

## The Effect of Management Information System on the Routine of Academic Librarians in Federal University of Technology Minna Library

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### ABSTRACT

This study investigated the impact of the use of management information system (MIS) by academic librarians in Federal University of Technology Minna Library. Specifically, three objectives guided the study such as the availability of management information system facilities, the impacts of management information system to academic librarians and the challenges of management information system. It adopted a descriptive survey design and had a population of 30 academic librarians in Federal University of Technology Minna Library. The study purposively used the whole population of academic librarians in Federal University of Technology Minna Library. Thirty copies of the questionnaire were distributed with twenty-six (26) returned; representing a return rate of 86%. The data collected were analyzed using percentages. The findings of the study revealed that there are management information system facilities in Federal University of Technology Minna library, management information system is helping the academic librarians in the smooth running of university library records and for decision making, the challenges of management information system being faced by academic librarians in Federal University of Technology Minna library are 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. The study recommended that attention should be given to management information system for effective records keeping and efficient decision making. There is the need to have an effective management information system in place for prompt decision making and for effective records keeping by the academic librarians, the challenges facing management information system should be looked into and solve once and for all so that Federal University of Technology Minna Library will have an effective and reliable management information system for decision making and records keeping in the library.

**Keywords:** Management Information System (MIS), University library, academic librarians, computer, impact, Records

### INTRODUCTION

The information needs of most tertiary institutions especially University libraries have become quite enormous and challenging to the extent that most of University libraries in Nigeria needs to pay great attention as to how information is gathered, stored, disseminated and utilized. This situation has arisen because of some fundamental factors such as increased organizational size, expanded operational scope, competitive influence among the institution libraries and overall environmental challenges. Today's organizations especially University libraries require tools to support quicker and automated decisions, as well as ways to minimize uncertainties and only an effective management information system can ameliorate

this challenges (McGraw, 2012). The positive effect of management information system in Federal University of technology Minna library have to be seen by enhancing communication among the library staff and students to deliver information materials throughout the institution, provide an object system for recording and aggregate information, reduce expenses to labour intensive manual activities, support the organizations strategic goals and direction and enhance teaching and learning in the institution.

Libraries are the carriers of civilization. Without books, history is silent, literature dumb, science crippled, thought and speculation at a standstill. Without libraries, the development of civilization would have been impossible; they are the engines of change. Academic libraries

play a pivotal role in dissemination of knowledge and are an extremely important element of the foundation of information dissemination all over the world (Bright and Asare, 2019).

Achieng (2014) defined Management Information System as a system that convert data from internal and external sources into information and communicate that information in an appropriate form to managers at all levels in all functions to enable them make timely and effective decisions for planning, directing and controlling the activities for which they are responsible.

Ocheni (2015) stated that the problem confronting most institutions is the collection and storage of information. Structurally and complex management are the problems Nigerian organizations are faced with. Ocheni (2015) stated that the modern organizational systems, social and economic systems have become increasingly complex themselves. These complexities of institutions in developing countries and particularly in Nigeria tend to be characterized by such phenomena referred to as information explosion, procedures, inadequacy of funds and other material resources even in the face of inflation and conflicting models and policies adopted for implementation.

The term management information systems, popularly abbreviated as MIS according to Bright and Asare (2019) has become synonymous with computer; yet, both concepts are not exactly the same because management information systems existed in the life of pre-modern publication long before the advent of the computer technology. This argument is substantiated by the fact that computer was not in use when organizations kept records using traditional and manual mechanisms to manage information. It is important though to pinpoint that the computer takes credit for increased interest in management information systems because it eases and facilitates data processing as well as adds new vistas of interesting career options in MIS (Bright and Asare, 2019). Therefore, various organizations or institutions have chosen to apply this group of components to their associations (Spalding, 2010). Consequently, the institutions have decided to implement MIS in order to improve the effectiveness and efficiency of the teaching and learning in various faculties. Information systems have become a major functional area of tertiary institutions. The systems, nowadays,

plays a vital role in the e-communication and e-commerce operations, enterprise collaboration and management, and strategic success of different institutions (Gabriel, 2012).

In spite of the fact that management information system supplies decision makers with facts, likewise, it supports and enhances the overall decision making process. MIS also enhance job performance throughout an institution. At the most senior level it provides the data and information to help the board and management to make strategic decisions (top management decisions or long lasting decisions) and at other levels of management MIS provides the means through which the institutional activities are executed, monitored, controlled and information are distributed to management, supervisors, employees and students.

