June 2021

Automation of Academic Libraries in Nigeria: Issues and Practices

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By

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Abstract

The paper is on the library as information organization helping the parental body to realize the network of goals, objectives and targets. It added that for library functions to be done efficiently, the services must be automated. The paper describes automation as application of technology to produce and deliver goods and services with minimum human intervention. The work looks into library automation, overview of automation in Nigerian academic libraries. It expands on issues and practices of library automation in Nigeria academic libraries giving an insight into two universities- University of Jos Library and Hezekiah Oluwasanmi Library, Obafemi Awolowo University. The paper gives the challenges to automation in academic libraries in Nigeria as inadequate planning, budget-cut, shortage of technology, erratic power supply, shortage of competent manpower and non-ICT LIS curriculum. The conclusion is that automation is inevitable in the 21ˢᵗ century library services, as such Nigerian academic librarians should strive to automate the services in their libraries.

Keywords: Automation, Academic Libraries, Nigeria

Introduction

Libraries operate in any organisation as the base of information resources for the success of parental body in the network of targets, objectives and goals, meeting information needs of users. Library is not just the building or the edifice but the resources that are properly display on the shelves or on the web to satisfy the users' needs. The resources are in various form- print and non print. It is these resources that the professional librarians work on, to fulfill the goal of library as information organisation.

Professional librarians in their different sections of the library perform different tasks for the resources to be made available to the users. These tasks can be computerized using machines to perform them. In other word, when the tasks are done with the aid of machine (computer), they are said to be automated. Hence, how can we describe automation in detail?

Automation

Techopedia, (2020) describes automation as the creation and application of technologies to produce and deliver goods and services with minimal human intervention. The implementation of automation technologies, techniques and processes improve the efficiency, reliability, and/or speed of many tasks that were previously performed by humans. Usually, automation is employed to minimize labor or to substitute humans in the most repetitive tasks. Automation is present in virtually all verticals and niches, although it's more prevalent in manufacturing, utilities, transportation, security organization and so on. In the technology domain, the impact of automation is increasing rapidly, both in the software/hardware and machine layer. The implementation of new artificial intelligence (AI) and machine learning (ML) technologies is currently skyrocketing the evolution of this field. In the information technology domain, a software script can test a software product and produce a report. There are also various software tools available in the market which can generate code for an application. The users only need to configure the tool and define the process.

In other word, automation is the use of self-regulating machinery, electronic equipment, etc. to make a manufacturing system or process operation at greater speed and with little or no human intervention (Your dictionary, 2020). Wikipedia, (2020) explains automation as the technology by which a process or procedure is performed with minimal human

assistance. Automation, or automatic control, is the use of various control systems for operating equipment such as machinery, processes in factories, boilers, and heat-treating ovens, switching on telephone networks, steering, and stabilization of ships, aircraft, and other applications and vehicles with minimal or reduced human intervention. Therefore, automation covers applications ranging from a household thermostat controlling a boiler, to a large industrial control system with tens of thousands of input measurements and output control signals.

Library Automation

Hamisu (2020) gives the awareness that libraries has existed for a long time in history but today, it can categorically classified as either traditional or modern libraries comprising various functions and services of information related. The nature of library routines and or services in a traditionally oriented library differs from that of a modern library. The line of demarcation or differentiation of the two libraries, 'traditional' and 'modern library', is automation. Obinyan & Unuabor, 2013; Ganguly & Bhattacharya, (2013) as reported in Adeleke (2017) stated that the concept 'library automation' is often used interchangeably with library computerization, library mechanization, digitization and application of information communication technologies (ICTs) in library operations and procedures.

Pandya (n.d) opined that library automation implies a high degree of mechanization of various routine and repetitive tasks to be performed by human beings. Library automation is the application of computers to perform traditional library house-keeping activities and operations such as acquisition, circulation, cataloguing, reference services and serials control. Library automation reduces the drudgery of repeated manual efforts in library routine. Quick services of the library are possible after introducing automation in the library. Automation helps to access library database with the help of OPAC, quickly, WEBOPAC provide facility of accessing library collection from any place at anytime. (Pandya and Darbar, 2017)

Library automation is principally the use of computers, associated peripheral media (disks, optical media, magnetic tapes, storage devices, etc.) computer based products and services in library work. According to Hamisu (2020) some of the ICTs essential for library automation process include computers, databases (such as Encarta, Hinari, Science Direct, Ebscohost, Datab, etc), software (such as Alice for windows, Evergreen, Koha, Tinlib, Cdsis, Libsys, Soul, Virtua, Glas, Caliban, Autolib, etc), and Web 2.0/3.0 internet-based facilities (such

as syndication, tagging, blogging, pod casting, wikis, etc of it functions and services). Another suggestion provided was the need for libraries to integrate the following ICT tools for library automation: Radio-frequency identification, Smart Bookshelf, Book Drop and Sorting Unit, Library website, Wide Format Scanner Digital Cameras, Smart Self-Collection Box, Book Dispenser, Mobile Stock Take Trolley, Recommender System, Wikis, Blogs, Pod and Video casting, Cloud Computing, Social Networking, Real Simple Syndication feeds, and Intelligent Monitoring System, etc.

