



APPLICATION OF ICTs IN CIRCULATION AND CATALOGUING SERVICES: A CASE STUDY OF FESTUS AGHAGBO NWAKO LIBRARY (FANL), NNAMDI AZIKIWE UNIVERSITY, AWKA

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Abstract

This study focused on the application of ICTs occasioned by the adoption and application of integrated library software (KOHA) with modules in the cataloguing and circulation services in respect of Festus Aghagbo Nwako Library, Nnamdi Azikiwe University, Awka. Case study and descriptive survey research designs were adopted for the study. The population of the study comprised 23 staff of the cataloguing and circulation sections of the library. Total enumeration technique was used because the population was manageable. Data were collected using the questionnaire. A total of twenty-three (23) copies of questionnaire were administered to the staff and all the 23 questionnaires were returned and found usable, which constituted 100% return rate. Data obtained were analyzed using mean scores, frequency and simple percentages. Findings of the study revealed that in the cataloguing section, ICT facilities were used in the physical description of books, production of cards and OPAC among others. The study also revealed that in the circulation section, ICT facilities were applied for library users' registration and generation of statistics. Further analysis showed that the services rendered to a high extent using ICTs include: online cataloguing, registration of users, printing of catalogue cards and others. The major constraints to the use of ICTs in cataloguing and circulation sections are lack of funds and inadequate skilled manpower. Major strategies include provision of adequate funds, training and retraining of staff for skills required in ICTs application for library operations and services. The study recommended among others that adequate financial resources should be made available to manage the library automation effectively, training and retraining of staff. This is highly encouraged to improve their ICTs proficiency. Mentoring will also enable the staff to learn from other experienced staff.

Keywords: Festus Aghagbo Nwako Library, Cataloguing services, Circulation services, ICT Proficiency, Nnamdi Azikiwe University, Awka

Introduction

Information and Communication Technology (ICT) has demonstrated unalloyed impact on library systems, services and operations. ICT is a term that describes the use of computer-based technology and Internet to make information and communication services available to a wide range of users. It is a combination of computer and communication technology. The computer technology is the tool for storing and processing information in digital form while communication technology helps in the transfer and dissemination of digital information. Edem (2015), viewed ICTs in libraries as tools that facilitate the production, transmission and processing of information materials for effective utilization. Ejedafiru (2010) saw ICT as a technology which electronically transmits, stores, produces, displays, shares or exchanges information.

ICT is a broad term that covers wide range of technologies. It is the convergence of computers, communication and microelectronic-based techniques. The technologies and devices like radio, telephone, telegraph, fax, television, mobile phone, Internet, WWW, email, LAN, ISDN, video conference and satellite communication techniques are major part of the ICT. With the help of LAN, libraries easily share the information based on the facilities. Telephone and another device play important role in library services like SDI, Interlibrary loan, reference services and online information retrieval. ISDN has increased the capacity for data transmission which facilitated introduction of new services such as E-mail, Fax etc. Cheaper data storage media has increased the storage capacity of libraries. The library is no exception to this development. There is avalanche of software packages designed to cater for library operations and each of these software packages seeks to provide convenience in library services.

ICT has transformed all aspects of librarianship. ICT has improved workflow in libraries and has greatly reduced manual work (Bhoi, 2017). It has changed the way information is generated, collected, processed, stored and retrieved for optimum use with attendant effect on library operations. The vital activities of libraries comprise collection development, reference services management, document delivery service, access to organized collections held by the library and assisting users in information search and retrieval (Husain & Nazim, 2015). Ramzan, (2017), opined that ICT ensures easy integration of various library activities, increases efficiency in acquisition, cataloguing, classification, access to data, and information retrieval and dissemination. The application of ICT has added value to library services. It enhances data storage; data and full-text searching; eliminates uninteresting and repetitive work; helps in avoidance of duplication of efforts; increases the range of services; facilitates cooperation and the formation of networks and resource sharing in libraries.

ICTs are critical in the achievement of educational goals/objectives and the fulfillment of the primary tasks of library services. Globally, application of ICTs to library functions and services results in improved quality services, saves the time of the staff and users. Consequently, librarians are applying ICTs in the performance of their duties with the aim of meeting the varied needs of their users. Library services and operations include acquisition, cataloguing, circulation, reference services, serials management, institutional repository and digital library services. ICTs have been applied in various ways, in the daily routines and delivery of these services especially in cataloguing and circulation sections. KOHA is the oldest open source library management software and provides all essential modules for library functions including circulation, acquisition, serial management, cataloguing and classification, reference services. Library operations which involve circulation activities such as charging and discharging of books which are also an aspect of borrowing and returning borrowed books, interlibrary loan and reserved books. Cataloguing and classification modules of this integrated library system software is able to do the copy cataloguing, call number import and export data, union catalogue, cataloguing different items, reports and cataloguing of electronic documents (Igbudu, Asen & Tyopev, 2020).