### **STATEMENT OF THE PROBLEM**

Information is an indispensable instrument in the management of any organization. Management of University libraries are required to frequently update their records, personnel records, research records and financial management records. These essential records could be effectively managed with the use of functional management information system (MIS), to this end; due to the usefulness of MIS to librarians for the provision of a well-designed management information system (MIS) to assist University libraries achieve their predetermined goals. The operational level of providing University libraries with management information system (MIS) with relevant information for effective decision making required constant electricity supply to ensure a maximum and efficient communication of the academic librarian. More so, available management information system (MIS) materials are properly utilized towards effective productivity if there are qualified and experienced MIS operators.

There has been a lot of concern for Nigerian University libraries to have efficient, adequate storage, flow and use of information. If there is adequate access of relevant information about the university librarian, there will be positive effect on the effectiveness of management in decision making process. Preliminary investigations carried out by the researchers in Federal University of Technology Minna library seem to suggest that librarians experience administrative problems which has to do with proper record management and ineffective communicational related issues. One wonders

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what factors are responsible for these problems on the part of academic librarians. Therefore, it is on the backdrop that the researchers intend to find the impact of information management system on the performance of academic librarians in Federal University of Technology Minna, Niger State, Nigeria.

### OBJECTIVES OF THE STUDY

The following objectives guided the study.

- The availability of management information system (MIS) facilities in Federal University of Technology Minna library.
- The impacts of management information system application in Federal University of Technology Minna library.
- The challenges facing Management Information System (MIS) in Federal University of Technology Minna library.

### RESEARCH QUESTIONS

The following research questions guided the study

- What are the availability of management information system (MIS) facilities in Federal University of Technology Minna library?
- What are the impacts of management information system application in Federal University of Technology Minna library?
- What are the challenges facing Management Information System (MIS) in Federal University of Technology Minna library?

### LITERATURE REVIEW

#### Management Information System

Management Information System (MIS) means different things to different people. Achieng (2014) defined management information system as a system that convert data from internal and external sources into information and communicate that information in an appropriate form to management at all levels in all functions to enable them make timely and effective decisions for planning, directing and controlling the activities for which they are responsible. Management Information System therefore refers to the structure of linkages amongst pools of information for decision making and the inherent technologies, people, organizations and the relationships among them in University libraries. Governance connotes decision making by management and for these decisions to be

effective they need to be premised on systematically developed information bank (Achieng, 2014). This is where universities libraries come in handy with their already established sources and procedures for linking research and development practice. An information system ensures that information is available in the right form and at the right time for the users. The information must be relevant, accurate, concise, complete, well presented and storable. These conditions presuppose critical further requirements of gathering, storing, organizing, disseminating and distributing large amount of data and information (Tom, 2005).

Bright and Asare (2019) states that defining management information systems would first require splitting the subject into three facets of: Management, Information and Systems respectively. Karim (2011), defined management as the process through which planning, organizing, initiating and controlling of operations within an institution is carried out.

Similarly, management was defined as the process that deals with methods and techniques of efficiently and effectively using organization's resources to achieve set results. In addition, information refers to stream of data that have been processed to the form that it makes sense to its users. Succinctly put, information is organized data that has meaning. On the other hand, system is an assemblage of different but interrelated and interdependent parts that functions as a whole to achieve common interest (Karim, 2011), a set of elements joined together for a common objective (Kumar, 2006). Judging from these views, it is arguable that every system comprises parts that are interrelated and interconnected becoming one entity and consequently pursues common goal. Drawing from the foregoing, it seemingly appears that defining MIS is now a simple task, but that is not exactly so. Ajayi and Omirin, (2007). In their own views stated that MIS is basically concerned with the process of collecting, processing, storing and transmitting relevant information to support decision making in any organizations. In the views of Laudon and Laudon, (2007); a system to convert data from internal and external sources into information; and to communicate that information in an appropriate form to managers at all levels, in all functions to enable them make timely and effective decisions for planning, directing and controlling the activities for which they are responsible Information on various aspects of