Perhaps, the selection of a software package may mar or make the effectiveness and success of any library automation project. There is no perfect software package and libraries must keep in touch with the development of the software in use because software is consistently being revised. In order to assist libraries in developing countries including Nigeria to overcome the huge cost and maintenance problems of acquiring software, UNESCO has championed the development of the CDS/ISIS software dated to 1985. Jean-Claude Dauphin has been working as a program specialist and project manager in software development of UNESCO for many years, and UNESCO has over the years produced multilingual software that is distributed free-of-charge around the world. It started with the development of CDS/ISIS which was a generalized information storage and retrieval system for bibliographic information in the 1980s. It has, however, been expanded to include support for the development of free and open software culminating in the launch of UNESCO's free open source software portal in 2001. In 1985, UNESCO came up with Micro CDS/ISIS which was advanced non-numerical information storage and retrieval software. A window interface between CDS/ISIS and IDAMS (internationally-developed data analysis and management software) has also been developed which, of course, is the UNESCO software for statistical analysis. It must be stressed that CDS/ISIS software has undergone major development since 1980. There are different versions, such as December 1985, Version 1.0; March 1989, Version 2.0; June 1993, Version 3.0; November 1997, Version 1.0 of CDS/ISIS for Windows; January 1999, Version 1.311; June 2000, Java ISIS 3.0 and January 2001, Official Version 1.4 of CDS/ISIS for Windows (Gbadamosi, 2011).

Overview of Automation of Academic Libraries in Nigeria

As cited by Abbas, (2014) in Project.ng (2020) the first attempt to automate library services in Nigeria was made in 1970s, when the Ahmadu Bello University recorded success, first in the automation of serials in 1972 and secondly, circulation services in 1976. Until the early 1990s, "automating the library" involved generally the same features as those in place since the advent of machine readable cataloguing record in the late 1960s. Libraries created integrated text based systems using micro/mini computers in which traditional library housekeeping operations were computerized using the library's database as the foundation. Ajidahun (2005) in Emasealu (2019) asserted that the early noticeable automation debut in Nigeria was recorded at Nnamdi Azikiwe Library, University of Nigeria Nsukka in 1977. This led to the argument and counter-argument for and against the automation of University of Lagos Library in 1980. Consequently, the automation project was started in 1982 in the University of Lagos, leading to the subsequent commencement of automation projects in other university libraries in Nigeria. The automation project plan in most Nigerian Universities was designed as a gradual and continuing process, and ever since, the application of IT has gradually taken firm root in some Nigerian university libraries. However, most Nigerian University libraries started automation in cataloguing unit, and still, currently, more automation attention is centred on the cataloguing section of most academic libraries. Consequently, this section has been enjoying greater attention as compared to other sections such as circulation, serials, reference, and acquisition.

Most of the library automation software comes with different modules that can cater for all the library operations previously performed manually. Surprisingly, some libraries found it difficult to use all the modules. Research has shown that libraries mostly used the cataloguing modules and circulations modules while acquisitions and serials modules are rarely used (Otunla 2016). However, Alabi (1987) in Adegbore, (2010) expressed that individual effort 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.

Sani and Taimiyu, (2005) cited in Onyebuchi, Daniel, Chima and Udoaku (2015) conveyed that the growth of automated information services in Nigerian universities began to accelerate as from 1990, when the World Bank intervened with a loan to improve the

institutional capacities of the Nigerian Universities, and with specific focus on automating the universities

Adegbore, (2010) in Emasealu (2019) further explained that the present automation project plans in various university libraries are defective and unrealistic. They appear to be too long to be achievable, too flexible and devoid of serious policy statement, and implementation plan, coupled with gross absent of documentation of automation activities, hence, their progress remains epileptic – neither moving forward nor maintaining the already standing process.

