Challenges of Managing Research Collections in a Semi-Automated Academic Library in Nigeria

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Abstract

Academic libraries exist to support the educational goals of their parent institution; one of such roles being to provide assistance to the academic community by organizing relevant scholarly materials and other information sources for availability, usage and maintenance. Limitations in these aspects of information services are sometimes demonstrated in enduring conventional library methods which more often than not are short of modern information applications. Reasons for these are highlighted in this paper alongside other intervening factors. This has been the situation for some libraries in Nigeria, the University of Uyo being a case in point. Incidentally, the University is the fifth preferred in the country in choice of enrollment.

Keywords: Automation, information process, software, University library.

Introduction

Academic libraries are mostly found in tertiary educational institutions such as the university. They exist to foster the mission of its host institution which basically are teaching, research and community service. Academic libraries in Nigeria, like some others globally, are saddled with the information management roles of gathering information sources (externally and internally), processing of information resources, dissemination of information at the right time, information storage and maintenance. Philip[1] states that the librarian as a professional information provider carries out these services through specified tasks of cataloguing/classification, serials and documentation, acquisition and collection development, reference and readers' services. The primary goal of these specialized duties is that the information being prepaid reaches its end-users to meet their needs.

In this regard, the following objectives of Nigerian academic libraries were formulated. These are stated in summary[2]: i. Provision of materials for undergraduate instruction, long essay and supplementary reading; ii. Provision of materials in support of postgraduate research; iii. Provision of materials to support faculty, external and collaborative researches; iv. Provision of materials for personal self development; v. Provision of standard works particularly in professional disciplines; vi. Provision of specialized information on the region which the university is situated; and, vii. Co-operation with other academic libraries to develop a network of academic library resources that is at the disposal of all scholars.

Suffice to add that the general thrust of these services amount to making information available and at the best possible means, particularly for research collections. One of such means is

through the use and aid of automated devices. It is no more a fad and has never been, that nearly every, productive facet of mankind is operationally connected to some form of automated systems, embodied in the generic term Information Technology (IT), particularly in information process. The success of libraries and cognate centers especially in developed economies, are embedded in their massive use of Information and Communication Technologies (ICT) to accompany library services.

Though unpleasant to mention, the starring fact has remained that ICT facilities are still being eroded in developing/non western countries which by extension, has marred efficient university library system in Nigeria. This no doubt has staggering implications on the information literate society which should widely be knowledge driven[3]. In a situation where modern technological facilities have been positioned to enhance information services, such may be seriously eroded by certain factors which shall subsequently be discussed in this paper with the University of Uyo library in Southern Nigeria as an instance. The library had embarked on digitization of aspects of its library operations (semi-automation). This paper therefore discusses the implications of this project on the documentation and management of the library's collections under Special Collections, Reference and Serials units.

Rational and Dimension

What have necessitated these discussions surrounding library automation and practice? Basically Library studies in the contemporary era are largely tailored towards evolving ICT related issues arising by globalization of information in addition to 21st century learning extensively backed up by information technologies; hence, the rationale behind this study. More so the

description of ICT capabilities with particular reference to computers, CD-ROM and the internet arguably cannot be divorced from the librarian's role which has typically been connected with identification of information (data), acquisition, processing, dissemination and storage. Indeed the application of state-of the-art facilities has being one of the qualifying status of modern libraries and key components of world class universities. It follows that academic libraries by educational standards would be rated by the extent of information exchange and traffic between client and serving institutions in the lieu of access to 'unrestricted' information beyond locally generated ones. The submission goes further that whilst information could be obtained both in hard copies and electronic format, it is commonly found that the active age groups are increasingly becoming passionate about accessing information and interacting via electronic means, thereby posing threat to the use of physical collections of a library. Ackerman[4] therefore posits that most library assessment is geared towards the availability and outcome of the library's resource available to its users.