development is required at all levels of decision making. But, for each of the situations, the optimization of opportunities requires workable data in the right format, at the right time and at reasonable cost. Decision makers and planners in University libraries are often confronted with wide range of recurrent questions which are cross-sectoral and whose ultimate decisions about have long term implications and are closely linked. The information they need upon which to take action are often scanty, or even scattered in different public and private institutions according to different work areas and specializations. Also, data storage often differs from institutions to institution, making it difficult for librarians to assemble and compare information (Tom, 2005). Another important drawback is that while typical routine planning and management questions often refer to particular areas, the way spatial data is stored often makes it difficult, even impossible, to relate the information to specific areas. This implies that more often only a few possible solutions are considered and selected implications foreseen, leading to excessive cost, time wasting and partial results. Also, potential investors have ended up turning around for alternative places for better options owed to the lengthy time they take and heavy cost incurred in having access to the desired information. With advances in information technological tools, it has become much easier to store and process, classify and disseminate large quantities of information, and to facilitate easy access to information necessary to address development planning and management needs in a way that leads to greater satisfaction in the economic, social and environmental frontiers of development. By developing an effective Management Information System in Universities libraries, many of the routine questions and traditional drawbacks such as dispersed data, incompatible data formats and the sheer volume of data can be overcome (Garba, Mohammed and Abba, 2019).

### **Role of Management Information System in Improving Decision Making in University Libraries**

According to Mohammed (2009), the contemporary approach casts academic librarians as managers within the higher education system. What academic librarians need, now much more than ever before, is the information which will allow them to plan properly, to know whether or not the academic

library services are meeting the needs of the academic community. The introduction of computers into academic libraries was largely a response to the problem of dealing with increased workloads with fewer staff, and they are now able easily to handle most of the routine and repetitive work of the library staff (Karim, 2011). In addition, they have the capability to enhance the provision of management information, since automated data processing is able to present reports more accurately and much faster than manual systems. Nonetheless, most librarians claim that they would now like to install decision support systems, even though they see the expense as a problem. Living in an age of information explosion, Management Information Systems (MIS) have emerged as a solution to this capacity expansion requirement of academic libraries. The MIS's function is to provide library Staff and Readers with data, information, analysis and tools that enhance the effectiveness and efficiency of library services and assist in the decision-making process.

The objectives of an MIS are to assist staff with the daily decision making process, to maintain better accountability and control of resources, to monitor budget allocations and to improve overall academic library effectiveness by focusing on outcomes to generate internal and external reports in order to improve long-term planning and to facilitate performance measures activities. In addition, the management information system intervention in Universities libraries offers utility to users by means of a wider bibliographic database through e-resources and to improve services to Readers. A management information system (MIS) is a subset of the overall internal controls covering the application of people, documents, technologies, and procedures. Mohammed (2009) also stated that management information systems are tools designed to improve management decisions.

The four main objectives for Management Information systems have been defined by Mohammed (2009) as:

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

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- To provide pertinent information about the library's internal and external environment and
- To provide information on alternative strategies and contingency plans.

In recent years, data processing for management information systems in business and industry has increasingly been undertaken by computers. In academic libraries, in contrast, the development of the use of computer has been modular, in the sense that it is based on a single library operation such as acquisitions, serials, control or cataloguing. The more general applications of management information lay hidden, as it is often seen only as a departmental resource. Technological changes have helped to ease this problem. As opposed to the use of mainframe and mini-computers, the advent of the microcomputer now provides an alternative to the dependence on large-scale centralized computer systems.

### Challenges of Information Management System (IMS) in University Libraries

Application and services of Information and Communication Technology (ICT) are integral to any meaningful development in university libraries in all aspects including record keeping. Thus the efficiency of employing ICT systems in record keeping may be seemingly difficult if the basic challenges of ICT are not addressed. Oshodin and Idehen (2007), identified poor installation of ICT related facilities, irregular electricity/power supply and poor maintenance culture, as problems facing ICT usage. Other problems facing the use of ICT in record keeping as adapted from Osundina (2007), Otakhor (2007) and Ogunlade (2008) are as follows:

- Lack of Basic and Adequate Infrastructures /Resources: The non-existence of basic and adequate physical facilities such as accommodation space for computers with internet connectivity, electric generators and adequate furniture pose great problems in the usage of ICT for record keeping in university libraries.
- Lack of ICT Technicians and Personnel: There is shortage of expertise that can handle the installation, operation and maintenance of ICT facilities. These areas are essential to the application of ICT to record keeping and management in university libraries.

