



**USE OF INFORMATION COMMUNICATION
TECHNOLOGY (ICT) IN LIBRARY OPERATION AND
MANAGEMENT IN TWO POLYTECHNIC LIBRARIES IN
ADAMAWA STATE OF NIGERIA.**

DANIEL MATHEW MARKE; & RAYMOND ANDREW WAZIRI

Library Department, Federal Polytechnic Bali, Taraba State

Abstract.

This work is focus on the use of ICT in library operation and management in two polytechnic libraries in Adamawa State of Nigeria. the paper explains different types of ICT facilities and their use in the library operation. The descriptive survey design was adopted in carrying out the study. The population of the study comprised of two selected academic libraries in the northeast zone, while librarians and library officers were used as the subject of the study. There are 27 librarians and 31 library officers in the selected academic libraries. The analysis presented herein showed that the two polytechnic libraries in Adamawa state of Nigeria are not the cutting edge of ICT compliance or knowledge management and information provision. The study also reveals that librarians with some minor exceptions are qualified with adequate ICT skills. Based on the findings the following recommendations have been suggested: The manual system of library operation in the libraries should be replaced with ICT based library operation system, all the library staff should be ICT compliance. Funds should be made available to the Polytechnic libraries etc.

Keywords: Information Communication Technology (ICT); Housekeeping Operation; Library Operation; Nigeria.

Introduction

Libraries today are shifting their roles from the traditional library operation and services to computer based library services, that is the use of information and communication Technologies (ICT) in library operations and management. Information communication technology (ICT) has been defined by various scholars from different perspectives. Ayodele (2002) defined ICT as electronic based

technology generally used to retrieve, store, process and package information as well as provide access to knowledge. L.O. Aina (2004) Information and communication technology (ICT) it is concerned with the technology used in handling acquiring processing storing, and dissemination of information. Application of ICT will help in library activities such as cataloguing and classification, serials management, collection management, budgeting, circulation management, referencing, indexing and abstracting in order to improve information services to library users. ICT enable the librarians to carry out their duties and services effectively and efficiently. However, it has been observed that most academic librarians in Nigeria still struggle with manual library operation method The use of computers and communication technologies in information handling and processing has arisen because of the increased workload involved in coping with information explosion, in order to keep pace with handling, the increasing number of information carriers, computer are utilized to handle information processing with greater speed and accuracy than manual processing. Access to information processed by computer is instant. It can also be accessible over long distances regardless of where the information is processed. This is possible through telecommunication technology. ICT according to all professions the library inclusive, are dominated by ICT and now we can hear about e-governance, e-banking, e-learning, e-business, e-education, e-publishing, e-documents, e-journals, etc. The ICT as the synergy between computers and communication devices. ICT is a composite term, which embodies three important concepts, i.e. information, communication and technology. Information means many things to many people, depending on the context. According to deWatteville and Gilbert (2000), information is any potentially useful fact, quantity or value that can be expressed uniquely with exactness. Womboh and Abba (2008) noted that information is processed data that aids decision making. It could also be visualized as a commodity that could be bought or sold. In this study, information is anything that we come in contact with directly or indirectly that adds to our exiting knowledge and is capable of causing a human mind to change its opinion about the current state of the real world, and in a library, information is data that have been processed into form that is meaningful to the recipient/user and is of real or perceived value in current and future decision. Communication refers to the transfer or exchange of information from person to person or from one place to another; It involves the

exchange of ideas, facts, opinions, attitudes and beliefs among people. It is not a one-way affair. Communication requires a sender, a message, messenger and an intended recipient, it requires that the communicating parties share an area of communicative commonality. In the context of this work, communication is the process of information exchange between the user and the librarian. Technology refers to the use of scientific knowledge to invent tools that assist human beings in their efforts to overcome environmental hazards and impediments to comfort. In this regard, technology refers to things like the computer, telephone, cell phone, GSM handsets, television, radio, etc. (Thus, ICT includes: Computer, Internet, Digital camera, Webcam, Smart Card, Scanner, E-Books, Printers, Electronic Journals, WEB-OPAC, Animation, E-Mail, CD-ROM, DVD, RFID) these are ICT facilities that enhance the acquisition, analysis, manipulation, storage and distribution of information,

