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Academic Libraries and Management Information System (MIS) in Nigeria

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ABSTRACT

This research work looks in to the impact of management information system on employee performance in the Nigerian academic libraries with reference to some selected academic libraries in seven states of the north western part of Nigeria. To this end, qualitative approach and collective study methods were used and the major instruments used in generating data were questionnaires, interviews and thorough review of current and relevant information materials. The statistical population consisted of all Senior and intermediary managers of the libraries under study. The findings exposed that MIS provides many opportunities and venues to manage the library and information services sustainably. The library professionals have to consider seriously these changing context and the new roles of the library to update and improve the information management and data computing skills. Hence, library professionals will improve the capabilities in order to lead the libraries towards the changing strategies to face the challenges brought by the digital age. Libraries face enormous challenges in managing information and have to tackle the challenges by managing the libraries effectively for tomorrow and transformation of the libraries to a sustainable future.

The conclusion of this study is that MIS in libraries must respond to the needs of library managers, especially their role in determine efficiency, effectiveness and competitiveness.

Recommendations are that:

- Managers need to be trained in relevant skills (computing, statistics) so that efficient MIS can be established.

- Senior managers need to demonstrate serious commitment to promoting and maintaining efficient MIs.

Key words *Academic library, information technology, management information system, Library management information system.*

INTRODUCTIO

Without proper information, library managers will always face some difficulty in decision making. The application of management information, in particular that derived from automated systems, has a potentially important role in relation to current problems faced by libraries. Management information has been available to librarians for a long time, based on manually compiled records, but libraries have not always had access to computer generated information.

Kuruppu, C.(2002), defined management information system as "the study of people, technology, organizations, and the relationships among them," MIS professionals help firms realize maximum benefit from investment in personnel, equipment, and business processes. MIS is a people-oriented field with an emphasis on service through technology.

Rihania, N. (2015), defined management information systems as "tools used to support processes, operations, intelligence, and IT. MIS tools move data and manage information". It produces data-driven reports that help libraries make the right decisions at the right time.

Management information systems Adekeye, W.B, (2016), has defined a Management Information System as: 'the process and structure used by an organization to identify, collect, evaluate, transfer, and utilise information in order to fulfil its objectives. It is a system that provides management with information to make decisions, evaluate alternatives, measure performance, and detect situations requiring corrective action'.

A library management information system can also be called a library management system (LMS) or integrated library system (ILS). It is a system that makes use of information technology (IT) to carry out managerial objectives. The main goal of a library management information system is to store, organize, share and retrieve vital information needed to carry out daily operational functions of the library.

The four main objectives for Management Information systems as observed Argyris, C. (1991), have been defined as:

- 1. To facilitate the decision making process in the library by providing the managers with accurate, timely, and selective information that assists them in determining a specific course of action.

- 2. To provide for the objective performance measurement and assessment of selected relevant areas of the library. The areas are to be determined during strategic planning.

- 3. To provide pertinent information about the library's internal and external environments.

- 4. To provide information on alternative strategies and contingency plans.

Every aspect of management in the modern age relies heavily on information to thrive. Nothing moves without information and it is generally believed that information is power and that he who has it has power. It is an important resource needed to develop other resources. Changing circumstances and environments have necessitated the need for the proper dissemination of information at various levels of management. The development and use of information management systems (MIS) is a modern phenomenon concerned with the use of appropriate information that will lead to better planning, better decision making and better results.

AIMS AND OBJECTIVES OF THE RESEARCH

This study primarily strived to investigate point of views of the library managers about using MIS in their academic libraries. Therefore, considering the objective of the study, the following questions were developed.

- ❖ What are the availability of management information system (MIS) facilities in academic libraries?

- ❖ What are the impacts of management information system application in libraries?

- ❖ The challenges facing Management Information System (MIS) in academic libraries

METHODOLOGY

 In order to answer the above research questions, qualitative approach and case study were used. Some academic libraries of the federal universities in the north western part of Nigeria identified as the case study, which was based on views of the library managers. Statistical population of the study included both senior and middle library managers of the above mentioned academic libraries; based on the organizational chart, there were several managers who worked in the several sections of the library.

Questionnaires were the instrument used for data collection. A total of 90 copies of questionnaires were drafted and distributed out which 78 were returned and found usable. Data collected were analyzed using simple descriptive statistics of percentages.