- Inadequate Funding/Financial Crisis: inadequate Information and Communication Technology (ICT) facilities are some of the problems facing many Nigerian university libraries due to the high cost of acquiring them. This is posing a barrier to easy restricted institutions' access of these facilities for record keeping purposes. Financial resources form a key to the successful implementation and integration of ICT in record keeping and management. The poor funding of ICT facilities in most Nigerian universities libraries is a major area of constraint to the provision of ICT facilities for record keeping and management.
- Inadequate of Basic Education and ICT Skills: This pose problem to record keeping since many university library staff who ought to be using ICT facilities are not computer literate and, therefore, fail to maximally enjoy the benefits offered by ICT in record keeping and management. Also many of the university library staff have conservative attitudes and still maintain their old ways of doing things and resist change.
- Interruption of ICT facilities by electricity and computers network failure during record keeping.

Other problems of management information system (MIS) according to Atulomah (2011) includes the following:

Lack of management involvement in the design of MIS, narrow and/or inappropriate emphasis of the computer system, undue concentration on low level data processing application, lack of management knowledge of computer, poor appreciation by information specialist of management information requirement and organizational problems and lack of top management support. In addition, Ahmed (2009) also identified poor infrastructure, undefined policy gap and poor awareness.

### Way of Protecting Management Information System (IMS) in University Libraries

According to Demir (2006) to actualize effective utilization of information communication technology (ICT) facilities and skills in record keeping, the following solutions are proffered:

- Business organizations' authority should make orientation programmes available to their staff on how to use ICT facilities for marketing and record keeping.

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- There should be adequate supply of electricity and computer networks for record keeping.
- Seminars and workshops on the use of ICT for record keeping should be organized by business owners for staff who are involved in marketing and in record keeping.
- There should be free and compulsory ICT series for academic librarians by providing them with practical and functional knowledge of the computer, the internet and associated areas of ICT for record keeping.
- There should be full automation of University library records. This will certainly enable academic librarians to meet their legal responsibilities. It will also aid their administrative efficiency (Olubusuyi 2008).
- Information and Communication Technology related equipment and infrastructure should attract little or no importation tariff. Local software developers should be encouraged.

### RESEARCH METHODOLOGY

Descriptive survey research method was adopted for this study. A total of 30 academic librarians in Federal University of Technology, Minna library formed the target population of the study. However, since the population is not large and it is manageable, the researchers used the whole population for the study. Bernard (2012) supported this idea by asserting that if a population of a study is less than two hundred (200), the entire population should be used for the study. Questionnaires was the instrument used for data collection. A total of 30 copies of questionnaire were drafted and distributed out which 26 were returned and found usable. Data collected were analyzed using simple descriptive statistics of percentages.

### FINDINGS AND DISCUSSION

#### Research Question One

Availability of management information system facilities in Federal University of Technology, Minna library

**Table1.** Responses/views on the availability of management information system facilities in Federal University of Technology, Minna library

S/No	Statements	Number of respondents	Strongly Agreed	Agreed	Disagreed	Strongly disagreed	Percentage (%)
1	Are there enough computers in FUT Minna library?	26	22(84%)	1(4%)	3(12%)	0(0%)	100%
2	Enough computer operators in FUT Minna library.	26	15(58%)	10(38.5%)	1(3.8%)		100%
3	Adequate computer engineers regular for maintenance	26	0(0%)	8(31%)	18(69%)	0(0%)	100%
4	Enough internet facilities for prompt communication with the clientele.	26	2(8%)	4(15%)	20(77%)		100%
5	Adequate power supply in the FUT Minna library	26	0(0%)	1(4%)	10(38%)	15(58%)	100%
6	Adequate air conditions facilities for computers to avoid over heating of the system	26	4(15%)	3(12%)	16(61%)	3(12%)	100%

Result from Table 1 showed the availability of management information system in FUT Minna library. The respondents were asked to indicate whether are there are enough computers in FUT Minna library. Item 1 in Table 1 has 22(88%) indicating that the respondents agreed that there are enough computers in FUT Minna library.

