**INFORMATION COMMUNICATION TECHNOLOGY (ICT) IN THE LIBRARY FOR NATIONAL DEVELOPMENT**

**BY**

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**ABSTRACT**

The way libraries access, store, retrieve, disseminate and manipulate information to users are reshaped by some areas of continuous development such as computing technology, mass storage technology and communication technology. ICT has impacted on all cranes and corners of academic library activity and has brought about its unprecedented changes and transformation. Conventional LIS such as OPAC, referencing device, user services, interlibrary loan, audio visual, document delivery, awareness services and customer relations can be provided more effectively and efficiently using ICT, as they are cost effective, faster, offer convenient time and place, latest dissemination and end users involvement in the library and information services process. The internet as the largest repository of knowledge and information, changed the role of library and information science professionals from intermediary to facilitator, provides new tool for disseminating information and a shift to virtual services from physical and the extinction of conventional information services and the emergence of new innovation web.

 **Keywords:**

*Library, Information Communication Technology, ICT.*

**INTRODUCTION**

The combination of science, technology and practice of transmitting information is Information Communication Technology (ICT). ICT implies communication of information through technology and information and is transmitted through electronic devices and impulses. The ICT process involves sending, receiving and processing of information in electronic format. The implementation of IT has changed the structure of libraries.

Earlier libraries locate books and reading materials using printed catalogues, printed accessing register and card system for circulation of books, manual stock taking of reading materials, photocopies of articles, etc. The aforementioned library activities were enormous and time consuming.

As time goes by, the technology has been changed into a paperless society. Online Public Access Catalogue (OPAC) is currently in use by majority of libraries to find out the location of reading materials. Libraries are converting their printed material into digital format with metadata searching and browsing. Libraries are using barcode and RFID technology for stock verification and automatic circulation of reading materials. A link between the users and Librarians is established by ICT.

Therefore, ICT contributes to sustainable growth of library and knowledge based societies. (Deshmukh, Vijay. M (2010, pp 26-27).

**STATEMENT OF PROBLEM**

The purpose of this study is to find out ways in which Information, Communication and Technology (ICT) can be adopted in the library as a tool of national development.

**OBJECTIVES OF THE STUDY**

The objectives of this research are as follows:

* To examine the use of ICT in the library.
* To establish the importance of ICT in libraries.
* To establish the impact of ICT on libraries.
* To establish the ways by which ICT can be adopted in libraries.
* To establish the concept of ICT in the library.
* To examine the ICT facilities in library operations and services.

**SCOPE OF THE STUDY**

The research focuses on the use of ICT as a tool of national development in Nigerian libraries.

**LITERATURE REVIEW**

The organization of information/knowledge is an essential preliminary in the academic library to its effective exploitation and dissemination. As the quantity and quality of knowledge expands, the need to organize it becomes more pressing. A vast number of different means of organizing information have been devised and exploited since the earliest times. With the vast output of new information and ever-increasing degree of specialization in all areas of human knowledge, heavy

demands are being placed on library information storage and retrieval systems, which can be scarcely met by the traditional methods except with the use of IT devices. The methods of information processing and dissemination in academic libraries has been greatly affected by the improvements and changes in computing and telecommunications and also the integration of the two fields thereby increasing the quality of use of such libraries .

Elisha (2006) affirms that Academic libraries play a vital role in providing information services in various forms to scientist, researchers, planners, policy makers, etc. A well-organized academic library should have ICT to assist the patrons. In the early days, serials operation was manual; but with the development of ICT the acquisition and retrieval of serials or periodicals became easy. Users’ curiosity for seeking information changed from print to e-resources. Today’s library information systems comprises of software systems proficient in capturing, transmitting, storing, retrieving, manipulating and displaying of information that support personnel, organizations, or other software systems.

Thus, this systems are referred to as automated system consisting of software that has been developed to handle basic housekeeping functions of the library that are majorly Acquisition processes, Cataloguing and Classification, Circulation, Reference Services, and Serials Control and/or Management, all of which are still complemented with manual operations.

Recent advances in IT have brought significant changes in the concept, organisation, functioning and management of library and information systems and also increase tremendously the ability to store, access and process information within the library (Peyala, 2011). The IT revolution has facilitated the processes of searching and recovering information; ICT improves the efficiency of organizational management processes and provides new ways of improving the capacity of response to its users (López, Peón, & Ordás, 2009).

**Concept of Information and Communication Technology**

Information and communication technology (ICT) has been defined by various scholars from different perspectives:

Ayodele (2002) described ICT as electronic based technology generally used to store, retrieve, process, package information and provide access to knowledge.

