Computerization Of Nigerian University Library Services

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ABSTRACT

We studied here the progress of computerization in Fourteen Nigerian University Libraries of which 24 were Federal, 17 state and 6 private. While the sample population was limited to the 13 University libraries that said they were computerized / automated. The response rate was 100% The services that were investigated or surveyed include Cataloguing, Acquisition, Circulation, Serials, Reference, OPAC, CD-ROM, Internet, Intranet and e-mail. The study shows that a satisfactory progress has been made in automating university libraries in Nigeria. The main issues facing automation in Nigerian university libraries concerned among others, funding, electricity, staffing and inadequate infrastructures. The result of the surveys shows that none of the library is fully automated.

Keywords; Computerization; Automation; Nigeria; University Libraries

INTRODUCTION

The library services are supportive to the university, provides the needed resources to its clientele. Library to fulfill these functions it must be guided by the goals and functions of the parent institution, which are usually outlined in the laws that established them. Anafulu (1996) stated , "A typical university law empowers the university to, among other things; erect, provide, equip and maintain libraries and other facilities. The functions according to him are to support the learning, teaching and research process in the university and in conservation of knowledge and ideas and participate in community service". The main objective of the university library therefore is to fulfillment of these objectives. The university library is a service center and it must provide the bibliographic material through acquiring, processing, organizing, and making them available in all possible formats.

Library have to support the universities objectives, in the areas of learning, teaching, research and services. Scholars and students access the Library resources for the information available in their disciplines. However, users in university libraries do not have enough access to relevant and appropriate information in their fields of interest (Aina, 2003). The reason is due to escalating cost of information materials and poor allocation of funds to universities by both Federal and State Government (Anafulu 1996; Okebukola 2002) .

Ekpeyong (1991) argues that the problem

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created by information explosion can only be solved by automation. Hoare (1986) as cited by Ekpeyong argued that automation is the only means to the control and coordination of universal bibliographic literature and research materials in all the subject fields and formats needed by their readers.

OBJECTIVES OF THE STUDY

1. To report progress that has been done by university libraries in Nigeria towards automate their services.

2. To ascertain the problems faced by them in computerizing of Library services.

LITERATURE REVIEW

In Nigeria, university libraries attempts for automation started with single applications, following the same trends as in the United Kingdom and the United States of America (Abifarin, 2003). However, processes were based mostly on the available computing facilities in their various computer centers (Ehikhamenor, 1990) and were limited to the production of lists of books on reserve, serials holdings and shelf list records. Attempts at computerization of university libraries in Nigeria, which started with single application, were limited to serials and circulation control (Edoka, 1983 and Abifarin, 2003).

In March 1975 , The University of Ibadan was the first Nigerian University to produce a catalogue of serial holdings upto 1973 in the library (Abifarin, 2003; Ehikhamenor, 1990). The University of Lagos computerized its catalogue of serials in 1977, while Nnamdi Azikiwe University library Nsukka, compiled work on its computerized serial catalogue in the same year (Ehikhamenor, 1990). An in-house serials control programme, which was handled by the computer center at the university of Ilorin Library, failed after capturing above 700 serial titles

Some other libraries had plans to automate their serial control systems and the interest in this area motivated by the conference of university librarians with a view to putting their serial holdings into machine-readable format (Abifarin, 2003). The University of Ibadan was first adopted the automation of circulation control in Nigerian university libraries as early as in 1975 with the idea of two automated systems .The two systems were the Automated Library System (ALS) and the Plessey Library Pen System. The Nnamdi Azikiwe library also was considering the automation of its circulation control system. The University of Ife also began to consider automation to resolve the problems in the circulation. Other attempts were also made at the University of Ilorin and the Kashim Ibrahim Library of the Ahmadu Bello University (Ehikhamenor, 1990). At the Kashim Ibrahim library, an in-house circulation control system was envisaged in 1978. The implementation also failed. There were plans at the University of Benin Library to computerize its entire library collection in 1976. That year, the coordinators in the Faculty of Science had carried out a feasibility study. This resulted in the design specification of a computer-based books and periodical control system (Ifediba, 1976).

Edoka (1988) carried out a survey of Nigerian university libraries, with prospect of introducing computer-based systems. The results showed that six university libraries at Ibadan, Nsukka, Ife, Zaria, Lagos and Benin – had plans for computer based circulation systems. He also found that studies of feasibility had been completed in respect of circulation procedures as a prelude to computerization in Ibadan, Ife, Zaria and Benin.

