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Automation in Two Nigerian University Libraries

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Introduction

The use of computers in libraries and information centers has become commonplace. Many Nigerian university libraries, however, are still battling to find their feet in the use of computers in libraries.

Objectives of the Study

The objective of this study is to investigate automation procedures in two Nigerian university libraries and the problems encountered during automation.

Literature Review

Historical survey of automation in Nigerian libraries

According to Nok (2006), automation is the automatic, as opposed to human, operation of process, equipment, or system, or the techniques and equipment used to achieve this. In libraries, automation refers to functions such as circulation, cataloguing, or acquisitions. Nwalo (2003) posited that library automation involves the full application of computers in library routines hitherto manually performed. He goes further to state that Olanlokun and Salisu (1993) have cited Mathews (1980) as adducing the following criteria for automating library services:

1. It will help to improve the library services.
2. Automation of the library processes can enhance its reputation.
3. It can provide the Liberians with management information.
4. It can help the librarian in reporting on the various operations of the library.
5. Tasks can be completed more accurately and quickly with increased control.
6. Increased demands for services can be counter balanced with improved productivity especially with either static or declining budget resources.
7. It can facilitate co-operation between libraries.
8. It can provide the means to offer new improved services to patrons.
9. It may obviate the need to hire additional staff with increased demand for services.

Library automation was come a long way, over an often uncertain and unpredictable path, since the 1930s when a few libraries began to incorporate IBM equipment into the circulation procedures. The evolution of technology is defined by developments in science and technology that create new modes of application. The convergence of information technology and communication technology in libraries has led to technological, organizational, and social change (Shepherd, 2000). Rosenberg (1997) surveyed African libraries and reported that IT exploitation by universities for information organization and access has become prevalent. A number of studies have reported on the application of information technology in

university libraries in Nigeria. They include that of Oduwole citing Awogbami (1992), Lawani, Azubike and Ibekwe (1992), Mosuro (1996), Idowu and Mabawonku (1999), Ogunleye (1997) Agboola (2000), and Ajala (2001) Nok (2006). All of these studies have agreed that serious application of information technology to library processes started in Nigerian university libraries in the early 1990s.

Individual efforts at library automation such as the one by the University of Lagos, University of Ibadan, and Ahmadu Bello University, Zaria, in the mid 1970s and 1980s, failed largely because of lack of technical knowhow relating to software development and maintenance of hardware (Alabi 1987). Agboola (2000) states that the greatest impetus to library automation in Nigerian university libraries so far has come from a World Bank project. The World Bank gave automation in the university libraries as one of its conditions for support. As a result, the National University Commission (NUC) presented one microcomputer and a four-user local area network version of the TINLIB (The information Navigator) software to each of the 20 participating libraries in 1992. This was after an agreement had been reached between the NUC and the University Librarians that all Federal Universities (Ogunleye 1997) use common software.

Recent surveys carried out by Ogunleye (1997) and Idowu and Mabawonku (1999) showed that application of IT is gradually taking firm root in Nigerian university libraries. The University of Ibadan Library is so far the most advance in the IT application in the country. It has fully automated its cataloguing and circulation process using the network version of the TINLIB software capable of driving 20 workstations. Some federal universities and one state university use the four-workstation network version of the same software mostly for cataloguing. As computers become cheaper and more librarians acquire computer literacy, it is hoped that more of the manual processes will be automated.

Methodology

An interview checklist was administered on the University Librarian (UL) University of Agriculture Abeokuta and the Head of Multimedia Resources, Olabisi Onabanjo University, Ago Iwoye on automation procedures in two Nigerian university libraries. While 100 questionnaires each were administered on the students in each of the schools to counter check whatever information from the librarians.

Data Analysis

The presentation and analysis of data was done separately. The ‘Nimbe Adedipe library, University of Agriculture,Abeokuta’s report was presented first followed by the Main Library Olabisi Onabanjo University.

Presentation of Interview checklist’s report of ‘Nimbe Adedipe Library University of Agriculture Abeokuta.