Circulation services refer to the lending procedures and processes through which library information resources are loaned out to library users to facilitate the accessibility of available resources to users based on

their information needs. It relates to charging and discharging of library materials to users and their return to the library over a period of time (Ode & Omokaro, 2014). In any typical library system, the circulation/customer services perform the traditional role of lending out of library resources to users, registering new users, charging of fines for books that are overdue and recalling books on loan as well as maintaining a reserve section for books on reserve. These were done manually depending on the charging system adopted by the library which could be Brown's charging system or Newark (Oladimeji, Sokari, Olayemi & Haliru, 2019). In the present dispensation, most of these activities are undertaken by the application of ICTs in the performance of these functions for fast, reliable and effective services delivery. This unit of the library is the image making and mirror of the library to the public hence it is part of the public service section of the library. Saliu and Abdussalam (2014), recognized circulation services as part of the functions of the library system that allows the library to achieve its goals. Though, some libraries in developing countries are still grappling with the implementation of ICTs in their libraries' operations, each is at different stages of the application in their libraries' operations. According to Mairaj and El-Hadi (2012), the pace of ICT applications in libraries in developing countries has been very slow. At this stage, one can say that ICTs application in most libraries' operations and services in Nigeria is advancing and at a slow pace trying to catch up with the pace of other information services providers especially in academic libraries in developed economies.

The application of ICTs in circulation operations enhance the process of lending and locating library information. It also provides up-to-date information on loan services, accurate and detailed particulars on overdue items; preparation and use of statistics and documentation of printed circulation lists, records of fines and payment from library defaulters (Otolu & Anie, 2015). Ezeani and Ekere (2017), supported the view that tasks of circulation's section of the library can be made easier by use of computer technologies. Borrowers can carry out self-issue over Internet in certain libraries. Status of borrower can indicate when lending limits have been reached. The borrower is automatically made to see which other items are on loan. Computer could also reveal if requested material is mutilated or out of circulation. Provision can also be made to reserve desired informational materials. Besides, data provided by computerized circulation system can contribute to effective management of stock. Library management at a glance, can also know the amount collected as fines and also the number of people fined. Invariably, time for sorting of overdue cards is saved. Afolabi and Abidoye (2012), highlighted the types of ICTs used in the circulation department to include computers, Internet facilities, electronic mail, video conferencing, networks and system experts. Others include scanners and bar coders.

Moreover, cataloguing activities which involve physical description of information resources, assigning subject heading, and classification numbers, authors numbers as well as the arrangement of the catalogued materials are presently done with ICTs which makes the activities easier and faster to perform. Cataloguing and classification of information resources involve identification of their bibliographic features, identification of the appropriate subject headings, assignment of appropriate call marks, preparation of catalogue entries, production of catalogue cards, OPAC and library catalogue maintenance, maintenance of authority files and lettering among others. All of these are enabled by the ICTs. It equally entails using online bibliographic utilities and other electronic devices in cataloguing and classification of information resources. Automating the cataloguing department facilitates the establishment and maintenance of catalogue database, name authority and subject authority files. ICT makes cataloguing practices using online services possible (Abdullahi, Yunus & Awarri, 2015). Routine for cataloguing have proved to be drudgery, repetitive, boring in nature and often times seen as a "hard" area of librarianship. Generally, ICT has mechanized the cataloguing and classification of library materials and has helped to reduce the excess workload incurred from the manual system of cataloguing.

Cataloguing and circulation services which were previously done manually proved excessive workload and repetitive routines that many librarians in both departments loathed to perform. The work for staff was difficult and cumbersome. Services like physical description, assigning of subject headings, registering of library users, charging and discharging of library materials, interlibrary loan services, library networking which are presently done with the use of ICTs have made the work easier, faster, effective and more efficient. Users are

now free to access library materials online, using OPAC which makes visiting the physical library a more rewarding experience. Like most libraries, Festus Aghagbo Nwako library (FANL) have been building up ICTs and digital contents in its libraries. ICTs have brought about the adoption and application of software with modules used by various departments of the library for the discharge of their duties in an integrated library platform. However, the extent to which this has been practiced in Festus Aghagbo Nwako library (FANL) has not been verified. However, despite the availability of many opportunities offered by the advent of ICTs, it has been observed that many of these ICTs facilities and resources are not fully utilized in practice by library staff. Considering this fact, it is necessary to investigate the use of ICTs in the provision of cataloguing and circulation services in Festus Aghagbo Nwako library.

Problem Statement

In recent times, ICTs have revolutionized library operations and services. Apart from providing wide access to information and new operational possibilities, ICTs have also enhanced the provision of timely information to library users by reducing the time lag between generating and accessing such useful information, status of information resources diversity and processing of library materials for access and use. Hence, there is a felt need for the extensive use of computer technologies to effectively discharge circulation and cataloguing services. The effect of non-utilization of computer technologies in delivering cataloguing and circulation services undermines the functions of a 21st century librarian, thus resulting in frustrations of users' ability to effectively and efficiently use the resources in the university library under study in this knowledge age. This is due to the fact that library users have other options of information provision at their disposal. If users are not offered cutting-edge services and if information resources are not processed and made available to users timely enough, they may resort to other information providers with cutting edge service provision, thereby abandoning the university library.

However, if ICTs are employed in cataloguing and circulation services with the deployment of the integrated library systems software such as KOHA and its modules which has the capability of providing an enabling environment for the exploration of ICTs, it will enhance meeting of library users' information needs appropriately. Saving their time in the library will maintain the critical position of the university library within the university system. The researchers also observed that the present state of cataloguing and circulation services in university libraries are bedeviled by a number of problems ranging from inadequate funding, through lack of adequate staff who are skilled in the use of computer technologies, to lack of computer technologies infrastructures. The consequences of these could lead to inability of the library under study to provide current and timely information service delivery to meet the needs of the users. Therefore, the problem of this study is to investigate how ICTs have been employed to improve and enhance the provision of cataloguing and circulation services such that information resources and services are processed, circulated timely and made easily available and accessible to users in order to checkmate possible abandonment of the library by the users for other information providers who offer cutting edge services that may be lacking in Festus Aghagbo Nwako Library, Nnamdi Azikiwe University, Awka.