Problem Statement

Today, Information communication technologies (ICT) reduces labour and saves a lot of time of the staff in library operation and management these includes: it has reduced the volume of work done in catalogue card preparation by Establishing links to the most frequently used library catalogues, help the librarians for authority work. With the help of OPAC, it is now very convenient for the technical staff to assign call numbers to the newly added books. The tasks of library operation have been simplified by the use of ICT facilities in acquisition, organisation, management, and preservation of library resources among others. Considering the enormous benefits that are experienced in the impact of ICT in Nigerian academic libraries, the Nigerian academic libraries still experience some obstacles or hindrances in the effective and efficient of using ICT on library operation management. Oketunji (2002) noted that the tasks have not been fully exploited because of numerous challenges such as power failure, lack of funds, and lack of competent staff to manage the ICT facilities, which hinder the application of ICT in library operation in different Nigerian academic libraries, Bozimo (2006) and Igun and Adogbeji (2007) noted that human capacity building is so crucial to the success of ICT use. Even where funds and resources are readily available, except there are competent and committed staff, very little can be achieved. Each academic library has so many setbacks which consequently constraint

it from exploiting the advantages of ICT applications. The foregoing problems prompted the researcher to carry out this research in order to identify the missing link with the aim of proffering possible solutions using empirical evidence

Literature Review

Concept of Information Technology

Today's world is a world of information explosion. This information explosion is taking place on fast speed as fast as possible that even a literate person is feeling as if he or she is illiterate being unable to cope up with such an information explosion. It is Information Technology (IT) that can help in coping with this information explosion. Information Technology consists of two words Information and Technology. The term Information refers to any communication or representation of knowledge such as facts, data or opinions in any medium or form, including textual, numerical, graphic cartographic, narrative or audio-visual forms. It occupies a strategic role in the scheme of human existence; through communication of information, development is facilitated. Information means any communication or representation of knowledge in any form. Womboh and Abba (2008) noted that information is processed data that aids decision making. It could also be visualized as a commodity that could be bought or sold. In this study, information is anything that we come in contact with directly or indirectly that adds to our exiting knowledge and is capable of causing a human mind to change its opinion about the current state of the real world, and in a library, information is data that have been processed into form that is meaningful to the recipient/user and is of real or perceived value in current and future decision and technology in this regard, refers to things like the computer, telephone, cell phone, GSM handsets, television, radio, etc. Information Technology (IT) is concern with the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a micro-electronics based combination of computing and telecommunication. The term in its modern sense first appeared in a 1958 article published in the Harvard Business Review, in which it was commented that the new technology does not yet have a single established name but shall be tentatively called Information Technology. It spans a wide variety of areas that include but are not limited to things such as

processes, computer software, computer hardware, programming, languages and data constructs.

Application of ICT facilities in Library Operations and routines

Baker, (2014) Opined that the increasing application of technology in the provision of library services and the corresponding use of technology by users of library and information services will define the format resources and the types of access provided. Zimmerman, (2012) revealed that the world view of emerging (google generation) library could be critical factor because the user will emerge from this cluster and their world orientation and peculiar needs will need to be understood both in planning and delivery of service. Vassilakaki, (2024) Pointed out that the format of information will continue to change from print to digital and multimedia. This will greatly affect the access, retrieval and delivery method and usage pattern.

ICT Facilities available in Libraries

The availability of ICTs in academic libraries commonly dates as far back as the 1930s, and to the 1970s. Their applications in libraries have indeed continued to ease and promote quick and timely access to and transfer of information resources that are found dispensed round the globe. In his study on the availability and use of ICTs in collection management, Nwalo (2005) listed the following ICT facilities used in the management of library resources to include; computers, flash drive. Memory card, DVDs, CDs, internet and telephone etc. Martin (1986), Pointed out that libraries are among the early organisations that started enjoying the benefits of ICTs. Piotrowski and Perduce (1989) they make a survey of 200 academic libraries CODESRIA – LIBRARY in 50 states in the USA. One hundred and thirty (130) academic libraries responded to the survey indicating the major CD-ROM database availability. In Saudi Arabia, Siddique (1997) carried out a study on availability and use of IT (computer, Networks, e-mail etc) in seven academic libraries. The study disclosed that diversified computer-based library systems and databases and services were used in the respective libraries. It also mentioned some of the most and widely used systems like DOBIS, and MINISIS and the number of online and CD-ROM databases acquired by the libraries. In Nigeria, studies carried out by Jimba and Oladele (1997) exposed that CD-ROM use in academic libraries has provided an