- Item 1: When was automation introduced into this library?
- Response: 1994
- Item 2: How was the ICT equipment procured?
- Response: Purchased and gifts. Initial hardware used in 1994 was gift from NUC and the acquisitions there after were purchased.
- Item 3: if purchased by whom?
- Response: the library
- Item 4: was the purchase contracted or open market?
- Response: contracted
- Item 5: the maker of the hardware is:
- Response: IBM (initial hardware used) and others.
- Item 6: what type of software is in use in the library?
- Response: TINLIB and GLAS

- Item 7: please state the preference for the choice of the software
- Response: no response
- Item 8: what type of databases are available in the library?
- Response: AGRICOLA, AGRIS, CAB Abstracts, TEAL A, GRINDEX
- Item 9: the installation and configuration was done by:
- Response: the systems librarians in the university and a contracted firm.
- Item 10: number of staff involved in the automation process
- Response: whole staff
- Item 11: were the staff in the system unit newly recruited or trained from the existing staff?
- Response: trained from the existing staff
- Item 12: please state the aspect of the library that has witnessed full automation
- Response: Cataloguing (fully), Serials (partially)
- Item 13: please state the pertinent problems being faced in the automation project implementation.
- Response:

1. Hardware breakdown
2. Software problems
3. Unreliable and epileptic power supply
4. Inadequate funding
5. Staff training deficiency
6. Planned obsolescence of commercial software

- Item 14: reaction of the users is ……
- Response: encouraging
- Item 15: the automation process in this university library is …….
- Response: continuing

Above presentation is analyzed as follows:

Automation was introduced into 'Nimbe Adedipe Library, University of Agriculture Abeokuta in 1994. The initial hardware used was gifts from National University Commission while the hardware subsequently used were purchased by the library through a firm that won the purchase contract. At the initial stage of the automation process, the brand of the hardware used was International Business Machine (IBM) computers. At later stage, various kinds of computer brands in the market at time of purchase were acquired by the library.

The operating software in the library's systems is The Information Navigation (TINLIB) and Graphical Library Automation System (GLAS). The TINLIB software was first in use with the IBM, the library has just upgraded from TINLIB to GLAS. The library is subscribed to *TEEAL* (The essential electronic agricultural library) a full text document delivery service covering some 70 frequently cited journals. *Other CD-ROM databases* held by the library include *CAB Abstracts, Agrindex, Agricola, etc*.

The whole of the university library staff were involved in the implementation of automation project exercise while the installation and configuration of the hardware was jointly carried out by a contracted firm and the system librarians in the library.

The Cataloguing section of the 'Nimbe Adedipe Library has witnessed full conversion from manual to automated form and the Serial section is partially automated. Problems being encountered are hardware breakdown, uoftware problems, Unreliable power supply, inadequate funding, staff training deficiency and planned obsolescence of commercial software.

Reaction of users to automation is encouraging and automation is a continuous exercise in the university library.

Presentation and analysis of questionnaire given to students of 'Nimbe Adedipe library University of Agriculture

Item 1: How often do you visit library?

Regularly	Rarely	Not at all
36%	64%	0%

Library usage by the students of University of Agriculture Abeokuta is not encouraging. This will have adverse effect on the general aspect of the findings.

Item 2: Were you aware that some sections of the library have been automated?

Yes	No
36%	64%

Only 36 percent of the sample population were aware of the automation process going on in the University's library. This indicates that only 1/3 of the whole student population was carried along by the library in its automation exercise.

Item 3: If your answer to number 2 above is yes, which section?

Cataloguing	Circulation	Reference	Serials	All of the above
4%	20%	8%	0%	4%

The finding here indicates that even the 1/3 of the students who are aware of the automation going on in the library are aware only in theory. Only 4 percent of the sample population were aware that the university library has an online public access catalogue.

Item 4: access to automated sections in the library are always granted to students

Agreed	Not agreed	Undecided
	28%	72%

The data above indicates that students are not granted the access to the usage of the E-Library. Probably this is due to the existing rules in major academic libraries where access to such library services is only granted to postgraduate students and researchers.

Item 5: as opposed to traditional system, automation makes information retrieval very easier and faster.

Agreed	Not agreed	Undecided
72%	4%	24%

The respondents here agreed to the fact that computerization will bring effectiveness to libraries' information discharging.

Item 6: in most cases, using the automated sections in the library is faced with pertinent problems such as electricity supply failure. It is not surprising; this problem is peculiar to Nigeria.

Agreed	Not agreed	Undecided
64%	20%	16%

Item 7: I don't use the automated sections in the library because I cannot use the computer.

Agreed	Not agreed	Undecided
8%	72%	20%

Majority of the students do not agreed to this assumption. The students claimed to have computer knowledge at least that which they can still use in manipulating the machine.

Item 8: I only visit the automated sections in the library when I want to surf the net.

Agreed	Not agreed	Undecided
12%	36%	52%

The findings here points to the fact that if given the opportunity to use the automated sections of the library, there more academic activities these students will carry out rather than browsing the net.

Item 9: this library subscribes to web based journals.