Objectives of the Study

The objectives are to:

1. identify the types of cataloguing operations rendered using ICT facilities in the cataloguing services in FANL
2. determine the types of circulation services provided using ICT facilities in FANL
3. identify the type of ICTs used in the rendering of cataloguing services in FANL
4. determine the type of ICTs used in the provision of circulation services in FANL
5. ascertain the extent to which these ICTs are used in cataloguing and circulation services of FANL
6. identify the challenges associated with the use of ICTs in the cataloguing and circulation services of FANL

7. determine strategies for ameliorating the challenges associated with the use of ICTs in the cataloguing and circulation services of FANL

Literature Review

Types of cataloguing operations rendered and ICT facilities used

Oketunji (2006), traces the origin of computerization in cataloguing to the 1960s when the Library of Congress introduced computers to its operations. Madu (2004), posits that it is the problems associated with manual cataloguing that ICT wants to eliminate. Arua (2005), opines that library technology is mechanization, which is the application of machinery to routine library activities. ICT has indeed brought a revolution in all operations carried out in the technical services department of the library. It has removed the time lag associated with manual cataloguing and classification, because bibliographic details are not copied manually. Library software has provisions for bibliographic entries of books. The library staff makes the entries directly into the computer, saving the time and entry that would have been used for copying on the worksheets, erasing, re-copying and typing on the catalog cards

Nwalo (2017), opined that the major phases of computerization of cataloguing discernible involve cataloguing-in-publication (CIP) data copying; Online cataloguing; Cataloguing on the web; and Searching thesaurus online, which is another system of computerized subject cataloguing. Cataloguers in the digital age are contending with various forms of cataloguing and classification like 'original cataloguing, cooperative and centralized cataloguing,' with its varied manifestations involving quality cataloguing, copy cataloguing, online cataloguing, online public access catalogue (OPAC) and outsourcing of cataloguing, among others (Unegbu & Uloma, 2013). Ekere and Mole (2015), remarked that original and copy cataloguing are the major forms, while the others are derivatives. ICT has impacted on the work of cataloguers as computers are used to process, create, store, transmit and display, share or exchange information by electronic means (Eze, 2012). He also observed that the application of ICT to cataloguing and classification also enable para- professionals to effectively perform much of the duties that hitherto were the exclusive domain of professional librarians.

Application of ICTs to cataloguing and classification of information resources involves identification of the bibliographic features of information resources, identification of the appropriate subject headings, assignment of appropriate call marks, preparation of catalogue entries, production of catalogue cards and library catalogue maintenance, among others (Akidi & Okezie, 2018). Online cataloguing is the process of using bibliographic information stored in bibliographic utilities or online catalogues. Cerbo in Nwosu (2015), averred that online cataloguing and classification on the web have improved cataloguers work output as library resources are processed faster using appropriate software. According to Yusuf (2009), cataloguing data online via foreign computer networks requires finding and then copying it. Catalogs of remote libraries can be found on desktops (Rao & Babu, 2001). Online Cataloguers do some modifications to suit the peculiarity of their own library needs. However, there are many national publications that are not online and original cataloguing still becomes indispensable. Thus, Hixson in Unegbu (2013), advised cataloguers at the University of California, Los Angeles "to adhere to stricter qualitative standards than copy cataloguing because original records are shared with thousands of other libraries". Resources sharing of cataloguing activities is facilitated by application of ICT in cataloguing and classification.

The majority of libraries now offer an Online Public Access Catalog (OPAC) in addition to traditional card catalogs and microfiche readers. They further stressed that catalogs of leading libraries these days are available in web-based and telnet-based formats for platform-independent easy browsing. Library system developers have worked hard to provide machine readable library that provides keyword searching of all data in catalogue record, a functionality that card catalogues do not offer (Arinola, Adigun, Oladeji & Adekunjo, 2012)

Another aspect of ICTs application in online cataloguing is the use of other libraries' online public access catalogue (OPAC) in cataloguing and classification practices. OPAC is a computerized library catalogue.

Unegbu (2013), viewed it as a database of bibliographic records describing the information resources in a library that are accessible to the public through public terminals. The emergence of the Internet, has made the OPAC of most libraries accessible to users and other libraries globally from a server. He maintained that as a result of the availability of call numbers displayed for accessibility through OPAC, it has become a standard bibliographic access globally, and databases are built based on it. AACR2 and Machine readable records (MARC) are essential metadata. The use of the metadata formats are advancing libraries in the digital age Resource description and access (RDA) is the new standard for resources description and access designed for the digital world (Jagboro cited in Edem, 2015). Nwalor in Edem (2015), noted that Library of Congress MARC21 records have been used by some tertiary and research institutes to improve the delivery of cataloguing and classification services

ICT has impacted the cataloging work. Ajibero (2003), acknowledged this fact while Yusuf (2009), identified some of those areas of influence. Secondly, the use of machines has changed the manner by which cataloging is performed and by who. While cataloging has been the sole work of qualified librarians over the years, para-professionals generally called library officers are very well involved in cataloging in most libraries now, particularly the public libraries. He also asserted that libraries must adopt and use ICT to mechanize resource sharing among libraries. In the field of consortia, library cataloging (sharing catalog data) is one of the key areas where resource sharing support a library. Yusuf maintained that such resource sharing reduces cost and duplication of efforts in cataloging. Song cited in Ejedafiru (2010), clarified that no library can provide adequate resources within its walls for the needs of all its users. Consumers will need access to universal knowledge before they can be satisfied. Thus, the www has enabled libraries to make their catalogues freely available to a wider audience, and makes it serve as an online cataloguing tool for cataloguers, thereby enhancing bibliographic control.