(Baro, 2014; Okpe & Unegbu, 2013; Obajemu et al., 2013; Omeluzor et al., 2012) cited in Emasealu (2019) analysed that among the management software being used in some academic libraries are CDS/ISIS, Integrated Management System, KOHA, ADLIB, E-Print, DSPACE, GLAS, SLAM, VIRTUA, TINLIB, and ALICE. Several authors assert that KOHA, SLAM and VIRTUA library management software are more prominent than others in Nigeria

In brief, Edem (2016) in Lawal-Solarln, Allison and Justice (2018) certified that this did not present a good picture of adoption of software packages in Nigerian universities, as the implication is that 95% of libraries in Nigerian universities are either not automated or partially automated. 5% full automation represents a very low level of automation of libraries in Nigerian universities which could be private universities.

Issues and Practices of Library Automation in Nigeria Academic Libraries

Despite the rising awareness and the springing up of cyber cafés and internet services in the urban centres in Nigeria, academic library automation and virtual library development are still very slow (Gbadamosi, 2011). However, there is a ray of hope beaming as we look into 2 major university libraries in Nigeria.

University of Jos Library

The past three years have been difficult at the University Library due to the conflict occurring in and around Jos. In fact, the Mortenson Center team of David Dorman and Susan Schnuer had to cancel two planned visits and training sessions. In spite of the turmoil, Jos has made great progress. They have a strong and excellent project management team, a young and enthusiastic system team, and have had excellent support from the University. They now have

their own reliable power source and good access to the Internet. Perhaps the most difficult situation has been that the library management server is housed in the ICT department, which does not have reliable power and is not open 24/7. So that access to the online catalog is restricted to the times that the power is up and running in the ICT department. This situation has been discussed both with the librarians and the ICT staff and hopefully will soon be resolved. In 2010 the cataloging module was up and running and the catalogers had a good plan for retrospective conversion (Mortenson Center for International Library Programs, University of Illinois, n.d).

Before the use of the Virtua module was implemented, the catalogers were using Bibliofile for retrospective conversion. This strategy worked well for them and they were able to easily upload the Bibliofile records into the Virtua module. The University Library has had a 19% bibliographic record growth in their online database since 2009. As of December 2011 there are 42679 bibliographic records, there are 202,000 items in the collection. The retrospective conversion is planned to be completed by the first quarter of 2014. The online public catalog was launched in November 2010. Due to reasons mentioned above the circulation module is not yet up and running, though the work has begun. The librarians plan to bring it up live in October 2012. Other modules are not up and running yet, however here is the timeline: Serials - in progress - due to be completed by first quarter 2013. Acquistions – in progress – due to be completed by December 2012 Reserves – will consider when OPAC is fully functional. In May 2009 the cataloging module was up and running and the catalogers had a good plan for retrospective conversion. 60% of the retrospective conversion has been done (Mortenson Center for International Library Programs, University of Illinois, n.d).

Obafemi Awolowo University- Hezekiah Oluwasanmi Library

The online public catalog was launched in 2010 and has been in use since then. The circulation module is not yet running. Discussions with the campus are ongoing in terms of uploading student and staff records. Other modules are not yet active. OAU has also made great progress on their digitization of newspapers and abstracts of theses. They are about to begin an institutional repository project. They have a security system up and running (Mortenson Center for International Library Programs, University of Illinois, n.d).

It could be inferred that library automation and virtual library development in the four academic libraries, Nigeria are yet to be fully developed. The need for internet facilities is appreciated by all the libraries, but the institutions have not shown enough finance commitment to the project. It can be concluded that library automation and virtual library development are yet to be given adequate attention, which deserves by various institutions management and by extension the proprietors of the institutions (i.e., the federal, the state governments and the private ownership) (Gbadamosi, 2011).

Emasealu (2019) assessed that it was established that the functions of library management software are abysmally under-utilized in academic libraries in Nigeria, thus, progression of automation projects remain a swinging pendulum. Although most libraries in developed economies have developed fully integrated computer systems, however, in the developing countries, there are cases of partial, abandoned projects, or non-functional automation projects. Horsfall and Fagbemi (2015) as cited by Emasealu (2019) opined that the automation of libraries in Nigeria continues to progress daily but are marred by a lot of challenges. It, therefore, means that libraries in Nigeria are yet to attain full automated status because only a few aspects of the library services have remained in partial automation state as they are unable to utilize fully important features of each of the stages of automation project.

In addition to the two universities discussed above as case study, Adebayo (2007) in Otunla (2016) study compared library automation between Federal and State Colleges of Education in Nigeria and surveyed 58 Colleges of Education. The findings revealed that 98% of State Colleges of Education and 85% of Federal Colleges of Education indicated that no section of their libraries was automated; as a result the author concluded that Colleges of Education in Nigeria are not automated. Hence, Otunla (2016) analysed that Out of 13 institutions surveyed, 5 university and 2 polytechnics were automated while none of the Colleges of Education were automated. This finding indicates that Colleges of Educations are lagging behind by not considering automation process in their libraries.