Agreed	Not agreed	Undecided
8%	4%	88%

This tells on the zero access granted to the students to use the E-Library.

Item 10: can you mention some of the web based journal materials you have been able to access through the library?

None of the students could mention any of the database journal materials the university library claimed to be subscribing for. Some students only mention some search engines such as google.

Presentation of Interview checklist's report of the main library of Olabisi Onabanjo University Ago Iwoye

- Item 1: when was automation introduced into this library?
- Response: 2000
- Item 2: how were the ICT equipment procured?
- Response: purchased
- Item 3: if purchased by whom?
- Response: the library and the university
- Item 4: was the purchase contracted or open market?
- Response: open market

- Item 5: the maker of the hardware is……..
- Response: others
- Item 6: what type of software is in use in the library?
- Response: ALICE
- Item 7: sir, please state the preference for the choice of the software
- Response: no response
- Item 8: what type of databases is available in the library? Please you can thick more than one.
- Response: EBSCOHOST and ERIC
- Item 9: the installation and configuration was done by ……
- Response: the system librarian in the university
- Item 10: number of staff involved in the automation process
- Response: staff in the system unit
- Item 11: were the staffs in the system unit newly recruited or trained from the existing staff?
- Response: trained from the existing staff
- Item 12: sir, please state the aspect of the library that has witnessed full automation
- Response: Cataloguing and Circulation
- Item 13: sir, please state the pertinent problems being faced in the automation project implementation.
- Response:

1. unskilled staff
2. lack of resources
3. lack of commitment
4. power failure
5. lack of maintenance

- Item 14: reaction of the users is:
- Response: encouraging
- Item 15: the automation process in this university library is:
- Response: continuing

Above presentation is analyzed as follows:

According to this finding, automation was introduced to the main library of Olabisi Onabanjo University in 2000. The ICT equipment used for the automation was procured through purchase jointly by the University and the University's main Library in an open market. The hardware cut across various makers.

The application software in use is ALICE while the library subscribes to ERIC and journals through EBSCOHOST.

The installation and configuration of the systems was done by the system librarians in the university's main library. The system librarians who were trained from the existing staff in the university's main library are the only set of people involved in the automation exercise in the university.

The library has fully converted its cataloguing from manual to electronic format – on-line public access catalogue and its circulation routines has also been computerized thus bringing t o two the sections that has witnessed full automation viz; Cataloguing and Circulation.

Problems being encountered in the automation process are linked to unskilled staff, lack of resources, lack of commitment, power failure and lack of maintenance.

The research also found out that the users attitude is encouraging and that the automation is still in progress.

Presentation and analysis of questionnaire admitted on the students of Olabisi Onabanjo University, Ago Iwoye.

Item 1: how often do you visit library?

Regularly	Rarely	Not at all
36%	52%	12%

As in the case of UNAAB, library usage by Olabisi Onabanjo University's students is not encouraging.

Item 2: were you aware that some sections of the library have been automate?

Yes	No
52%	48%

At least, more than half of the students in Olabisi Onabanjo University are aware of the on-going automation process in the University's Main library.

Item 3: If your answer to number 2 above is yes, which section?

Cataloguing	Circulation	Reference	serials	All of the above
20%	8%	8%	4%	12%

Nearly half of the students are undecided as far as this assumption is concerned. Twenty out of the 52% remaining have really been using the library's online public access catalogue.

Item 4: access to automated sections in the library are always granted to students

Agreed	Not agreed	Undecided
8%	32%	60%

Just as the case in UNAAB, Olabisi Onabanjo University's students have been granted zero access to the E-Library. The 8% that are granted access I opined may have been on special introduction to the library.

Item 5: as opposed to traditional system, automation makes information retrieval very easier and faster.

Agreed	Not agreed	Undecided
64%	4%	32%

The respondents here also agreed to the fact that computerization will bring effectiveness to libraries' information discharging.

Item 6: in most cases, using the automated sections in the library is faced with pertinent problems such as electricity supply failure.

Agreed	Not agreed	Undecided
56%	120%	32%

The O.O.U students shared the same opinion on this assumption with their counterparts in UNAAB

Item 7: I don't use the automated sections in the library because I cannot use the computer.

Agreed	Not agreed	Undecided
12%	56%	32%

Only 12 percent of the students' population cannot use the computer. The computer knowledge is there for the students only to be given the opportunity to access information in the library through electronic means.

Item 8: I only visit the automated sections in the library when I want to surf the net.

Agreed	Not agreed	Undecided
24%	36%	40%

The findings here points to the fact that if given the opportunity to use the automated sections of the library, there are more academic activities these students will carry out rather than browsing the net.