Saleem, Tabusum and Batcha (2013), explained that there are tools for various housekeeping, management and administrative functions of the library, different electronic and digital media, computer-aided electronic equipment, networks and Internet that has provided significant role in retrieval and dissemination of information which plays a vital role for modernization of libraries. In the cataloguing section, different printers which has replaced the analogue form of typewriters help in printing library catalog cards, book cards and lettering of processed books.

Types of circulation services provided and ICT facilities used

Whong and Zakari (2014), noted that the circulation section involves core duties such as issuing, renewing resources, reserving items and charging and discharging of books. In addition, charges and fines are also imposed on clients who have overdue books. Computer application in circulation operations enhances the process of lending and locating library information resources (Aba, Ezeani & Ugwu, 2015). The application of ICTs to library services uniqueness in prompt service delivery cannot be overemphasized. Osawele and Uzairue (2013), acknowledged the use of ICTs in providing services. They noted that computer has been considered as the backbone, nucleus, or hub of ICT application. It provides up-to-date and accurate information on loan services, overdue records, usage statistics, production of printed circulation lists, fines and payments from library defaulters (Aba, Ezeani & Ugwu in Otolo & Anie, 2015). Oladimeji, Sokari, Olayemi, Haliru and Umar in Babafemi and Adedibu (2019), agreed that computers are now being used for charging out books, record keeping, writing of overdue notices etc. Moreover, an automated circulation system can perform the following tasks: tracking of circulation materials, detecting delinquent borrowers, enabling rapid access to location or status of items and providing a multiple branch libraries network support.

More so, computers are now being used in keeping statistics of customer services. Library management can determine the amount of money realized from fine at a glance. Ebinuwele, Ola and Uduebor (2014), explained that, ICTs are used in circulation/customer service operations to obtain statistics information from the system such as, total number of books borrowed and subject by subject. Borrowers can carry out self-issue over Internet in certain libraries. Status of borrowers and lending limits can be ascertained. Borrowers are automatically shown other loaned items. Whether requested resources are mutilated, or out of circulation are revealed by the computer. Provision can also be made to reserve desired informational materials. Besides, data provided by computerized circulation system can contribute to effective management of stock.

ICTs are used in libraries to provide prompt and efficient services by infusing some kind of technological devices to the operational routines. Mishra and Mishra (2014), pointed out that ICT facilities that can be used for effective library operations and services include: barcode technology, chat services, document scanning services, electronic book, Internet, electronic mail etc. Social media is used to notify users on overdue resources and recall of information resources as the need arises. The computer systems printer can equally print overdue notice, and list of books available on new arrival to the library. It could also be used to create awareness on reserve books. This shows that, for every housekeeping task in libraries, there are different applications that take care of this routine task for effective and efficient service delivery. Corroborating this, Afolabi and Abidoye (2012), highlight the types of ICTs used for library housekeeping operations to include; computers, Internet facilities, electronic mail, video conferencing, networks and system experts. All these facilities aid the operation transactions of the library, particularly in providing circulation/customer services to users. In the same vein, Antherjanam and Sheeja (2008), note that the use of technological devices such as computers, barcode scanners and its software in circulation unit help in performing the routine operations easily and quickly. Computer is used for registration of users and capturing their data. The barcode is used to integrate barcodes on the books, while scanners are used to identify the books on loan. The barcode scanners also prepare the users' ID cards. Social media such as Facebook is used to notify users or even recall a book that is on loan.

Extent of Use of ICTs in Circulation and Cataloguing Sections

Technology has helped to enhance the library system; library operations such as circulation, cataloging, acquisitions, and serials have changed significantly due to technology. The application of ICTs may occur as when some operations or services are just automated or when the entire library system's units are concurrently operated in an integrated library system through the adoption of an open source software such as KOHA in which case all the units made up of circulation, cataloguing and classification, serials control, reference and acquisition are linked into a networked system. Circulation control is often the first activity a library considers automating because it enhances the process of lending and locating library information resources.

The extent to which this has been practiced in most libraries vary depending on the management's decision and the provision of the needed ICTs facilities and structures. Ramzan and Singh (2009), revealed that in terms of the status of IT applications across Pakistani academic libraries that they are far behind in achieving excellence in IT levels despite all efforts of both the government and private sectors to make the technology available in all the libraries under their jurisdiction. However, Qutab, Bhatti and Ullah (2014) recently observed that some university libraries in Pakistan are not behind in adoption of ICTs for their library operations and services provisions but the level of use vary in public and private sectors but regretted that no study investigated the overall situation of the ICTs amenities and adoption for library operations and services to compare public and private sector universities. Moreover Akidi and Okezie (2018), observed that the National Library of Nigeria (NLN) highly adopts various forms of cataloguing practices like quality, original, copy and centralized cataloguing while online cataloguing and outsourcing are not adopted. They essentially noted that there is low effectiveness of the NLN in application of ICTs in its cataloguing and classification practices with software packages only CDS-ISIS was used to a high extent. The cataloguers' application of ICTs knowledge and skills to cataloguing practices was found to be of low extent. This could be a picture of the situation in most libraries in Nigeria. In contrast, Qutab, Bhatti and Ullah (2014), remarked that while the use of ICT for library operations and services in Pakistan university libraries is still alarmingly at initiation stage for introducing and developing advanced library automation and electronic operations, university libraries in developed countries have been completely automated since more than a decade and now preparing for a paperless services and web 3.0. Acquisition, technical processing and circulation services are performed by using computer and Internet. Book circulation is mostly done with computers while online book circulation operation are performed by only few libraries. ICT is fully utilized in online subject heading and classification.