One of the venues therefore of keeping up with the rising surge and quest for information, is significantly in the carrying out of evidence-based/ case studies of a typical academic library as in this instance. This paper therefore examines the extent of University of Uyo (UNIUYO) library's automation exercise and types of library services automated with implications on their research collections.

These collections comprise endogenous and indigenous collections technically referred to as *Africana.* Others are government documents (local and international), heritage archive of Nyong Essien collections, journals and other periodicals, graduate Theses and Dissertations. This categorization is operational and exclusive to UNIUYO's sectional and management functions. The university was rated as the fifth preferred in the country by Nigeria's Joint Admission and Matriculation Board (JAMB) based on choice of enrollment in 2012 and it strives to enhance information exchange and traffic using electronic formats.

Automation and management of library procedures

From the library perspective, automation, digitization and computerization are sometimes used interchangeably with reasons being that the computer increasingly is being used to automate core library activities and procedures. In such instance, the library provides electronic access to collections partial or full text and having converted data into digital forms. Omotosho[5] views automation to mean the installing of machines, both computers and others to do the work previously done manually by people. Others[6,7] define digital library from a broader perspective as a library that harnesses digital infrastructure to search, collect, organize, store and distribute cultural, historical and scientific information whether in text, visual images or sounds; extends to software application and information networks.

The benefits of library automation cannot be overemphasized as conventional manual methods are difficult to efficiently cope with in view of the accelerating library activities. For instance Nwachwkwu[8] states a typical situation where a librarian tries to respond to a request and delves into the rigors of consulting several indexes and bibliographies from place to place at some instance, whereas he or she could simply consult the computer terminal, enter command and key word and the citation of source comes up on the screen.

A definitive and close look at various ways library resources and services are converted into electronic files for efficient management of same are highlighted in table-1 below.

Coyle and Hillman[10] conclude that changes brought about by the development of computer technology coupled with electronic document production, present a significantly different environment for libraries than when information resources were rooted in books, periodicals and card catalogue as entry point to a library's physical holdings. In order to bring about a change of behavior and empower users, library and media agencies, in ideal situations, are expected to consciously contribute to stimulate and enhance learning and interest. One way of achieving this is through the introduction of software[11].

Automation of University of Uyo (UNIUYO) library collections

The UNIUYO library: situated in Town Campus with multi-campuses at Permanent site, Annex campus and Foundation programme school, all located in various towns. This factor partly necessitated the implementation of initial automation exercise in the central library for more information distribution.

Resources: The UNIUYO library's information resources are meant to complement the educational goals of the University. Volumes of physical collections as at 2007[12] stood at

Books and monographs   -   54,594
Periodicals   -   870 titles
Theses and Dissertations   -   about 3,000
 Newspapers and newsmagazines (not indicated)

Software application: The software launched in 2005 was the Strategic Library Automation and Management (SLAM) with capabilities for automated acquisition, cataloguing, serials management and circulation services. Consequently, internet connectivity was installed with subscription for wide access to journals in particular, in any discipline. Both SLAM and internet services were established under the Electronic Resources Unit of the UNIUYO library. The library's internet services connect and subscribes to global databases such as the HINNARI, EBSCO Host and world public library consortia.

Budget and legal issues:-funding by University Management was from the Federal level. Though no policies on copy right

issues were specified within the academic domain, installation and running cost was in seven digits monetarily.

Software specification:– has modules with capabilities for core library services.