Item 9: this library subscribes to web based journals.

Agreed	Not agreed	Undecided
20%	8%	72%

This tells on the zero access granted to the students to use the E-Library.

Item 10: can you mention some of the web based journal materials you have been able to access through the library?

None of the students could mention any of the database journal materials the university library claimed to be subscribing for. Some students only mention some search engines such as *MAMA*.com and *google.*

Summary of Findings

This research has stated the serious need for automation in university libraries. Both the library professionals and patrons have agreed to the enormous importance of computerization of library routines and this research has buttress other researches that have been made relating to the title of the research. 70% of the research population attested to the assumption that as opposed to traditional system, automation makes information retrieval very easier and faster, thus, it is incumbent that Nigerian university libraries be automated.

This research also exposed various automation project plans as it affects different university libraries. Such plans are determined by the parent bodies to those university libraries. The 'Nimbe Adedipe library has experienced early automation, benefiting from the federal government – NUC initiative on computerization of the university libraries in Nigeria since 1994. The library has since then continued to build on these early benefits. Its state government owned counterpart just got stated in the year 2000 six years after federal universities started.

From the foregoing, federal universities' automation plans are fashioned in line with the programme of the universities since the acquisition of hardware and software are being catered for through the general university's budget this means that their automation project plan is being influenced by the university's financial programmes.

In the case of the state owned institution, this research made it known that libraries in such institution are given free hand to plan and implement their programmes themselves.

This research also finds out the negligence of professionals involved in the library automation projects towards preference for the selection of software both operating and application. None of the two professionals that represented the universities being researched could tell the reason for the preference of the software for their systems. This situation is saddened as it indicates lack of technical knowhow.

In addition to automation project plan and implementation, this research finds out the main area of focus in automation in Nigerian university libraries is cataloguing. This section has been enjoying greater attention as compared to other sections. The on-line public access catalogue in the two universities studied are fully completed and equipped with state of the heart and modern gadgets.

This is not the same with other sections. The level of automation of serial section in UNAAB is said to be partial while the claim of OOU as having automated its circulation is questionable because majority of the user could not attest to this fact as they did to cataloguing section.

The automation project plan of the Nigerian university libraries is designed to be a gradual and continuing exercise. Both of the universities studied attested to this fact. It is being implemented one phase and then the other while the first section on the plan is the cataloguing. The plan is so flexible as no time limit for completion of the whole automation exercise is stated. Work stops at where the finance stops while continue from there as soon as fund is being made available. It is developed in such a way that succeeding administration can continue from where the predecessor stops. The automation project plans of Nigerian university libraries are a long term plan.

The procedural steps in automation exercise of Nigerian university libraries are peculiar to different organizations. In 'Nimbe Adedipe library, the policy is that all member of staff must be carried along in the process of automation. The staff's ICT training is not secluded to the staffs in the system unit alone. The library being controlled by a federal government owned institution and as part of its policy contracts the procurement of its ICT equipments. The installation and configuration is jointly done by the contracted firms and the librarians in the library.

In the main library of Olabisi Onabanjo University, everything is being left to the library's administration to decide. The only members of staff in the system unit do take part in the automation exercise while the installation and configuration is being carried out by the same group led by the Head of Multimedia Resources centre in the main library.

None of the two universities studied have recruited new staff for the automation exercise; they have the existing staffs trained. This research does not included in its interview checklist on how the staffs' training were carried out, but verbal interrogation from the two heads in universities studied i.e the (UL) University Librarian 'Nimbe Adedipe library and the Head of Multimedia Resource Centre, Olabisi Onabanjo University on the mode of staff training reported various modes of trainings such as post

graduate computer training courses organized by the parent university or others, corporate computer training centres outside the university, seminars and workshops organized by NLA, (local, state or national) and various sponsored training programmes in the field of Librarianship relating to library's automation.

This research also finds out various problems militating against the automation exercise in Nigerian University libraries. Foremost is the problem associated with funding. One of the problems generally affecting higher education in Nigeria is poor funding and libraries are even poorly funded by the universities themselves as compared to other sections in the university.

Another problem is associated to dearth of professionally trained and unskilled staff. In the two universities under survey, the level of short staffing is apparent while the little on ground are so little or no computer knowledge. This posed a lot of technical problems to the automation exercise. It was found that one or two professionals are saddled with the responsibility of managing the system unit there by limiting the outcome of service delivering to clients.

