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MANAGEMENT INFORMATION SYSTEM EQUIPMENT UTILIZATION IN FEDERAL AND STATE UNIVERSITIES IN NIGERIA

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Abstract

This paper reports an investigation on the utilization of Management Information System (MIS) equipment in federal and state universities in Nigeria. Specifically, it assessed the adequacy of available MIS equipment and their utilization by students, lecturers and senior administrative staff of federal and state universities in Nigeria. Two universities (one federal and one state) were sampled. The subjects' sample comprised 250 lecturers, 50 senior administrative staff and 100 student leaders. Questionnaire supported by direct observations and unstructured interviews were used to gather relevant data. The result showed inadequacy in the available MIS equipment, with slightly higher adequacy in federal universities. Furthermore, the use of MIS equipment did not conform with the prescribed roles of lecturers and senior administrative staff.

Suggestions were made that could lead to effective utilization of MIS equipment in Nigerian universities.

Introduction

In this information age, coupled with the complex nature of increasingly large modern organizations such as the universities, there is the need for acquisition of appropriate information equipment to process data into information and disseminate the information for management use, towards effective university administration.

Information is an important resource in the effective management of any organization. Information is any fact or set of facts, which is useful in making a specific decision among alternative courses of action. The information potential of data is enhanced by refinement, which involves selection, processing, sorting, and re-organizing the data into a usable form and transmission to the appropriate end-users.

Nigerian universities are complex in terms of the organizational structure, number, and rapid increase in student population. This complexity is further compounded by the multiple goals of university education, as stipulated in the National Policy on Education (Federal Republic of Nigeria, 1989). There is therefore the need for an effective Management Information System (MIS) in Nigerian universities, possible only through adequate provision and effective-use of important MIS equipment.

Before 1979, Nigerian universities were established and controlled by the federal government and the three regional governments (East, West and North). However, the transfer of university education to the concurrent legislative list by the 1979 constitution empowered the state governments to establish their own universities. Consequently, 12 state universities were established between 1979 and 1992. Federal universities are owned, controlled and funded by the federal government through the National Universities Commission (NUC). The state universities, on the other hand, are owned and funded by the respective state governments.

There is the need to assess the effect of ownership/proprietorship on the adequacy of the available MIS equipment in Nigerian universities. It is also important to assess their effective utilization by the different categories of university people, namely the students, lecturers and senior administrative staff, in carrying out their expected roles towards goal attainment in the universities. The rationale for this is that an effective MIS should assist the different categories of people within an organization to effectively perform their expected functions.

Literature Background

Management Information System (MIS) in Nigerian universities is both a process of generating and disseminating information and an operational unit. MIS is a system that optimizes the collection, transfer and presentation of information throughout an organization through an integrated structure of database and information flow. It is, according to Sambo (1992), a system that uses formalized procedures to provide management at all levels and in all functions with appropriate information, based on data from both internal and external sources. In the same vein, Lucy (1989) viewed MIS as a system to convert data from internal and external sources into information and to communicate that information in an appropriate form to management at all levels, to function.

From these definitions, it is clear that MIS effectiveness is predicated on the availability and consequent utilization of some equipment for the transformation of data into information,

storing, retrieving and communicating this information to the end - users. These equipment include:

A. Electronic Equipment such as Computers, Telephone, Telex, Fax, E- Mail and Communications Satellite; and

B. Printing Equipment such as files and publications (Handbooks, Bulletin, Brochures, etc.).

A few studies have been carried out on MIS in higher educational institutions in Nigeria. These studies (Ekwere, 1990; Mathieson, 1994; Shuaib, 1995) were focused mainly on strategies for designing/developing MIS, thus, stressing the provision, of necessary equipment-In a study of the evaluation of MIS in Nigerian universities, Ekwere (1990) found out that there was inadequate MIS equipment in the university under study. Likewise, Shuaib (1995) concluded from a study on MIS and planning university education in Nigeria that planning is inadequate in the Nigerian university system due partly to lack of essential MIS equipment.