Edoka further confirmed his study found out that the libraries surveyed appeared to have decided to automate even before embarking on feasibility studies. Two years later, Ehikhamenor (1990) in another study of automation in Nigerian university libraries also found that 10 of the 19 universities surveyed had no clear focus on automation. His study confirmed the findings of Edoka's (1988) survey.

NEED FOR COMPUTERIZATION

The need for effective management of information explosion and easy access to users of informational materials forced the libraries to computerize their services. The manual system could no longer cope with information management in libraries. Ekpeyong (1991) argues that the problem created by information explosion can only be solved by automation and that automation is the only means to the control and coordination of universal bibliographic literature and research materials in all the subject fields and formats needed by their readers.

Line (1991) as cited by Tedd (1993) listed some criteria for the development of such systems. He advanced reasons, which are applicable to any type of library. The reasons are;

i.   To provide a service at a lesser or no great a cost

ii.   To give added benefits at lesser cost. Such services to users from computerization include on- line service which make it possible for vast resources of published literature to be searched in any specific field, either through internet or CD-ROM.

iii. Computerization enables tasks to be completed more accurately, more quickly and with increased control than with manual system. Such task include clerical, routine and repetitive tasks that are and thus prone to human error.

The above reasons may not be the only compelling reasons for automating library system. Ojo-Igbinoba (1993) identified the following four reasons to justify library automation in Nigeria:

i.   The manual charging or issuing system was characterized by long   queues and annoying delays;

ii.   The filling of user cards and counting of statistics is not only cumbersome but sometime became out of control;

iii. Maintenance of the manual catalogue is usually problematic. The production and filing of catalogue cards often lag behind schedule sometimes books that have been shelved in the collection had no records in the catalogue;

iv. Serials control and maintenance is equally problematic with many records to create.

METHODOLOGY

The type of research design used for this study is the survey design. It looked at the fact as they have occurred.

Population

The population of study consisted of the university libraries in Nigeria. As on 2002 there were 47 university libraries in Nigeria of which the Federal Government owned 24, State government owned 17, while 6 are privately owned.

Sampling

The sample population for the study is limited to the 13 university libraries that have computerised or are computerising their services. The study population therefore

include the following: Abubakar Tafawa Balewa University, Bauchi; Babcock University, Ilishan; Delta State University, Abraka; Ahmadu Bello University, Zaria; Ladoke Akintola University of Technology, Ogbomoso; Obafemi Awolowo University, Ile-Ife; University of Agriculture, Abaokuta; University of Benin, Benin City; University of Lagos, Lagos, University of Jos, Jos; University of Ibadan, Ibadan, University of Ilorin, Ilorin, and Rivers State University of Science and Technology, Port-Harcourt

A multi stage design method was used for this study. The first stage was to design a 4-item questionnaire to determine the universities that have computerized or were computerising their services. This was administered to university libraries that were present at the NLA Conference and Annual General Meeting held in Bauchi in September 2003. The result showed

item questionnaire that was then distributed to the thirteen university libraries that were computerized.

Table 1 shows the analysis of the thirteen University Libraries that considered that they have computerised various functions in their libraries. Out of these thirteen, 9 or 69.2% are Federal Universities, 3 or 23.1% are state owned and 1 or 7.7% is a private University.

Table 2 shows that all the traditional functions are performed in all the thirteen libraries apart from binding and photocopying services. The above analysis indicates clearly that electronic resources such as Internet, CD-ROM, Intranet and e-mail are poorly developed. Electronic resources offer the capability to conduct remote classes, provide access to remote libraries and create an environment where students and

METHOD OF DATA ANALYSIS

Table 1:Categorization of respondents' universities

Type of University	Number	Percentage
Federal	9	69.2
State	3	23.1
Private	1	7.7
Total	13	100

that thirteen (13) universities have automated or were automating their services .The result was then compared with the study on the status of library automation by Ogunrombi (2001).

The second stage was the design of a 35-

researchers can have innovative cooperative learning experiences. The Internet offers access to a vast wealth of knowledge and other library

Table 2: Functions and Services that have been computerized

Function Services	Yes	%	No	%
Cataloguing	8	61.5	5	38.5
Acquisition	7	53.8	6	46.2
Circulation	8	61.5	5	38.5
Serials	7	53.8	6	46.2
Reference	5	38.5	8	61.5
OPAC	6	46.2	7	53.8
CD-ROM	6	46.2	7	53.8
Internet	4	30.8	9	69.2
Intranet	1	7.7	12	92.3
E-Mail	4	30.8	9	69.2

databases online, while intranet infrastructure enables easy communication among staff within a university community. These services are necessary steps toward a digital library.