LITERITURE REVIEW

The information concept

The concept of information in an organizational sense is more complex and difficult than the frequent use of this common word would suggest. Every society, no doubt, is an information society and every organization is an information organization. Therefore, information is a basic resource like materials, money and personnel. Information can be considered either as an abstract concept (ideas) or as a commodity, usually in the form of letters and reports. Essentially, therefore, information has become a critical resource, just like energy, both of which are vital to the wellbeing of individuals and organizations in the modern world Best, D.P. (1988),

Information is considered as the key and determining factor of the success in every organization and the life and death of every organization depends on the information. Information is conceived of as an important source of power Rihania, N. (2015), Like energy and politics, technology is changing the ways in which information is captured, processed, stored, disseminated and used. Information, therefore, like any other resource in an organization, should be properly managed to ensure its cost-effective use. It is an ingredient that is vital to good management and if properly managed, should rank in importance with the organization's personnel, material and financial resources. Information is one of the most crucial elements in the managers' decision-making process. Manager of an organization requires comprehensive information to play his/her managerial role and one way of obtaining the required information is the usage of the Management Information System (MIS).

The information management concept

Ian, M. (1995), defined Information management as ''the organization-wide capability of creating, maintaining, retrieving and making immediately available the right information, in the right place, at the right time, in hands of the right people, at the lowest cost, in the best media, for use in decision making''. In the same vein, Sofia, A. (2010), also defines information management as the economic, efficient and effective co-ordination of the production, control, storage and retrieval and dissemination of information from external and internal sources, in order to improve the performance of the organization. This definition is narrow in perspective in that it does not take care of managing the characteristics of information itself (content, ownership,

representation and equality), irrespective of the storage medium, equipment that processes it and the system that employs it. In summary, therefore, the key issue involved in information management is managing information in an organization using modern information technologies.

Heim has defined a Management Information System as: 'the process and structure used by an organization to identify, collect, evaluate, transfer, and utilize information in order to fulfill its objectives. It is a system that provides management with information to make decisions, evaluate alternatives, measure performance, and detect situations requiring corrective action'.

The implementation of performance assessment in academic libraries, according to **Writer, c. (2017),**"is an essential part of good management practice. Although she had reservations about the current Management Information Systems in university libraries because, for example, few academic libraries had produced a statement of their objectives, she still believed that Management Information Systems could contribute to effective management of library activities. The four main objectives for Management Information systems have been defined as:

1. To facilitate the decision making process in the library by providing the managers with accurate, timely, and selective information that assists them in determining a specific course of action.

2. To provide for the objective performance measurement and assessment of selected relevant areas of the library. The areas are to be determined during strategic planning.

3. To provide pertinent information about the library's internal and external environments.

4. To provide information on alternative strategies and contingency plans.

The purposes above can only be implemented if people look upon Management Information Systems as an integral part of the framework of management in the academic library and not as a peripheral system which has been installed for the benefit of an individual or a single department.

An important aspect of library management is making reading materials available for readers as and when required. In present times, information technology has become an inevitable part of management of libraries. Through libraries information keeps on flowing from one generation to another and this is only possible if libraries are managed properly.

The information systems concept

Heim has defined Information System as: as ''a system that provides management with information to make decisions, evaluate alternatives, measure performance, and detect situations requiring corrective action'.

The rapid evolution of computer technology is expanding man's desire to obtain computer assistance in solving more and more complex problems: problems which were considered solely in the domain of man's intuitive and judgmental processes, particularly in organizations. Information systems are becoming of ever greater interest in progressive and dynamic organizations. The need to obtain access conveniently, quickly and economically makes it imperative to devise procedures for the creation, management and utilization of databases in organizations. MIS are regarded as valuable organizational resources. Simply put, an information system is a system for accepting data/information as a raw material and through one or more transmutation processes, generating information as a product. It comprises the following functional elements which relate to the organization and its environments:

- Perception – initial entry of data whether captured or generated, into the organization;

- Recording – physical capture of data;

- Processing – transformation according to the "specific" needs of the organization;

- Transmission – the flows which occur in an information system;

- Storage – presupposes some expected future use;

- Retrieval – search for recorded data;

- Presentation – reporting, communication; and

- Decision making - a controversial inclusion, except to the extent that the information system engages in decision making that concerns itself.

Whatever way one looks at an information system, it is generally expected to provide not only a confrontation between the user and information, but also, the interaction required for relevant and timely decision making. Its main purpose is to satisfy users' information needs.

Approaching information systems in an organizational content shows that it is a sub-system within an organizational system which is a "living and open" system. Academics interested in information works and information practitioners alike have defined information systems in various ways but with basic ideas of people, information technology and procedures which enable the facilitation of the generation, use and transfer of information. Although information systems are considered to belong to an applied discipline, there is need for an understanding of their underlying basic concepts by information practitioners. The definition of information systems by Mohammed, A. (2020) is considered to be adequate: a collection of people, procedures, a base of data and (sometimes) hardware and software that collects, processes, stores and communicates data for transaction processing at operational level and information to support Management decision making. Certain deductions can be made from the above definition that:

- The definition covers the what, how and why of information systems;

- An information system can be manual or computer-based;

- That information systems have existed in organizations and always will;

- That an information system is supposed to support both the basic operations of an organization and its management;

- A distinction seems to be made between data for transaction processing purposes and information for decision-making purposes; and

- The definition has provided what can be considered as basic concepts underlying information systems, namely: people, management, information, systems and organizations.