Specifically, computers and other networking equipment have been emphasized as prerequisites for an effective MIS operation. Robertson, Swann and Newwel (1996) investigated the role of networks in the diffusion of technological innovation. The study revealed that networking equipment are important in ensuring adequate spread of new technologies to end-users. Hazzan (1999) has aptly summarized the importance of these information equipment that without computers, their peripherals and other communications equipment, organizations could not access information offered through world-wide web.

These studies have shown that adequate availability of MIS equipment is inescapable for effective MIS operations. Also, effective use of this equipment is important in order to generate information for management use.

Purpose of the Study

This study was, therefore, undertaken to:

1. assess the adequacy of the available MIS equipment -in Nigerian universities (federal and state), and,

2. assess the use of the available MIS equipment by the university people:

i within the universities; and

ii between the universities and the outside world.

Research Questions

The following research questions were raised to guide the study:

1. How adequately equipped are the Nigerian universities in terms of MIS equipment?
2. How effectively used are the MIS equipment within the universities by group of people and proprietorship of the universities?
3. How effectively used are the MIS equipment between the universities and the outside world by group and proprietorship of the universities?

Methodology

This study was a descriptive survey on the availability and effective use of Management Information System (MIS) equipment in Nigerian universities.

In order to establish comparability, stratified random sampling technique was used to select two Nigerian universities based on their proprietorship - federal/state owned. The subject sample consisted of 250 lecturers, 100 student leaders and 50 senior administrative staff comprising the Deans of Faculties, Head of Department and Directors of Units in the universities.

Data for the study were gathered mainly through the use of a questionnaire tagged "Management Information System Equipment Inventory and Utilization Questionnaire" (MISIUQ).

The Questionnaire, designed by the researcher, assessed the adequacy of the available MIS equipment with the options of "Very Adequate", "Fairly Adequate" and "Not Available" and the frequency of their use. The instrument was face and content validated by incorporating the opinions and suggestions of experts in communications and information. In addition, the reliability coefficient of .93 was obtained for MISIUQ, using the test-retest method within a 3 - week interval.

Direct observations were also made of the available equipment and brief interviews conducted with key MIS officials.

Data Analysis and Result

The data for the study were analysed using means, percentages and Duncan Grouping. A NORM was also set at 50% for adequacy of MIS equipment. The results of the analysis are presented on the basis of the research questions raised as follows:

Question 1: How adequately equipped are Nigerian universities in terms of MIS equipment?

Table 1: Adequacy of MIS Equipment in the Universities

Variable	Ver		Fairly		Not	
	Adequate	%	Adequate	%	Available	%
1 Computers	7	1.8	280	70.0	113	28.2
2 Telephone	5	1.3	222	55.5	173	43.2
3 Telex	4	1.0	160	40.0	236	59.0
4 Fax	3	0.8	130	32.5	267	66.7
5 E-Mail	3	0.8	53	13.2	344	86.0
6 communications						
Satellite	2	0.5	12	3.0	386	96.5
7 Files	267	69.0	118	29.5	6	1.5
8 Publication	50	12.5	280	70.0	70	17.5

On the use of MIS equipment by students, lecturers and senior administrative staff, Duncan's Multiple Range Test was carried out to determine their use in the two categories of universities. The percentage usage was also calculated. The findings are presented in Tables 2 and 3.

Question 2: How effectively used are the MIS equipment within the universities by group of people and proprietorship of universities?

Table 2: Duncan's Multiple Range Test* on the Use of MIS Equipment Within the Universities by Group and Proprietorship of Universities

Variable	Mean	%	Duncan
			Grouping
Senior administrative Staff	3.430	42.88	A
Lecturers	2.464	30.80	B
Students	2.136	26.70	C
Proprietorship of Federal	2.889	36.10	A
universities State	2.422	30.28	B

Note: * Means with the same letters are not significantly different.

Question 3: How effectively used are the MIS equipment between the universities and the outside world by Group and Proprietorship of universities?