Challenges Associated with the Application of ICTs in the Cataloguing and Circulation Services

There are many challenges associated with the application of ICTs in cataloguing and circulation ranging from high cost of ICT training for staff, negative attitude of librarians, manpower development, funding, training and retraining of staff for skills acquisition required for application of ICTs in these sections. Oladimeji, Sokari, Olayemi, Haliru and Umar (2019), agreed that series of problems are impeding the progress of many organizations. Libraries as a growing organism are not left behind.

Technical issues associated with the Library Automation Software for use are some of the problems identified by some scholars (Abbas, 2014; Qutab, Bhatti & Ullah, 2014). Oladimeji, Sokari, Olayemi Haliru and Umar in Islam and Islam (2019), noted that problems facing the application of ICTs in most libraries include: administrative barriers, lack of shared initiatives, financial constraint, inadequate skilled manpower, among others. Nwosu (2015), posited that it is very important to understand that cataloguers are facing technical challenges in this 21st century, which include understanding of metadata schemas, MARC, the implementation of Resource Description and Access (RDA) and Functional Requirements for Bibliographic Records (FRBR).

Moreover, Okiy (2008), highlighted low level of computer literacy among Nigerians as a challenge to the application of ICTs to libraries which makes it difficult for them to use ICT facilities available in libraries. This is further aggravated by the shortage of ICT skilled staff in libraries, absence of skilled human resources to install and manage ICT networks and poor funding to attract such staff or develop such skill in existing staff (Ashcroft & Watts, 2005). Adeleke and Olorunsola (2010), enumerated inadequate ICT infrastructural facilities, low bandwidth, Internet downtime, inconsistent power supply, apathy and ignorance on the part of government, absence of a national information policy, lack of library policies, high rates of technology especially softwares, shortage of competent manpower for information technology operation and maintenance, increased economic pressure and budget cuts among others. It includes local adaptation of ICTs and use to developing countries' situations; allowing each country to understand those innovations and align them to their peculiar developmental needs.

Strategies for Ameliorating the Challenges Associated with the Application of ICTs in the Cataloguing and Circulation Services

The governments of African countries are working towards achieving development that focus on improving technology and its associated tools such as telecommunication, Internet, computers and software. The extent of use of library resources greatly depends on the quality of the library catalogue and classification as well as access facilitated by the circulation services. Only competent and skilled staff can make this a reality hence emphasis should be placed on regular and relevant training and retraining of staff in the library as technology in their units upscale. A lot of valuable information materials are in electronic formats presently. University library that is not automated does not have much to give to its community in this era of ICT.

University library management should pursue full automation of the library with deployment of an acceptable software that ensures integration of the units of the library. Sponsoring librarians to conferences and workshops on current trends in cataloguing and other areas of library services is indispensable. Cataloguers should be sponsored to Annual General Meetings of the Nigerian Library Association and Cataloguing and Classification Section for cataloguers to learn international best practices in librarianship. Adomie and Nwalo (2003), had earlier warned that the efficiency of any library and information center depends on the caliber of its staff. Omekwu (2008), reiterated that with appropriate research, training and retraining, cataloguers will define the future, design new functions and delineate the pathway of the information forest. Mahmood and Khan cited in Qutab, Bhatti and Ullah (2014), noted that the fast-paced change, new skills requirements and application of ICTs in library operations require professionals' motivation of continuing education and acquisition of new skills, training and retraining on the part of practicing librarians. Nwofor (2021), believed that mentoring which is an in-house capacity development

option that can be explored by existing staff to share their experience, knowledge, time and expertise towards the development of other staff. The researchers observed that more typists are needed in the cataloguing department to reproduce the cards, for the catalogued materials. Also, the para professional librarians are needed for filing the typed cards. Even in libraries in the developed countries, card catalogues are still maintained. There is need to employ more cataloguers. When more cataloguers are employed, more books will be moved out of this department for users to utilize them.

Methodology

Case study and descriptive research designs were adopted for this study. The population of this study comprise 23 respondents which consists of 10 and 13 staff of circulation and cataloguing sections of the library. This includes the academic librarians and the executive library officers. Total enumeration technique was used because the population was manageable. Data were collected using the questionnaire. A total of twenty-three (23) copies of questionnaire were administered to the staff and all were found usable, which constituted 100% return rate of the questionnaires distributed. Frequencies, simple percentages and mean rating were used in analyzing the data collected. Midpoint for responses in four (4) point rating scale was 2.50 which was the mean of the four scales derived as follows, $4+3+2+1=10/4=2.50$. Items to the values 2.50 and above as well as 50% and above were also given positive interpretation (agreed) while items to the values below 2.50 as well as 50% and below were interpreted negatively (disagreed).

Results

Research Question One: What types of cataloguing operations are rendered using ICT facilities in FANL?