Table-1
Comparison of manual and automated library functions

Library function	Manual	Automated
Acquisition	- Selection, ordering, purchasing and procurement. - Assigning accession numbers and ownership stamp. - Process delays subscription.	- Books and other materials ordered for electronically and acquired in CDs. - Bar code technology advantage; - reduces selection and physical contacts with vendors.
Cataloguing and classification	- Description and documentation of bibliographic data. - Organization of source by subject grouping. - Cross checking of shelf list. - Multiple trays of card catalogue. - Printing of cards, hence not economical.	- Electronic file management. - Machine readable data storage. - Bibliographic control and standards. - Easy updating of records. - Data entries with search terms; access digitally, reliable storage and accuracy; eliminates cumber some tasks[9]. - Saves cost. - Files to tamper without a PIN.
Serials management	- Restricted access to few copies. Gaps in issue dates - Bulky Kardex maintenance. - Bound back-copies in single volume. - Space consumption. - Physical display of new arrivals or content papers - When lost, may not be easily replaced	- Wide access to current research and database collections. - Files could be corrupted, attacked or system's crash. - Enhances scholarly communication. - Automated indexing of periodicals, quick access to content pages. - Shared research output.
Reader services and user education	- Use of physical catalogue and movement by user. - Desk enquiry. - Physical contact with librarian. - Shelf reading and shelving. - Production of borrower's card. - General manual operations. - Enlisting of returning patrons and new intakes.	- Minimal contact with library personnel. - Easy view of patron's record. - Electronic search and browsing. - Digital preservation and archiving; - Systems' generated statistics, loans and over dues. - Enrollment list updated as required. - SDI services enabled through alerts.

Human resources: An in-house training for data entries was made for staff involved. Professional librarians, IT specialists, Para-professionals and junior staff were teamed up into a task force prior for the exercise. Nwalo[13] establishes that with software application, paraprofessionals in library are able to perform conveniently tasks hitherto meant for professionals.

Utilization: Provision of different access points through several computer work stations for access to bibliographic data of library holdings. It is noted that the provision of indexes to information content[14] of documents add value to a library's collection whereby relevant information is sorted out and repackaged. With the aid of a good index therefore, users can navigate literature and search disciplines relevant to their needs. In UNIUYO instance, multiple users were enabled to access same or other information through work stations. Internet users benefited primarily from free browsing, e-mail services and information searches and service was exclusive to the university registered library members, both staff and students. Also, users within the Town Campus vicinity had connectivity with the library's internet facility beyond physical library's domain using their PIN. Haider et al[15] established that any user on e-learning platform are defined by system administrator on the bases of defined condition which includes SIP ID, password or other related information like designation.

Implementation and operation: Ten computer work stations were mounted with SLAM software functionalities, with additional eight for internet services. Modules activated were for cataloguing and circulations control. The UNIUYO library

automation process was largely retro-conversion, where back files in print copies were translated or transformed into digital /machine readable format. In other words, a reconversion of the card catalogue (RCC) using primarily bibliographic entries such as author, title, subject, issue date and the like. Over 10,000 books were treated and with bar codes, comprising one-third of holdings at the UNIUYO Central Library. Collections of books on the shelves were physically moved to the Electronic Resources Unit (ERU) for data entries, while books published before 1990 were not treated. However, difficulties were encountered in indexing data from research and scholarly publications which the library classified using limiters, tags and coded vocabularies peculiar to UNIUYO library; for instance ED 157. DML indicates range of discipline under 'Education' with class number and the direction 'Display in main library'. Also, unlike books which could address a particular subject theme, some scholarly materials may come in several volumes, yet with same title and variations in content for each singular copy as the case is with journals. This has been the reason why most academic and research libraries capture data only with text.

In view of these peculiarities, the automation of research collections from the University of Uyo Library was suspended in the interim, pending standardization and uniformity in content descriptions[16].