opportunity for users to easily access database information. For librarians it provides relevant information to their end-users without any tension. The precise finding revealed that the use of CD-ROM has provided a wide range of services, saving time and cost effectiveness in relation to search time, as opposed to a manual search which can be slow and tedious: and finally, general improvement of the efficiency of the library services. Oduwole (2001) carried out a study on the impact and use of CD-ROM databases in ten (10) Nigerian academic libraries. The result of the study revealed that high cost of subscription to CD-ROM databases was ranked high as a major constraint. Nonetheless, the introduction of CD-ROM has led to an increase in the utilization of journal collection in the reference libraries and in the status of libraries. AGRIS and CAB are found to be the most commonly used bibliographic databases on CD-ROM. Mutula (2004) writing from Southern Africa however introduced the fourth phase in ICT availability and use in libraries. He further explains that in the late and early 1990s, academic libraries both in the USA and in the UK started serving their customers in a very specialised way. They developed portals or gateways to provide access to other portals or library information networks. Gorman (2001) discloses the availability of digital technology to provide digitised information to the users. Even though computers were first introduced in the USA, its use was not limited to only USA libraries. Great Britain followed the path of the USA in the 1980s and many other countries followed the path and adapted the method. According to Mutula (2004), the automation exercise started in the UK in the 1980s. The innovation of using computers in libraries made the availability of other ICTs possible the world over. Kayoma (2008) stated that ICTs are basically information handling tools, a varied set of goods, application and services that are used to reproduce, store, process, distribute and exchange information. Alkadi (2004) opined that Information and Communication Technology as a collection of individual technology component that are typically organized into computer based information systems. Ejide (2006) described Information and Communication Technology as a set of tools that helps one work with information and to perform tasks related to information processing. And according to Onuma (2007), ICT is concerned with the aspect of managing and processing information through the use of electronics, computers, and computer software to convert, store, protect, process, transmit and retrieve information. ICT is also defined as computer based

tools used by people to work with information and communication processing needs of an individual or an organization. It encompasses the computer, its hardware and software, the network and several other devices that converts information (text), images, sounds and motion and so on into common forms (Okute, 2010). In addition to the aforementioned, ICT refers to the handling and processing of information for use by means of electronic and communication gadgets such as computers, overhead projectors, videos, it also encompasses the computer hardware and software, the network and several other devices (video, audio, photography camera, etc.) that convert information (text), images, sound, motion, and so on into common digital form (Milken Exchange on Education Technology, 1999). Boritz, (2000) saw ICT as the emergence of tools of microelectronic and telecommunications that are used in the automatic acquisition, analysis, storage, retrieval, manipulation, management, control, movement, display, transmission, reception, and interchange of quantitative and qualitative data). Lastly, Jimoh (2007) defined ICT as the handling and processing of information (texts, images, graphs, 'instruction etc) for use, by means of electronic and communication devices such as computers, cameras, telephone.

Use of ICTs facilities in the processing of library information resources

Mbowheing, (2014) asserted that the function of a library catalogue is two-fold: First, it provides a record of the library stock, including the authors as in the authors' catalogue, the title for the title catalogue and the subjects as in the subject catalogue. The second function is that it enables library clients to know the resources available in a particular library and their various locations (Demsey, 2006). Barton & Waters (2004) asserted that in an automated catalogue library, patrons use keywords to search for resources and their various locations in the library. With the Internet, it is possible to search for catalogues of other libraries remotely. This is far better than the manual system of surfing through card catalogues of materials only within a library. In line with this, Adebisi (2009) observed that from the user's point of view the cataloguing module of the automated system is the most powerful and useful part of the library. The advantages of automated catalogues are multifarious. They include sophisticated searching of the library stock. They link to the circulation control system so that not only can a borrower ascertain that the library holds a particular

item, he/she can also see its loan status at the time, that if an information resource is loaned out, the user will know when it is to be returned and be able to put a hold on it. The search facility of the catalogue module is very flexible. It will allow searching for items such as author, title, accession number as well as class mark/call number. However, its greatest power for users is the search on subject keyword or word in title. (Mbowheing,2014)

Research Methodology

Descriptive survey design method was adopted for this study. A survey research is the gathering of information about a large number of people or object by studying a representative sample of the entire group (Yoloms and Ndomi, 2000). This design is considered appropriate for this study because the study seek to investigate the use of ICT in library operation in two Polytechnic libraries, Adamawa state of Nigeria.

Area of the Study

The area of the study comprised of two polytechnic libraries in Adamawa State of Nigeria. Specifically, Prof. Jibril Aminu library Federal Polytechnic Mubi, and Adamawa state polytechnic main library complex, respectively

Population of the study

Population is the entire members of a given area, (Webster, New 3rd ed Dictionary) the population for this study comprised the entire staff of the two polytechnic Libraries in Adamawa State of Nigeria. The libraries have 58 staff members both professional and non-professional staff respectively,

Target Population

The target population for this study were both professional and non- professional staff of the two polytechnic libraries in Adamawa state of Nigeria. Their total number is 58 according to investigation obtained by the researchers. According to the records obtained by the researchers the polytechnics under the study have the total number of 27 professional staff (librarians) and 31 non-professionals in the library study. The professionals (librarians) and non-professional staff were used as the subjects of the study.

