) view that the intended effects of EMIS are centre on policy changes that improve the quality of education and, ultimately, stimulate a country's economic growth. The shift in education policy from a focus on universal access to a focus on universal quality education is empirically supported by research, which suggests that the quality of education has a significant and positive impact on economic growth. An EMIS is a necessary element of an education system that enables policy makers to make critical modifications to the system in order to improve the quality of education.

5. CONCLUSION AND RECOMMENDATION

This research has contributed immensely to the knowledge on the use of educational management information system in University of Lagos distance learning Education. Based on the findings derived from this study it can be concluded that EMIS can help to properly measure and evaluate the performance of distance learning education in University of Lagos, that EMIS is useful for effective planning of distance learning education in University of Lagos and that there is a significant relationship between EMIS and quality Distance learning education delivery in University of Lagos.

There is need for reengineering and integration of Education management information system with learning management system software in University of Lagos. Furthermore, EMIS should be implemented in the different distance learning institutions in order to support teaching and learning on real time. Finally, Training programmes on copyright and OER shall be supported through appropriate schemes and institutions shall conduct such programmes on a regular basis.

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