Aluko (2004) also defined ICT as enabling technologies (both hardware and software) necessary for delivery of voice/audio, data (high speed and low speed) video, fax and internet services from one point to another point or possibly to multiply points, using wired and wireless media protocol (IP) and non IP networks.

Nwachukwu (2004) defined information and communication technologies (ICTs) as the application of electronic devices and other technologies to the acquisition, organization, storage, retrieval and dissemination of information in the form of data, text image and others.

**Types and Characteristics of ICTs**

Iwu (2003) categorized ICTs into the following:

a) Sensing technologies: These equipments obtain data and translate them into form that can be understood by the computer. These include sensors, scanners, keyboard, mouse, electronic pen, touch or digital boards, barcode sensors or readers, voice recognition system, etc.

b) Analysis technologies: These technologies help in the investigation of data, analysis and in-depth query for answers for simple to complex phenomena in research procedures. A complete set of a computer system could be a micro, mini, mainframe or super scamper.

c) Storage Technologies: These technologies facilitate the efficient and effective storage of information in a form that can be easily accessed. They include: magnetic tapes, disks, optical disks cassettes, etc.

d) Communication technologies: These are equipment that enables information to be transferred from the source to the user. It also tries to overcome natural barriers to information transfer like speed and distance some of these include: facsimile machines (fax), telecommunication system, telephone, electronic mail, teleconferencing, electronic bulleting boards, etc.

e) Display Technologies: These output devices form the interface between sensing, communication and analyzing technologies and human user. They include: computer screen, printers, television, etc.

**Information and Communication Technology Facilities in Library Operations and Services**

The availability and development of ICTs in libraries have not only placed more emphasis on effective and efficient services but also increase and broaden the impact of information resources at doorsteps. Their applications in libraries, commonly known as library automation, have indeed continue to ease, promote quick and timely access to information and transfer of information resources that are found dispensed round the globe.

The following are some of the ICT facilities or resources that can be used for effective library operations and services:

**1)** **Computer:** It is the backbone or hub of ICT application. It is interfaced with other devices in virtually all ICT applications in order to function effectively. Computer on its own can be used to perform the following function in the library:

a. Ordering / acquisition

b. Library data base

c. Circulation

d. Documentation and administration

e. Inter library loan by two or many libraries that are connected

f. Serial management

g. Cataloguing and classification

h. Budgeting

i. Desktop publishing

**2)** **Internet Facility:** Internet is the worldwide network of computer and people. It is an important tool for global on line services. It is a state of the art technology that makes it possible for thousands of dissimilar physical networks that are not connected to one another and that use diverse hardware technologies to connect and operate as a single communication system. There are locations of various types of information on computer system linked to the internet.

**3) Electronic Mail (E-mail):** This medium can also be used to send and receive mails to and from remote areas with enhanced network. This is commonly and widely used with the internet facilities.

**4)** **Networks:** This is a system of interconnected computers for sharing information and resources. This may involve two or more computers in a single office or several computers in different units across an organization or across the country. The networks include the local area network (LAN) and wide area network (WAN). With computer network, libraries can access and share information in different locations and download for users’ need.

**5)** **Video Conferencing:** Through video conferencing, people at different locations in the world could be allowed to hold meetings. It is a means of linking up two or more remote computers, all of which have a small camera attached which enables the participants to see each other, to speak to each other and in some systems, to be able to start, send documents through the linked computer. Some libraries use this medium to source for information that not available in their own libraries and at the same time use this great medium to create awareness to users who are ignorant of the availability of information resources in the library.

**6)** **Expert System:** Vast amounts of information may be collected, synthesized and manipulated before decisions are made or conclusion arrived at some of the complex area of human knowledge. According to Burton (1992) expert systems encapsulate the knowledge and experience of the human expert and make them available to a wider audience.

**CONCLUSION**

In present time, a world without information technology is now difficult to imagine. ICT has changed the concept of library and information Centre as it was in early days. Libraries are adopting ICT for both housekeeping operations and service provision. ICT is part and parcel of the entire system, from the students to information professionals and the institutions. With the help of ICT service delivery is easier, better accessible, convenient, faster, cost effective and time saving for staffs and the user. ICT libraries are marching towards achieving the goal of providing pinpointed exhaustive and expeditious information to those who are in need of the information.

**RECOMMENDATION**

* Funding of ICT in Nigeria libraries must be improved if the libraries are to participate in effective acquisition and dissemination of information.
* Libraries should have proper plan for acquisition and maintenance of ICT.
* Librarians should be given proper training in the use of ICT in collection development.
* Libraries should maximize the use of online book stores such as Springer.com which helps to reduce the cost of acquiring materials.
* Libraries in underdeveloped/developing Worlds should provide supporting infrastructure for the use of ICT e.g. stand/by power generator or solar panels due to

incessant power outages.

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