Table 1: Mean rating of cataloguing operations rendered using ICT facilities in FANL

| S/N | Items | Mean (X) | Decision |
|-----|--|-------------|-----------------|
| 1. | Physical description of books | 3.00 | Accepted |
| 2. | Creation of metadata | 3.46 | Accepted |
| 3. | Creation of OPAC records | 4.00 | Accepted |
| 4. | Retrospective conversion | 3.12 | Accepted |
| 5. | Creation of records for documents through original cataloguing, copy cataloguing or online sources | 3.77 | Accepted |
| 6. | Creation of authority files | 3.15 | Accepted |
| 7. | Creation of Subject headings | 3.00 | Accepted |
| 8. | Database creation | 3.54 | Accepted |
| | Grand Mean | 3.38 | Accepted |

From the results in Table 1, items from 1 to 8 covers items on the types of cataloguing services rendered using ICT facilities in the cataloguing services in FANL, with mean ratings from 3.00 to 4.00. Physical description of books, creation of metadata, creation of OPAC records, retrospective conversion, creation of records for documents, creation of authority files, creation of subject headings and database creation, all got mean ratings of 3.00, 3.46, 4.00, 3.13, 3.77, 3.15, 3.00 and 3.54 respectively. The interpretation of the result shows that all the items provided recorded positive responses, showing that they are the types of cataloguing operations rendered using ICT facilities in FANL.

Research Question Two: What types of circulation services are provided using ICT facilities in FANL?

Table 2: Mean rating of types of circulation services provided using ICT facilities in FANL

| S/N | Items | Mean | Decision |
|-----|--|-------------|---------------|
| 1. | Library users registration | 4.00 | Agreed |
| 2. | Use of social media to notify users of overdue resources | 2.60 | Agreed |
| 3. | Charging, discharging of library materials and recall of books on loan | 4.00 | Agreed |
| 4. | Use of social media to create awareness on new arrivals and reserved books | 2.10 | Disagreed |
| 5. | Provision of electronic ID cards | 3.78 | Agreed |
| 6. | Production of overdue notices and keeping records of fines | 3.40 | Agreed |
| 7. | User statistics | 3.70 | Agreed |
| | Grand Mean | 3.57 | Agreed |

Table 2 above shows the mean rating of the types of circulation services rendered using ICT facilities in FANL. It shows that library user registration, use of social media to notify users on overdue resources, charging and discharging of library materials, use of social media to create awareness on new arrivals and reserve books, provision of electronic ID cards, overdue notice and fine; and user statistics are types of circulation services rendered using ICT facilities in FANL because they got positive mean ratings of 4.00, 2.60, 4.00, 3.10, 3.78, 3.40, and 3.70 respectively.

Research Question Three: What types of ICTs are used in the provision of cataloguing services in FANL?

Table 3: Mean rating on type of ICTs used in the provision of cataloguing services in FANL

| S/N | Items | Mean | Decision |
|-----|-----------------------------------|-------------|---------------|
| 1. | Imaging technologies | 2.00 | Reject |
| 2. | Expert system | 2.30 | Reject |
| 3. | Barcode scanners/Software | 3.50 | Accept |
| 4. | Cataloguing card readers/printers | 3.00 | Accept |
| 5. | Computer terminals | 4.00 | Accept |
| | Grand Mean | 2.96 | Accept |

From table 3 above, it can be deduced that imaging technology and expert system with mean rating of 2.00 and 2.30 respectively were rejected as types of ICTs used in the provision of cataloguing services in FANL. While software, cataloguing card readers/printers and computer terminals with mean rating of

3.50, 3.00 and 4.00 respectively recorded positive responses as the ICTs used in the provision of cataloguing services in FANL.

Research Question Four: What types of ICTs are used in the provision of circulation services in FANL?

Table 4: Mean rating for type of ICTs used in the circulation services in FANL

| S/N | Items | Mean | Decision |
|-----|--|-------------|---------------|
| 1. | Barcode reader | 2.90 | Accept |
| 2. | Computers | 4.00 | Accept |
| 3. | Laminating machine | 3.90 | Accept |
| 4. | Scanners | 3.80 | Accept |
| 5. | Printers | 4.00 | Accept |
| 6. | Internet services | 4.00 | Accept |
| 7. | CD-ROM | 2.90 | Accept |
| 8. | Social media (Facebook and twitter for recalling books/sending overdue notices | 1.80 | Reject |
| | Grand Mean | 3.41 | Accept |

From the results in table 4 above, items 1 to 8 cover a range of the types of ICTs used in the provision of circulation services in FANL. The responses in the table indicated quite a large number of positive responses as barcode reader with 2.90, computers 4.00, laminating machine, scanners printers, internet services and CD-ROMs of 3.90, 3.80, 4.00, 4.00, 2.90 respectively. Whereas, social media which gained negative response of 1.80 was rejected. Therefore, the ICTs used in the provision of circulation services in FANL are barcode readers, computers, laminating machine, scanners printers, Internet services and CD-ROMs

Research Question Five: To what extent are ICTs applied in cataloguing and circulation service of FANL?