Similarly, item 2 has 25(96%) indicating that the respondents agreed that there are enough computer operators in FUT Minna library. Item 3 which has 8(31%) indicating that the respondents did not agreed that there are aadequate computer engineers for maintenance in FUT Minna library. Also item 4 which has 6(23%) indicating that the

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respondents did not agree that there are enough internet facilities for prompt communication with clientele and for decision making among the academic librarians in FUT Minna library. The respondents did not agree in item 5 which has 1(4%) that there is inadequate power supply in FUT Minna library. The respondents also did not agree in item 6 which has 7(27%) that there are

adequate air conditions facilities for computers to avoid over heating of the system in FUT Minna library town.

### Research Question Two

The importance of Management Information System in Federal University of Technology, Minna Library

**Table2.** Views /responses on the impacts of Management Information System in Federal University of Technology, Minna Library

S/No	Statements	Number of respondents	Strongly Agreed	Agreed	Disagreed	Strongly disagreed	Percentage (%)
1	Effective and efficient retrieval of information	26	20(77%)	3(11.5%)	3(11.5%)	0(0%)	100%
2	Academic data security	26	15(58%)	10(38.5%)	1(3.8%)		100%
3	Effective planning of institution budget	26	18(69%)	8(31%)	0(0%)	0(0%)	100%
4	Supporting research by both the students and staff	26	22(84.6%)	4(15.4%)	0(0%)		100%
5	Effective performance of administrative staff	26	10(38%)	15(58%)	1(4%)	0(0%)	100%
6	Leads to increase in quality of teaching	26	4(15.4%)	16(61.3%)	3(11.5%)	3(11.5%)	100%
7	Leads to the availability of MIS infrastructure like internet facilities	26	12(46.2%)	12(46.2%)	6(23%)	0(0%)	100%

Table 2 above shows the responses/views of academic librarians on the impact of Management Information System in Federal University of Technology, Minna Library from the table, the statements such effective and efficient retrieval of information 23(77%), academic data security 25(97%), effective planning of institution budget 26(100%), supporting research by both the students and staff 26(100%) , effective performance of administrative staff 25(96%), leads to increase in quality of teaching 20(77%), leads to the

availability of MIS structure like internet facilities 24(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 university records in Federal University of Technology, Minna Library.

### Research Question 3

What are the challenges of information management system in tertiary institutions?

**Table3.** Responses/views on the challenges of information management system in Federal University of Technology, Minna Library

S/No	Statements	Number of respondents	Strongly Agreed	Agreed	Disagreed	Strongly disagreed	Percentage %
1	Lack of basic ICT education and skills	26	10(39%)	12(46%)	4(15%)	0(0%)	100%
2	Inadequate power supply to the	26	15(58%)	11(42%)		0(0%)	100%

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	institution						
3	Lack of management involvement in the design of MIS	26	5(19%)	11(42%)	6(23%)	4(16%)	100%
4	Undue concentration of low level data.	26	5(19%)	20(77%)	1(4%)	0(0%)	100%
5	Lack of management support	26	10(39%)	5(19%)	11(42%)	0(0%)	100%
6	Inadequate number of ICT professionals	26	21(81%)	5(19%)	0(0%)	0(0%)	100%

Table 3 above shows the responses of undergraduate students on the challenges of Information Management System (IMS) in Federal University of Technology, Minna Library from the table, the responses from the respondents such as lack of basic ICT education and skills 22(85%), inadequate power supply to the institution 26(100%), lack of management involvement in the design of MIS 16(61%), undue concentration of low level data. 25(96%), lack of management support 15(58%), inadequate number of ICT professionals 26(100%). Almost all the responses from the respondent agreed that the above mentioned challenges has negatively affected management information system in Federal University of Technology, Minna Library. These challenges have affected the function of management information system in terms of 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 Federal University of Technology Minna library 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 University library records in Federal University of Technology, Minna Library, 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 facing management information system in Federal University of Technology, Minna Library.

### RECOMMENDATIONS

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

- There are management information system facilities in Federal University of Technology, Minna Library, but some facilities are not enough which is affecting the library from effective records keeping and decision making to be achieved. There are urgent needs therefore to have enough management information system facilities for effective records keeping and decision making to be achieved effective records keeping and decision making to be achieved.
- Management information system has impacted the academic librarians in effective records keeping and decision making to be achieved in Federal University of Technology, Minna Library, but there is need for improvement for more effective and efficient records keeping and decision making.
- There are many challenges facing management information system in Federal University of Technology, Minna Library, which include 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. These challenges if look into and solve once and for all. The problems of management information system in Federal University of Technology, Minna Library will be a thing in the past.

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