According to University Librarian 'Nimbe Adedipe library, the university library is experiencing problem associated with hardware breakdown and software problems emanating from planned obsolescence of commercial software. The hardware problems, the Head of the Multimedia Resource Centre of the main library associated to lack of maintenance. Some hardware is affected by the epileptic power supply while the financial burden of getting them fixed could be enormous.

Some software production are designed so complex to understand by persons having minimal computer knowledge while they i.e the software are either obsolete or prone to virus attack so easily.

Among other problems, this research highlights the pertinent poor power supply syndrome as one of the major hindrances to automation in Nigerian university libraries. Other problems include;

- Lack of maintenance
- Lack of commitment by staff
- Lack of resources
- Staff Training Deficiency

Recommendations

The following recommendations are deduced from the finding and are believed to be of help to other universities who want to embark on their automation exercise or those who are having difficulties in their automation project implementation.

1. Developing a steady and realistic automation project plan

The present automation project plans in various university libraries are defective and unrealistic. They are seen to be too long to be achievable, too flexible and devoid serious implementation.

This research suggests serious, steady but realistic and evaluative automation project plan that its implementation will be followed religiously. The terms in the plan should not be ambiguous. The plan should be all inclusive and incorporate other sections though some sections may be given preference but that must be done considerately.

2. Proper funding through special budgeting system

This research also recommends special funding system for the university libraries that will adequately cover their financial commitments. Government should create slot for library development

under the education budget and closely monitor it to make sure it is used for the purpose for which it is created. Educational aids through ETF, excess crude oil funds and other related special funding system should not elude libraries. Libraries could also generate funds through internal charging system of the library users. This may be through payment for the use of internet, printing, registration and renewal of library's membership, reprographic services, e.t.c.

3. Developing alternative power supply

Nigerian university libraries are strongly advised not to rely on the public power supply when planning and discharging the automation project. Alternative power supply should be incorporated into the foray of library automation. Cost analysis of power generating set, solar electronic generating system and power inverter or any other electric power alternative should be considered and inserted into the automation project plan. No library automation could succeed without proper and timely power supply and the present power state in Nigeria is in urgent need of an alternate power supply.

4. Adequate provision of in-service training for staff

To combat the problem of dearth of professionals and unskilled staff, regular in-service trainings is recommended for the library staffs. Firmness and compulsion must be inculcated in order to make the staff partake dutifully and diligently. These trainings should form part of the prerequisites in recruiting and promoting of new and existing staff respectively. This will surely geared them towards the acquisition of computer based education which will in turn assist them in discharging their duties more professionally. The content of their training should contain hardware and software management.

5. Incorporating every member of staff in the library automation plan

Segregation of certain staff's involvement in the automation project implementation should be discouraged totally. Every member of staff should be made stakeholders in the automation of university libraries. This will discourage them of becoming a saboteur to the whole exercise. They will start to feel involved and offer useful suggestions for improvement of the whole exercise.

6. Gaining staff commitment through re-orientation

Some staffs are of the belief that allowing automation in their libraries will cost them their employment. Their minds should be disabused of this assumption through re-orientation of what automation is and its purpose in the library. In order that they will be aware of the enormous importance of automation to library and librarians service delivery.

7. Sharing of ideas between university libraries

University librarians should not see themselves as threats to each other. They have lots to share between each other. The university libraries that are just starting their automation projects need ideas from their counterparts who have reached advanced stage. They have a lot to learn so that they will not repeat the same mistake others have made. It will also afford them the advantage of making choices having considered various ideas from their colleagues.

8. Granting students access to the use of E-Library

Present regulation in most university libraries which does not allow undergraduate access to the use of Electronic sections of the library should be reviewed. This research recommends that libraries should develop more security measure to control them but not totally denying them.

9. Creating awareness

It is clear from this finding that majority of the library users have not been really carried along about the new developments in the libraries. This research recommends that libraries should improve in their creation of current awareness services for their clients so that they will be acquainted of these developments and make judicious use of the services there in.

10. Safeguarding the equipment

Libraries should expect caution from users when using the E-Library. The machines are vulnerable to damage easily and cost of repair and maintenance are enormous hence serious caution must be exhibited when using them.

Conclusion

This work monitored closely the need for automation in Nigerian university libraries, the processes involved in the automation projects, human and material personnel needed in order to have a complete and effective automation, pertinent problems affecting implementation of automation projects, and access to automated sections in the university libraries by undergraduate students. The findings are a form of reference for others researching related subject to this work.

Automation should not be seen as a threat by the librarians or be perceived as too cumbersome to be carried out, it must be embraced and efforts should be geared at steadily and systematically converting from manual to electronic routines.

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