Table 3: Duncan's Multiple Range Test* on the use of MIS Equipment between the Universities and the outside World

Variable	Mean	% Usage	Duncan Grouping
Senior administrative Staff	3.640	45.50	A
Group Lecturers	2.772	34.65	B
Students	2.365	29.56	C
Proprietorship			
of universities Federal	2.870	35.88	A
State	2.748.	34.35	B

Note: * Mean with the same letters are not significantly different.

Discussion of Results

Table 1 shows that all the electronic MIS, equipment were at best, fairly adequate in the universities. Only files (printing equipment) were available very adequately, even publications were fairly adequate. This general inadequacy of MIS equipment does not augur well for effective MIS operations in the universities. Ekwere (1990) found that poor input in form of MIS equipment results into poor information output, and that if MIS is to succeed, its operations need considerable procurement of adequate and appropriate hardware's, software's, and communication equipment. Lowe (1992) also emphasized the need for procurement of equipment to operate computer-based MIS for Nigerian universities. Thus, this finding of inadequate MIS equipment in the universities does not conform to the standard requirements of effective MIS operations in complex organizations, such as the universities.

Results from Table 2 show that MIS equipments are not effective!) used within the universities by the three groups of respondents namely senior administrative staff, lecturers and students (42.88%, 30.80% and 26.70%, respectively). However, the senior administrative staff has the highest mean' usage of MIS equipment (3.430) followed by the lecturers (2.464) and then the students (2.136). These result fall in line with the functions performed by these groups .of people within the university system. While lecturers concern themselves mainly with teaching, research and community services as stipulated in the National Policy on Education (FRN, 1989),

the senior administrative staff perform administrative functions such as curriculum planning, budgeting, supervision, evaluation and maintenance of human and material resources within the system (Oduwaiye, 1998). This administrative staffs are thus expected to interact more with the available MIS equipment than the lecturers in carrying out these functions. The students are at the receiving end of the activities of both the lecturers and the senior administrative staff Hence, they may not have as much access to the equipment as the staff.

In the same vein, the higher mean use of MIS equipment in federal universities could be attributable to greater availability of MIS equipment in federal universities than in state universities. This might not be unconnected with the federal universities being better funded than the state universities (Aminu, 1985).

The results in Table 3 show that the senior administrative staff has the highest mean use of MIS equipment between the universities and the outside world, followed by the lecturers and the students. The activities of achieving the goals of university education namely teaching, research, dissemination of existing and new information, and the pursuit of service to the community, (FRN, 1989) National Policy on Education are carried out principally by the lecturers' These activities require that the lecturers should have viable communication links with educational and research institutes within and outside the country for programmes such as public enlightenment, consultancy services, and professional seminars and conferences.

This finding becomes important in the light of Finance's (1996) submission that the strategies for developing good information system in universities must encompass the enhancement of role performance of the different categories of people in the system. It then becomes imperative that the existing MIS should be appropriately utilized to assist university personnel to effectively carry out their expected roles and functions.

Conclusions and Recommendations

The findings of this study clearly show that Nigerian universities lack adequate equipment for MIS operations (especially electronic equipment). The available MIS equipment was not utilized according to the prescribed roles of lecturers and senior administrative staff between the universities and the outside world.

Based on these conclusions, it is suggested that for effective MIS operations in Nigerian universities, computers and their accessories are necessary. Other related technologies of MIS such as telephone system, telex, fax, and E-mail services need to be provided to ensure

appropriate and adequate dissemination of necessary information within and outside the university system. The governments should assist in providing these MIS equipment in order to perfect the network design, which is the goal of the computerized MIS project in the Nigerian universities.

In addition, people within each university should be made aware of the available MIS equipment. These equipments should be distributed to serve the different categories of university personnel in line with their prescribed roles towards goal attainment. Lecturers in particular should be provided with necessary equipments and properly trained to use these equipments for their professional development and academic improvement of their students. These measures would go a long way to improve the standard of university education in Nigeria.

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