Table 5: Mean rating of the extent of use of ICTs in cataloguing and circulation services in FANL

| S/N | Items | Mean | Decision |
|-----|---|------|----------|
| 1. | Internet services for online cataloguing and accessing of other libraries' catalogues | 3.13 | HE |
| 2. | Online public access catalogue | 3.90 | HE |
| 3. | Printing of catalogue cards | 4.00 | VHE |
| 4. | Registration of library users | 4.00 | VHE |

| | | | |
|----|--|-------------|-----------|
| 5. | Calling back overdue materials | 2.96 | LE |
| 6. | Charging and discharging of books in circulation | 3.04 | HE |
| 7. | Assigning of barcodes | 2.87 | LE |
| | Grand Mean | 3.41 | HE |

Item 1 to 7 in table 5 above shows the extent of use of ICTs in cataloguing and circulation services of FANL. Where, Internet services for online cataloguing and accessing other libraries' catalogue, online public access catalog, printing of catalogue cards, registration of library users, calling back overdue materials, charging and discharging of books in circulation section, and assigning of bar codes are services rendered to a high extent using ICTs in the circulation section of FANL. This is so because they generated positive mean ratings of 3.13, 3.90, 4.00, 4.00, 2.90, 3.04 and 2.87 respectively.

Research Question Six: What are the challenges associated with the application of ICTs in the cataloguing and circulation services of FANL?

Table 6: Mean Rating on challenges associated with the application of ICTs in the cataloguing and circulation services in FANL

| S/N | Items | Mean (x) | Decision |
|-----|--|-------------|---------------|
| 1. | High cost of ICT training and retraining for staff | 3.30 | Accept |
| 2. | Inadequate skilled manpower | 3.48 | Accept |
| 3. | Inadequate training and retraining of staff | 3.04 | Accept |
| 4. | Lack of funds | 4.00 | Accept |
| 5. | Erratic power supply | 4.00 | Accept |
| | Grand Mean | 3.56 | Accept |

In table 6 above, items 1-5 represents the challenges associated with the application of ICTs in the cataloguing and circulation services of FANL. The responses obtained from the staff showed that high cost of ICT training, inadequate skilled manpower, lack of training and retraining of staff, lack of funds and erratic power supply with positive mean ratings of 3.30, 3.48, 3.04, 4.00 and 4.00 respectively are some of the challenges encountered in the application of ICTs in the cataloguing and circulation services of FANL.

Research Question Seven: What are the strategies to curb the problems associated with the application of ICTs in the cataloguing and circulation services of FANL?

Table 7: Mean rating on the strategies for ameliorating the problems associated with the application of ICTs in the cataloguing and circulation services of FANL

| S/N | MEAN (X) | Mean (X) | Decision |
|-------------------|---|-------------|---------------|
| 1. | Regulating the cost of ICT training | 3.00 | Accept |
| 2. | Employing adequate and skilled staff in cataloguing and circulation section | 3.35 | Accept |
| 3. | Organizing training and retraining programs for staff | 3.30 | Accept |
| 4. | Provision of adequate funds | 3.48 | Accept |
| 5. | Provision of alternative power supply like a standby generator or inverter | 4.00 | Accept |
| Grand Mean | | 3.43 | Accept |

There are possible solutions to the challenges associated with applying ICTs in the cataloguing and circulation operations of FANL. These solutions as indicated in table above include regulating the cost of ICT training, employing adequate staff who are skilled in the area of ICTs, organizing training and retraining programs for staff, provision of adequate funds and provision of alternative power supply. The items above were accepted because they generated positive mean responses of 3.00, 3.35, 3.30, 3.48 and 4.00 respectively.

Discussions of Findings

Cataloguing operations rendered using ICT facilities in the FANL

The result of research question one revealed that the types of cataloguing operations rendered using ICT facilities are physical description of books, creation of metadata, retrospective conversion, creation of records for documents, creation of authority file and database creation. In light of the above, Nwalo (2017), opined that the major phases of computerization of cataloguing discernible involve cataloguing-in-publication (CIP) data copying; Online cataloguing; Cataloguing on the web; and Searching thesaurus online, which is another system of computerized subject cataloguing. The application of ICTs in cataloguing help in making cataloguing routine easy to perform. Application of ICTs to cataloguing and classification of information resources involves identification of the bibliographic features of information resources, identification of the appropriate subject headings, assignment of appropriate call marks, preparation of catalogue entries, production of catalogue cards and library catalogue maintenance, among others (Akidi & Okezie, 2018)

Circulation services provided using ICT facilities in FANL

The result of research question two showed that library users registration, charging and discharging of library materials, provision of electronic ID cards, use of computers to register users and capture their data, production of overdue notice and fine; and user statistics are all the types of circulation services provided using ICT facilities in FANL. These services are rendered in the circulation section of the library using ICT.

Registration of users can be done using a computer system. Most of the users' information are stored in the library database in the computer system. Oladimeji, Sokari, Olayemi, Haliru and Umar in Babafemi and Adedibu (2019), agreed that computers are now being used for charging out books, record keeping, writing of overdue notices etc. Osawe and Uzairue (2013), acknowledged the use of ICTs in providing services. They noted that computer has been considered as the backbone, nucleus, or hub of ICT application. It provides up-to-date and accurate information on loan services, overdue records, usage statistics, production of printed circulation lists, fines and payments from library defaulters (Aba, Ezeani & Ugwu in Otolu & Anie, 2015).

Type of ICTs used in rendering cataloguing operations in FANL

The result of research question three revealed that the various ICTs used in the provision of cataloguing services in FANL are barcode scanner, cataloguing card reader/printer and computer terminals. The software /barcode scanners are used to scan barcodes that are embedded in the various books brought to the cataloguing section for classification. This keeps the library books and materials safe from being taken without the knowledge of the library authorities.