The attributes indicated above can be considered as major attributes or essential elements for developing an information system concept in an organizational context. In order to understand the information system concept further, Salton (1999) highlighted the most important computer-based information systems as follows:

- Information retrieval system (IR);

- Question-answering system;

- Database system (DBS);

- Management information system (MIS);

- Decision support system (DSS). The focus in this essay is the management information system (MIS). It therefore must be emphasized that MIS is a sub-system of information systems.

Management information systems (MIS) concept

One approach by which organizations can utilize computing capability is through the development of MIS. There is no universally accepted definition of MIS and those that exist reflect the emphasis and perhaps prejudices of their authors. However, the term "management information system" can be seen as a database management system tailored to the needs of managers or decision makers in an organization. MIS is a system using formalized procedures to provide 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 Sofia, A. (2010), It will be noted from the above definition that the emphasis is on the uses to which the information is put. Planning, directing and controlling are the essential ingredients for "management". In essence, the processing of data into information and communicating the resulting information to the user is the key function of MIS. It should, therefore, be noted that MIS exist in organizations in order to help them achieve objectives, to plan and control their processes and operations, to help deal with uncertainty, and to help in adapting to change or, indeed, initiating change.

A library management information system can also be called a library management system (LMS) or integrated library system (ILS). It is a system that makes use of information technology (IT) to carry out managerial objectives. The main goal of a library management information system is to store, organize, share and retrieve vital information needed to carry out daily operational functions of the library, (C. Writer, 2017).

A library management system (LMS) is a network of computers that uses a certain program to facilitate technical functions of the library. It involves three basic elements: hardware, software and the users. One such function is electronic cataloguing and classification. Through LMS, library users can trace desired information items electronically without going through shelves. It also facilitates the lending process by keeping records of items lent and borrowers' information. LMS supports other administrative tasks such as inventory and data processing.

Management information facilities transform the library management system into a much more effective management tool. Three levels of management can be identified — operational, tactical and strategic — and each of these has its own unique management information needs. Earlier work on the use of management information in libraries and the development of management information systems demonstrates that progress in these areas has been slow. Management information systems comprise three components: facilities for handling ad hoc enquiries; facilities for standard report generation; and management information modules, or report generators that support the production of user-defined reports. A list of standard reports covering acquisitions, cataloguing, circulation control, serials and inter-library loans is provided. The functions of report generators are explored and the nature of enquiry facilities reviewed. Management information tools available in library management systems form a valuable aid in decision making. These should be further exploited and further developed.

Challenges of MIS in academic libraries

Nowadays, Nigerian academic libraries face the challenge of remaining relevant to the users. The concept of a library staying in one fixed space is slowly evolving. Because of technology, users can get information from alternative sources. Libraries generally need to be more competitive in terms of extending services to meet up the needs their targeted users. LMS can play an important role in overcoming this challenge. LMS may provide integrated information that can be a basis for evaluating what users want. It can also be a tool for implementing new ideas that will enhance the users' library experience.

FINDINGS AND DISCUSSION

Research Question One

Availability of management information system facilities in academic libraries

Table1. Responses/views on the availability of management information system facilities in academic libraries

S/N	Statements	Number of respondent	Strongly Agreed	Agreed	Disagreed	Strongly disagreed	Percentage (%)
1	Are there enough computers in your libraries?	78	66 (84%)	3(4%)	9(12%)	0(0%)	100%
2	There are enough computer operators in the library.	78	45(58%)	30(38.5%)	3(3.8%)	0(0%)	100%
3	There are adequate computer engineers for regular system maintenance	78	0(0%)	24(31%)	54(69%)	0(0%)	100%
4	Enough internet facilities for prompt communication with the staff and clienteles.	78	6(8%)	12(15%)	60(77%)	0(0%)	100%
5	Adequate power supply in the library.	78	0(0%)	3(4%)	30(38%)	45(58%)	100%
6	Adequate air condition facilities for computers to avoid over heating while in operation	78	12(15%)	9(12%)	48(61%)	9(12%)	100%

Table 1 above showed the availability of management information system in the academic libraries under study. The respondents were asked to indicate whether are there are enough computers in their respective libraries. Item 1 in Table 1 has 66(88%) indicating that the respondents agreed that there are enough computers in their libraries. Correspondingly, item 2 have 75(96%) indicating that the respondents agreed that there are enough computer operators in their libraries. Item 3 which have 24(31%) indicating that the respondents did not agreed that there are adequate computer engineers for maintenance in the above mentioned libraries. Also item 4 which have 18(23%) indicating that the respondents did not agreed that there are enough internet facilities for prompt communication with clientele and for decision making among the academic librarians in those libraries. The respondents did not agree in item 5 which has 3(4%) that there is adequate power supply in the libraries. The respondents also did not agree in item 6 which has 21(27%) that there are adequate air condition facilities for computers to avoid over heating of the system while in operation.