Infrastructural challenges in Nigerian University libraries

The confronting issues which accompanied the UNIUYO library automation exercise is partly embedded in the challenges faced within the Nigerian technological scenario at the educational level generally. Automation in Nigerian universities was started in the late 1980s and has witnessed various stages since the Federal Government through the National Universities Commission (NUC) launched the National Universities Network (NUNET). Nok[17] submits that within that period, the World Bank provided funds to thirty federal universities to kick-start ICT and to acquire computer and related resources. Following a report by NUC in 2010, the first established universities in the country are utilizing open source software for global visibility of their scholarly works. In a study[18] on University libraries with ICT status in Southern Nigeria, it was found that Delta state University though with 23 computers is awaiting installation for content sharing, while Niger Delta University and University of Port Harcourt were yet to be automated as at the time. However, the major setback to infrastructural development in Nigerian libraries generally, is rooted in lack of funds. Ongoing project is the establishment of a National Virtual Library in Higher Institutions, in partnership with UNESCO. This equally is awaiting full implementation in view of the last date of report on implementation status in March 2003[19]. Omolayole[20] also posits three strong reasons militating against efficient use of ICT in Nigerian academic libraries to be: poor telecommunications infrastructure, low level of ICT skills and computer culture by librarians and lack of awareness.

Added to this, university libraries have on many instances been marginalized in the academic community coupled with the seeming poor communication between the librarian and the university management[21].

Automation challenges of managing UNIUYO library collections

The experience of automating circulations system and maintaining electronic index files of UNIUYO holdings witnessed some underlying problems which are as follows:

Limited coverage: Though SLAM software had more than four modules for core library operations earlier listed in table one of this paper, those of circulation and cataloguing were utilized partly because of limited funds. Services did not also extend to multi-site libraries of the institution which resulted in partial ICT-based, semi-automated service.

Non-extensive treatment of collections: By emphasizing only the treatment of current books, some relevant books particularly in the humanities were unavoidably neglected, thereby difficult to trace.

Lack of standardization in taxonomies: this by inference affected the non-treatment of research and scholarly collections.

Sustainability: Some of the files were corrupted due to poor storage and lack of establishing a back-up system.

Power outage: Inconsistent electric power supply and fluctuation in voltage were hazardous to the systems. This also hindered electronic access to the catalogue indexes generated.

Interference in stock usage: Access to collections treated was restricted in use till completion of documentation.

Work load: re-conversion of holdings exerted work pressure in time spent and energy.

Staff attitude: Implementing ICT in the library is largely dependent on librarians' attitude towards it, particularly in the midst of technological challenge states[22-24]. In the UNIUYO instance, a strong positive attitude by the work force sped up the automation process to an extent.

Legal issues and copyright terms: these were not visibly indicated.

Output: The automation phase only yielded description of content (index) and not full text.

Inadequate facilities: Due to limited facilities students were often times required to take turns in the use of systems particularly for internet use which marred the 'quick access' mission of the library.

Inadequate time: Systems could not be accessed after close of work for administrative and security factors, while the forty (40) minutes time allotted students for browsing was relatively inadequate. Restrictions were equally placed on all categories of staff to use internet facilities only after official hours to enable students' usage through the day time, except where a staff member connects with his/her personal computer.

Open Access limits: Actual open source device to facilitate shared research output and other data files yet to be installed.

Conclusion

Automation of a library's resources ideally has much benefits despite the massive resources put in place to implement one. However to achieve success, automation must have support from host institution basically in infrastructure and adequate funding. Though many digital library functions are still evolving, there is a degree of dissatisfaction with a seeming conservative attitude of some librarians who are really comfortable with traditional library system, as such library schools need to incorporate information science-based courses such as application of computer in information handling, network services, software application, development of digital collections, skills on search engines, information systems design, information dissemination and other evolving ones for the potentials of ICT to be well directed towards the advancement of library procedures, while databases and indexes must have access points that are easy to identify with logical inter-links for searching titles and subject categories.

It has been reiterated severally in this paper that the professional roles of the librarian border on the generation, processing and dissemination of recorded knowledge and preservation of same. In view of information explosion, the onus lies at the various stages of knowledge to be efficiently managed in collaboration with information experts as follows: archivist, records manager, information scientist, information systems analyst and designer, information manager, information broker and consultant, database manager, journalist and editor[25].

From the foregoing, innovations in library operation as a factor of ICT necessitates updating of policies and continuing education plan for librarians professionals, more so for those in less developed countries to acquire relevant technological skills for the digital environment.

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