Challenges to Library Automation in Nigerian Academic Libraries

Inadequate Planning

In a study carried out by Onoriode and Ivwighreghweta (2012), 40 (100%) of respondents says that lack of commitment from management and lack of plan account for the library's inability to automate. This is a clear indication that management of the various academic libraries in Nigeria is not doing the adequate planning for their libraries to get automated. There is no network of proposal and strategies in making move toward automation. In other word, they are not concerned about automating the library services. And this made the services to still persist in a traditional way which is making the Nigerian academic libraries to lag behind compare to the ones in the western world.

Budget-Cut

In every library, the budget plays a key role. If a library financially strong means they can reduce the burden of Automation. Not all libraries will have the sound financial aid; some libraries are lacking minimum required financial support (Shanthakumara, 2018). In any country where education is neglected, of course there will be no tangible development. This is the case of Nigerian academic libraries. The amount of money budgeted to education in Nigeria is seriously affecting libraries in the academic world. The budget is not sufficient for the running of colleges, polytechnics and universities, let alone libraries. Thus, automation issue in Nigerian academic libraries is still a dream.

Shortage of Technology

Library automation is principally the use of computers, associated peripheral media (disks, optical media, magnetic tapes, storage devices, etc.) computer based products and services in library work. A lot of softwares are also needed. In other words, automation cannot take place without these devices. Thus, most academic libraries in Nigeria cannot still acquire the required number of these devices for automation.

Shortage of Competent Manpower

Atanda (2018) observed that trained personnel are essential for any implementation of ICT to take place and be effectively sustained. There is a need to build on a framework of a well-trained information technology workforce. It is not enough to have trainers visit and give superficial training at great cost and then fly out without leaving some back-up capacity on the ground. Personnel problems can result from the sudden departure of the university computing expert as when an expert who had been handling a project on behalf of the university library left and was not replaced, causing a lack of continuity in the project; and lack of library personnel to understudy and follow the automation project to its conclusion.

The conventional wisdom is that to put the right person to do the right job, hence here in library automation we required professionals who have gained much knowledge about ICT and who have very potential about library automation software suites. We can't simply recruit new skilled professionals to do the job, but we can train the existing professionals in a library to take over the automation project. Hence, we require more committed professionals and we need the right person who can motivate them to learn and expedite the same (Shanthakumara, 2018). However, most Nigerian academic librarians are still traditional in that they do not have the digital knowledge required to function in an automated environment.

Erratic Power Supply

The power supply in Nigeria is so weak that it affects almost all sectors. Education is not without its own challenge from the issue. Libraries in the academic world do not have consistent power supply and this is affecting the services they render as most time the few computers available may not be able to work because of power failure. In a situation where power failure is consistent, automation of libraries cannot be realized.

Non-ICT LIS Curriculum

In the developed world, recent Information and Communication Technologies (ICT) courses are being introduced into the field of library education. According to Chu (2010) in Virkus (2012), they are: digital libraries, website design, web application, computer/information/internet networks, digitization; digital preservation/design, information architecture, cyberspace law and

policy, knowledge management, competitive/business/strategic intelligence, human-computer interaction (HCI), user-system interaction, metadata, computer/network security, internet relevance/application, information seeking behaviour.

However, in Nigeria these courses are not are not available in our curriculum. Therefore, the issue of automation cannot be carried out by the librarians produced in Nigerian Library Schools.

Conclusion

Automation is inevitable in the 21st century library services, as such Nigerian academic librarians should strive to automate the services in their libraries. All the sectional heads in the libraries should be united in meeting the College, Polytechnic or University Librarian regularly on the issue of automation. This will make C, P, or U Librarian to be gingered towards meeting the management for proactive steps in automating library services in Nigerian academic libraries.

Recommendations

- The management of various academic libraries in Nigeria should prepare to automate their library services by carrying out adequate planning. When there is proper planning, execution becomes easier. They can itemize all what they need and map out strategies on how to get them.

- Nigerian government should increase the budget for education by following UNESCO standard. This will automatically have effect on the library services delivery as there will be fund to incorporate ICT in to the library routines and services.

- Library management through the approval of the government can send some librarians to the advanced countries to learn how to carry out automation activities. This will help the academic libraries in Nigeria.

- Solar Panel should be built in the libraries as complement to the Power Distribution Companies' supply. Also, a high capacity generating plant could be purchase to supply power when there is failure from Power Distribution Companies.

- The Nigerian Library and Information Science Education curriculum should be reviewed to integrate with ICT and other digital information resources. This will make new librarians graduating from library schools to be up to date in terms of 21st century knowledge and mastery. Thus, automation will not be a problem to anyone of them because they can handle ICT resources efficiently.

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