Saleem, Tabusum and Batcha (2013), explained that there are tools for various housekeeping, management and administrative functions of the library, different electronic and digital media, computer-aided electronic equipment, networks and Internet that has provided significant role in retrieval and dissemination of information which plays a vital role for modernization of libraries. In the cataloguing section, different printers which has replaced the analogue form of typewriters help in printing library catalog cards, book cards and lettering of processed books.

Type of ICTs used in the provision of circulation services in FANL

The result of research question four showed that Barcode reader, computers, laminating machine, scanners, printers, Internet services and CD-ROMs are the types of ICTs used in the provision of circulation services in FANL. Mishra and Mishra (2014), noted that ICT facilities or resources that can be used for effective library operations and services include; barcode technology, chat services, document scanning services, electronic book, Internet, electronic mail etc. Afolabi and Abidoye (2012), corroborated this by highlighting the types of ICTs used for library housekeeping operations to include; computers, Internet facilities, electronic mail, video conferencing, networks and system experts. All these facilities are employed to enhance library operations; particularly in providing circulation/customer services to users. In the same vein, Antherjanam and Sheeja (2008), note that the use of technological devices such as computers, barcode scanners and its software in circulation helps in performing the routine operations easily and quickly.

Extent of Use of ICTs in cataloguing and circulation services of FANL

The result of research question five showed that in operations of the library, charging and discharging of books in circulation section, Internet services for online cataloguing and accessing other libraries' catalogue, registration of users, calling back overdue materials, printing of catalogue cards, online public access catalog and assigning of barcodes are services rendered efficiently to a high extent using ICTs facilities. It has eliminated the manual method which is cumbersome. This is in line with the position of Qutab, Bhatti and Ullah (2014), that some university libraries in Pakistan are not behind in adoption of ICTs for their library operations and services provisions but the level of use vary in public and private sectors but regretted that no study investigated the overall situation of the ICTs amenities and adoption for library operations and services to compare public and private sector universities. However it is critical to note the finding of Akidi and Okezie who reported that the cataloguers' application of ICTs knowledge and skills to cataloguing practices was found to be of low extent which was observed in the course of this study.

Challenges associated with the application of ICTs in the cataloguing and circulation services of FANL

The result of research question six revealed FANL's challenges to include: high cost of ICT training, inadequate skilled manpower, lack of training and retraining of staff, lack of fund and erratic power supply. These problems have made the operations in these units very difficult procedure, impeding its progress. This is supported by Abbas (2014), who remarked that manpower development, funding, training and retraining of staff and technical issues associated with the Library Automation Software in use are some of the problems identified by some scholars as factors affecting the use of ICTs in the circulation and cataloguing sections of

the library. Also Oladimeji, Sokari, Olayemi Haliru and Umar in Islam and Islam (2019), noted that problems facing the application of ICTs in most libraries include: administrative barriers, lack of shared initiatives, financial constraint, inadequate skilled manpower, among others.

Strategies for curbing the challenges associated with the application of ICTs in the cataloguing and circulation services of FANL

Findings in research question seven revealed that regulating the cost of ICT training, employing adequate ICTs skilled staff, organizing staff training and retraining programs, provision of adequate funds and alternative power supply are strategies that should be adopted to ameliorate the challenges associated with the application of ICTs in FANL. Omekwu (2008), recommended that with appropriate research, training and retraining, cataloguers will define the future, design new functions and delineate the pathway of the information forest. Khan cited in Qutab (2014), remarked that the fast-paced change, new skills requirements and application of ICTs in library operations require professionals' motivation, continuing education and acquisition of new skills, training and retraining on the part of practicing librarians.

Conclusion

From the findings of the study, physical description of books, assigning of barcodes, use of software like Koha, retrospective conversion, creation of records for documents, creation of authority file, creation of library borrowers' records with barcodes and database creation are services rendered using ICTs in the cataloguing section. Computer terminals, barcode readers and catalogue card readers are the ICT equipment used to render services in the cataloguing section. The services rendered in circulation section such as registering of library users, charging and discharging of library books, interlibrary loan services are done using ICT equipment like the computer system, scanners, Internet accessibility and others.

Challenges encountered in the discharge of circulation and cataloguing duties using ICTs include high cost of ICT training, inadequate skilled manpower, lack of training and retraining of staff, lack of fund and erratic power supply. The strategies to overcome these challenges are employing adequate staff who are skilled in the area of ICTs, organizing training and retraining programs for staff, provision of adequate funds and provision of alternative power supply.

Recommendations

Based on the findings of this study, the following recommendations are made:

- Adequate financial resources are to be made available to manage the library automation effectively.
- Alternative power supply such as inverter, solar or a stand by generator should be put in place to improve the quality of services rendered.
- Training and retraining of staff is highly encouraged to improve their skills in using ICTs. Online approaches and mentoring could be adopted in the face of economic difficulties
- Provision of better and effective network system is necessary to ease the problem associated with delay in offering charging and discharging services and other services that is network dependent.
- Ensuring software deployment with the library services operational routines to overcome minor technicalities. The software KOHA has been acquired in the library. Its modules should be utilized in library operations.
- The university management should employ more cataloguers to ensure effective and efficient service delivery in the library.
- More typists are needed in the cataloguing department to reproduce the cards for the catalogued materials.
- Para-professional librarians are needed for filing the typed cards.

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