An ideal situation for an automated library is   among the university libraries in Nigeria. There

Table 3: Type of network infrastructure

Network	Yes	Percent
Stand alone	5	38.5
LAN	10	76.9
Campus Wide Network	7	53.8

to be connected to a campus backbone, to enable library resources to be accessed both from within and outside the university. As shown in Table 3, 53.8% have campus-wide network, 76.9% have local area network, while 38.5% have standalone. The data indicate that some libraries have more than one networking configuration.

is an indication that some libraries are migrating to up to date system.

Computerization cannot succeed without the necessary personnel to provide the strength, intelligence, enthusiasm and expertise in selecting, acquiring and installing various CD-ROM databases, for the new change. As show in

Table 4: Type of Software

Software	Frequency	Percent
Tinlib	5	38.5
X-Lib	3	23.1
Glas	1	7.7
SLAM	1	7.7
Alice for Windows	3	23.1
Total	13	100

On the type of software installed, Table 4 shows that out of the 13 libraries, 38% installed TinLib, 3 or 23.1% Alice for windows, 3 or 23.1 X-Lib, SLAM and Glas both account for only 1 or 7.7 each. These findings indicate that TINLIB

Table 5, 46.2% have systems managers in their libraries, 38.5% have systems analysts, while the same 38.5% also have network administrators, As expected 53.8% engage the services of data entry clerks.

Table 5: Number of Computer Experts

Categories	Frequency	Percent
System Manager	6	46.2
Systems Analyst	5	38.5
Network Administrator	5	38.5
Systems Librarian	4	30.8
Data Entry Clerks	7	53.8

Table 6: Method of record conversion

Characteristics	Frequency	Percentage
Parallel conversion	4	30.1
Complete changeover	1	7.7
Phased approach	8	61.5
Total	13	100

software is the most common software for now

On record conversion the study shows that majority of the libraries adopted the phased

approach in converting their catalogue records (61.5%), while 30.1% adopted the parallel approach. Only one library changed over completely.

The users must be given consideration when computerisation is being planned.

Although libraries started automation in Nigeria the early 1980, the process did not

Table 7: Method of Training to staff and library users.

Characteristics	Frequency	Percentage
Before installation	3	23.1
After installation	3	23.1
Before and after installation	7	53.8
Total	13	100

The study sought to know how the training aspect was carried out. The Table 7 shows that out the greatest number of university libraries, (53.8%) reported that they carried out training before and after installation, (23.1%) before installation and 23.1% after installation.

completed successfully in most university libraries. The study attempted to find out the reliability of the systems in the libraries that have automated. Table 9 shows that 76.9% considered that their systems were reliable , while the remaining 23.1% did not answer the question.

Table 8: Beneficiaries of Training

Categories	Yes	%	No	%
Senior staff	13	100	0	0
Junior staff	5	38.5	8	61.5
Typist	10	76.9	3	23.1
Library users	2	15.5%	13	100

Table 8, shows that majority of the libraries do not train their library users with only (15.5%) reporting that they carryout training on how to use the computers for this category of users.

This is an indication that 3 libraries have not carried out any evaluation of their systems.

TinLib was the software that was supplied to all the university libraries in Nigeria by the National

Table 9: Reliability of the Systems

Response	Frequency	Percentage
Yes	10	76.9
No	3	23.1
Total	13	100

The library user often deserves to be given first consideration before computerization begin because of the services to be improved so that they are aware of these services. But this is not the case with university libraries surveyed.

Universities Commission in 1993 to automate libraries. From this survey only 4 (30.8%) of the 13 libraries responded to the question why they migrated to automation. While one library said

Table 10: Reason for Migration

Reasons	Frequency	Percent
Lack of knowledge of software	1	7.7
Lack of upgrade facility	3	23.1
No response	9	69.2
Total	13	100

that they changed because of lack of knowledge of software, 3 (23.1%) said they changed because lack of upgrade facility. The fact that a library had to change from software to another is an indication that the computer configuration of the hardware and software requirement was not properly determined before automation started

and e-mail are poorly developed. Electronic resources offer the capability to conduct remote classes, provide access to remote libraries and create an environment where students and researchers can have innovative cooperative learning experiences. The Internet offers access to a vast wealth of knowledge and other library