Research Question 2

Responses/views on Importance of Management Information System in academic libraries.

S/N	Statements	Number of respondents	Strongly Agreed	Agreed	Disagreed	Strongly disagreed	Percentage (%)
1	Effective and efficient retrieval of information from the library materials	78	60(77%)	9(11.5%)	9(11.5%)	0(0%)	100%
2	data security for academic functions	78	60(77%)	30(38.5%)	3(3.8%)	0(0%)	100%
3	Effective planning of institution budget	78	54(69%)	24(31%)	0(0%)	0(0%)	100%
4	Supportive research by both the students and staff	78	66(84.6%)	12(15.4%)	0(0%)	0(0%)	100%
5	Effective performance of administrative functions	78	30(38%)	45(58%)	3(4%)	0(0%)	100%
6	Improve quality of teaching and learning activities	78	12(15.4%)	48(61.3%)	9(11.5%)	9(11.5%)	100%
7	Leads to the availability of MIS infrastructure	78	36(46.2%)	36(46.2%)	18(23%)	0(0%)	100%

Table 2 above shows the responses/views of academic librarians on the impact of Management Information System in academic Libraries. from the table, the statements indicated effective and efficient retrieval of information as 66(77%), academic data security 75(97%), effective planning of institution budget 78(100%), supporting research by both the students and staff 78(100%), effective performance of administrative staff 75(96%), leads to increase in quality of teaching 60(77%), leads to the availability of MIS structure like internet facilities 72(92.4%). Majority of the responses from the respondent

that is 77% and above also agreed that the above mentioned impacts of Management Information System is effective which has helped in the smooth running of information records in these Libraries.

Research Question 3

What are the challenges of information management system in academic institutions libraries?

S/N	Statements	Number of responders	Strongly agreed	Agreed	Disagreed	Strongly disagreed	Percentage%
1	Lack of basic ICT education and skills	78	30(39%)	36(46%)	12(15%)	0(0%)	100%
2	In adequate power supply to the institution	78	45(58%)	33(42%)	0(0%)	0(0%)	100%
3	Lack of management involvement in the design of MIS	78	15(19%)	33(42%)	18(23%)	12(16%)	100%
4	Undue concentration of low level data	78	15(19%)	60(77%)	3(4%)	0(0%)	100%
5	Lack of managent support	78	30(39%)	15(19%)	33(42%)	0(0%)	100%
6	Lack of qualified ICT professionals	78	63(81%)	15(19%)	0(0%)	0(0%)	100%

Table 3 above shows the responses on the challenges of Information Management System (IMS) in academic libraries. from the table, the responses from the respondents such as lack of basic ICT education and skills stands up to 66(85%), inadequate power supply to the institution 78(100%), lack of management involvement in the design of MIS 48(61%), undue concentration of low level data 75(96%), lack of management support recorded 45(58%), inadequate number of ICT professionals 78(100%). Almost all the responses from the respondent agreed that the above mentioned challenges has negatively affected management information system in the north western part Nigeria's' academic libraries. These challenges have affected the function of management information system in terms of information service delivery.

CONCLUSION

From the findings of the study it could be deduced that there is management information system for effective and efficient records keeping for academic librarians in the north western parts of even though some facilities are not adequate, the impacts of management information system which include effective retrieval of data, data security, planning and research, effective administrative work, quality of teaching and availability of internet facilities have helped in the smooth running of the above mentioned University libraries.

The challenges of management information system such as lack of basic ICT skills, inadequate power supply, lack of management involvement in the design of MIS, low data concentration, lack of management support and inadequate ICT professionals are the challenges affecting management information system in academic libraries.

RECOMMENDATIONS

Based on the findings of this research work, the following recommendations are proffered:

There are management information system facilities in the above mentioned libraries, but some facilities are not enough which is affecting the library from effective records keeping and decision making to be achieved. Therefore Librarians are required to acquire and enhance the knowledge, professional and technical skills to manage the digital information effectively.

The Library professionals must update information management skills and manage the information and sustain the library services over a period of time to realize this important goal of the institution.

The expectations and needs of the Net generation need to be studied in order to provide such services to sustain our libraries. But librarians have to face many challenges when developing new such services for net generations of library patrons. Library staffs have to be trained or Libraries have to recruit competent new staff to tackle such situation. Cloud computing, data computing and information management skills are the main skills, they are expected to inculcate in the day-to- day operation of library services

The above mentioned challenges if look into and solve once and for all the problems of management information system in academic Libraries will be a thing in the past.

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