Research Instruments

Questionnaire was the instrument used for the collection of data. The type of questionnaire that were used is structured questionnaire, in which respondents were provided with options from where they choose the appropriate answer to the questions. The use of structured question makes data processing and analysis easier and straight forward.

Procedure for Data Collections

With the aid of two research assistants from each library, the researchers administered the questionnaires to the respondents. The administration of the questionnaire was carried out within a month to both Professional Staff and non-Professional Staff across the Polytechnics by the researchers. Research assistants assist the researchers in retrieving the copies of completed questionnaires from the respondents. Responses from research questions were analysed using cumulative frequency table, percentages. This were first represented in ordinary numerals then expressed as percentages of the total number of respondents and then shown in tables. The percentages, shows the rate of scores or the responses obtained within a particular range of respondents.

Challenges faced when using ICT facilities in library

Challenges of Using ICT for Provision of Library Services There is awareness that a lot of benefits are derived, through the adoption and use of Information and Communication Technologies (ICTs) in libraries, nevertheless, there are many challenges to be addressed. These include:

- I. **Limited Financial Resources:** The acquisition and maintenance of the relevant equipment depends on the availability of fund. Mostly, there is paucity of funds in many libraries in Nigeria thereby, leading to inability to acquire, the necessary ICTs that would enable them connect to the internet, make subscription to various online database and obtain software licenses.
- II. **Shortage of ICT Facilities and ICT Skills:** The computers are used to receive and store large volumes of information. Likewise, the internet accessibility is made possible through the use of computer, they are used to access Online Public Access Catalogue (OPAC) and also to perform many other routine

activities in the library. Shortage of computers and other facilities remains a big challenge to many libraries. Many librarians also lack the ICT skills and this makes it difficult for them to embrace technological innovations.

- III. Lack of ICT skills places a serious restriction on the application of ICT to provision of library services. Most African countries do not have workable ICT policies which are to act as guideline for implementation of development plans and strategies. When ICT policies are not available or adequately implemented, it can affect the sustainability of a nation's development.
- IV. Poor maintenance of ICT Equipment: Many libraries do not have space and conducive environments for keeping ICT equipment. In addition, most of the ICT equipment are not adequately maintained in most libraries as a result of the maintenance cost which is usually very high. Also, as a result of lack of maintenance culture. • Erratic Power Supply: In developing countries, large areas are still without a reliable supply of electricity (Said, Tukur and Adamu, 2014). Other challenges are; • Insufficient bandwidth.
- V. Lack of technical IT knowledge by library staff. • Constant change of software and hardware. • Copyright and intellectual property right management
- VI. Staff attitude towards ICT utilisation/technophobia: Many staff shy away from electronic systems for the fear of damaging or deleting important information while keying-in. This slows down the automation processing. The University of Lagos Library management had addressed the problem by putting a PC on every librarian's able and embarked on training them on the use of it. The use of ICTs is easier for younger librarians. Several studies, according to Ezeani (2000) have showed that older librarians find it difficult to use some of these newer technologies.
- VII. Inadequate training and technical/skilled manpower: Staff are trained. However, he training is inadequate as staff need to always acquire more skills especially on the use of software currently used in the library. There should be continuous training and retraining. There is a death of technical manpower in the area of ICT in Nigeria. Faulty equipment is abandoned in some libraries because there is no knowledgeable staff to repair them

- VIII. Power outage: For the past few years, the nation has been experiencing power outage. There had been problem with the generation and distribution of power by Power Holding Company of Nigeria (PHCN).

Conclusion

This study has established that, the libraries under review possess some basic ICT infrastructural facilities for ICT based library operation system. It is also obvious that, there are qualified librarians with adequate ICT skills to implement computerised library operation system, but the development of computerised library operation system was hindered by lack of a defined management policy couple with ever dwindling library budget.

Recommendations

Arising from the findings and conclusion of this study, the following recommendations are made:

- i. The manual system of library operation in the libraries should be replace with ICT based library operation system.
- ii. All the library staff should be ICT compliance.
- iii. Funds should be made available to the polytechnic libraries.
- iv. The polytechnic libraries should acquire relevant ICT facilities to enhance the management of their holdings.
- v. Due to the security challenges in the country, Nigerian polytechnic libraries should adopt the use of computerised exit doors and Closed-Circuit Television (CCTV) surveillance security system to safe guard their staff and their holdings
- vi. Polytechnic library should try as much as possible have a written ICT facilities library information resource management policy to guide the polytechnic libraries on what information resources to acquire, which ICT facilities to use in management of their information resources, provision of budget to more online and e-resources where users can be reached any time, regardless of location and number of users at a time and the policy should include how the library information resource management team will be trained on how to utilise and maintain ICT facilities within the library. The policy should be

reviewed in due time to meet the current trends in technological change, and the library staff should be informed.

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