Table 11: Problems of Computerisation

Problems for computerization	Frequency	Percent
	12	92.3
Inadequate funding	10	76.9
Irregular electricity	9	69.2
Dearth of technical experts	5	61.5
Lack of interests	6	46.8
Human factors	1	7.7
Environmental factors		

The investigator sought to know the problems that have hindered computerization. From the data in table 11, out of the 13 Libraries, 12 or 92.3% attributed their major hindrance to inadequate funding; 10 or 76.9% said that irregular electricity was a constraint; 9 or 69.2% said the problem was the dearth of technical experts; 6 or 47 % of the 13 Libraries listed human factors as a problem; 5 or 38.5% said lack of interest; while only 1 or 7.7% of the 13 libraries listed environmental factors as a problem.

DISCUSSIONS

Services that have been computerized

The study show that one library has no plans yet to automate acquisitions, 3 libraries have no plans yet to automate serials and sadly twelve libraries are not developing intranet facilities ; a means that can facilitate access to library collections through Online Public Access Catalogue (OPAC) and communication among colleagues in the same campus. The analysis from the study also indicates clearly that electronic resources such as Internet, CD-ROM, Intranet

databases online while intranet infrastructure enables easy communication among staff within a university community.

Factors that aided or hindered computerization

The study shows that availability of computer centers, the relationship with the libraries and the availability of alternative source of power-aided computerization in their libraries. The study show that all the thirteen libraries surveyed have computer centers in their universities and they assists the libraries advisory capacity, supply of systems analysts, training of staff as well as users and maintenance of systems.

The study also revealed that computerization of the libraries were hindered by several factors which include inadequate funding, irregular electricity, dearth of technical expert, lack of interests, human and environmental factors.

NETWORKING

The study shows that some libraries have

more than one form of networking, for example, ten out of the of Thirteen libraries surveyed have Local Area Network (LAN), seven libraries have Campus Wide Area Network (WAN).The findings indicate that despite the problems faced by some libraries there is still a bright future for automation internet in Nigerian libraries.

SOFTWARE

The study also shows that the most common software used is Tinlib being used by 5 of the libraries. Three libraries each use Alice for Windows and X-Lib. There have been gradual migration from Tinlib which was supplied by the NUC to all the federal University libraries in 1993 to other software such as x-lib, Alice for Windows and SLAM.

REASON FOR COMPUTERIZING

The study revealed that the most important reason for embracing computerisation is to improve and increase customer services. These findings are in agreement with several authors (Ojo-Igbinoba, 1993, Tedd, 1993).

STATUS OF THE COMPUTERIZATION PROCESS

As a matter of fact none of the thirteen libraries surveyed was fully automated; rather all were partially automated.

The study also indicates that the systems are reliable. Ten out of the thirteen libraries surveyed said that their systems are reliable, while three said that their systems are not reliable. This study did not go further to ascertain the degree of reliability, which Carbine (1988) defined as

the ability of an automated function to operate at a specified level of performance or effectiveness for a stated period of time, and usually measured as a percentage.

CONCLUSION

We conclude that good progress has been made for automating University libraries in Nigeria. But electronic resources and the infrastructure were poorly developed, while the major hindrance to computerization is inadequate funding, irregular electricity and lack computer personnel's.

RECOMMENDATION

Based on the findings of this study the following recommendations are made.

Looking at the problem from a National perspectives, the National Universities Commission (NUC) should make deliberate effort to ensure that computerisation is adequately funded by ensuring that the 10 percent budgetary allocation meant for Library development is promptly and faithfully released. For the Universities, it is recommended that those that have no strategic plans should formulate strategic planning that should guide library automation in the institutions. In the light of the findings of this study Librarians urgently require professional development in Information and Communication Technology so that they can contribute meaningfully to planning for systems development. Librarians who are interested in automation should be targeted for ICT development and the library

must be prepared to pay a premium to retain them, for as enthused by Markuson (1979). There is no excuse for the library staff involved in automation not to understand clearly how all parts of the system work, what the cost will be and perhaps most importantly, the capability for growth. Each library must ensure that adequate infrastructure are put in place for both intranet and internet connectivity, Local area Network (LAN) and/Campus Area Network should be installed within the university campus to ensure easy communication and access to internet and other electronic library resources.

SUGGESTION FOR FURTHER RESEARCH

The study revealed that both foreign and indigenous library software, are used in Nigeria with varied success. A comparative study of the features, relevance of indigenous and foreign software used in Nigeria University libraries is worthwhile.

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