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# THE ROLE OF ICT IN PROVISION OF LIBRARY SERVICES: A PANACEA FOR SUSTAINABLE DEVELOPMENT IN NIGERIA

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**THE ROLE OF ICT IN PROVISION OF LIBRARY SERVICES: A PANACEA FOR  
SUSTAINABLE DEVELOPMENT IN NIGERIA.**

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**ABSTRACT**

*This paper is an attempt to explore the crucial roles of Information and Communication Technology (ICT) in management and provision of library services, and its implication to sustainable development in Nigeria. Despite the availability of wide opportunities offered by the advent of ICT, it has been observed that application of ICT to library services in Nigeria seems inadequate probably due to variety of challenges. With the methodology of simple literature review, the paper made effort to review related literature on ICT resources and ICT-based services in libraries, benefits of ICT and the role of library in sustainable development of Nigeria. The paper further identified the challenges of ICT application in libraries. It was recommended among others that, there should be improvement in the capacity and level of ICT adoption by libraries.*

**Keywords: Information and Communication Technology (ICT), Libraries, Sustainable Development, ICT-based library services, Nigeria.**

## **Introduction**

Information Communication Technology (ICT) has remained a catalyst in the issue of national advancement and development. Information, as power is effectively an infinite resource and a vital tool needed for the development of all sectors in any nation. It is therefore, imperative that application in libraries would go a long way in satisfying the information need of the citizens. It is worthy of note, that the emergence of ICT has impacted greatly on the quality of information provided through libraries. It also enables proper and adequate provision of library services to library users from all disciplines. In this 21st century, the drastic role of ICT in library operations cannot be over emphasized. Many library routines and operations that were initially performed manually are now being converted to computerized operations which means, applications of ICT techniques to providing better and faster services to the end users. A nation without functional libraries and information centres may lack access to information that would enable her sustainable development. In this era of globalization, in which the world is connected, information gains its power through permanent storage and wide distribution, which could be achieved through ICT. According to Janakiraman and Subramaniam (2015), the world now experience a digital scenario in which ICT has changed the possibilities of the library job promotions and has brought changes to expected library performances.

ICT is a generic term that refers to the technologies that are used to collect, store, edit and communicate information in various format (Raji, 2018). The use of ICT improves access to digital information, narrows down the digital divide and also improves standard of living. Adoption of ICT in libraries is a way of improving on information services provided in libraries. This is an era, when people need to access timely information with ease, and this can only be done through the application of ICT to library services. It is also a way of contributing to sustainable development of the nation, since timely and effective provision of useful information can assist in building up a society ICT as an enabling tool, assist libraries in provision of information, which is very paramount to development of the various sectors in the nation. Libraries are playing a very important role facilitating access to global information and knowledge resources, using ICT.

Apparently, ICTs are indispensable tools needed for provision of value added information that support the sustainable development. Although, many institutions and organizations including libraries face diverse challenges in the process of integrating ICTs to their services. Nevertheless, information provision is paramount to development and growth of any nation. It is therefore important that, effort is made to enable usability of ICTs in all sectors, of the nation ICT and library services.

Information and communication technology is the application of technologies consisting of hardware, software, network and media for collection, storage processing transmission and presentation of information in vocal, textual, pictorial and multimedia formats, (Igwe, 2011). ICT is a term used in the library to refer to application of computers and other technologies to library practices such as acquisition, storage, organization and dissemination of information. The world has become a global village and with ICT, many library users now have access to vast sea of information, without necessarily investing much time or energy. The process of generally and distributing information is now being facilitated through the use of ICT.

Aina, Okunnu and Dapo-Asaju (2014) postulated that ICT is a term used to describe the ability to access information with the use of telecommunication based internet resources. ICT provides the ability to create, organize, manipulate and access information from remote locations across the globe, within a short time. ICT involves incorporation of a range of technologies that are used to support communication and information dissemination. Saidu, Tukur and Adamu (2014) described ICT as the use of computer-based technology and internet for making information and communication services available to a wide range of users. The term is broadly used to refer to a range of technologies including telephones, e-mail and so on. Central to the range of technologies is the internet, which provides the mechanism for transporting data in a number of formats such as text, images, sound and video. ICT is system that enables information to be collected, analyzed, processed and disseminated.

Olise (2010) opined that information communication technologies (ICTs) are new technologies that cannot be ignored in Africa. He further identified that ICTs are significant tools that must be employed to achieve and sustain development.

The advent of ICT is indeed a boost to the library services as it now assists many librarians to use their ICT potentials to reach out to library users. Chisenga (2004) identified some of the ICT-based services that are provided by libraries as follows:

- **Provision of web access to OPAC:** Libraries are providing access to web-based Online Public Access Catalogue (OPAC) interfaces. The OPAC makes it easier for users to access and use information resources. OPAC is the computer form of library catalogue, to access materials in the library (Afolabi and Abidoye, n.d.)

**Electronic Document Delivery:** Libraries implement ICT-based interlibrary lending system, through the use of electronic networks for documents delivery. In essence, the Document Delivery Service (DDS) enables a library to use copies of research papers or other research document, from other libraries. These documents could be journal articles or other documents

in digital format. They are mainly in portable document format (PDF) and they delivered to library users' desktops.

- **Online Instruction/User Education:** There is implementation of online based bibliographic or library user programmes such as online tutorials on searching online resources and virtual tours of library collections. Libraries can also use internet or CD-Roms to educate users.
- **Online Readers Advisory Services:** Libraries now implement web-based versions of reader's advisory services to include informing users about new acquisitions, provide reviews and recommendations and so on in using the web.
- **Networked Information Resources:** Libraries now provide users with access to networked information such as database, electronic scholarly journals and other publications from various publishers.

The services rendered in a library differ from one library to another, depending on the type of library, the type of patrons and the parent body's objectives. Other library services as highlighted by Idowu (2011) include:

- Reference Service
- Current Awareness Services (CAS)
- Selective Dissemination of Information (SDI)
- Reprographic Service
- Exhibition and Display
- Technical Services
- Serials Control
- Computerized Interactive Search
- Borrowing, Renewing and Reserving

**Reprographic Technology:** These are widely used in libraries globally. Reprographic machines are provided in libraries to ease photocopying of documents on demand.

**Library Retrieval System:** This involves the use of compact disc read only memory (CD-ROM), a technological mechanism for acquisition of specialized CD-ROM databases in various discipline such as law, sciences, medicine technology, agriculture, humanities and so on.

**Indexing and Abstracting Services:** It is a service that is carried out to provide summaries of documents and also to assign descriptors for referencing documents.

**Institutional Repositories:** It is an online archive for collection, preservation and dissemination of digital copies of the intellectual output of academic or research of institution, this could be journal articles as well as digital versions of theses and dissertations. This service is mostly provided in academic or research libraries.

**Document Scanning Services:** Scanner is important equipment in modernization of library. It is useful for scanning text, image and content page of books and providing great help for establishing digital and virtual library.

### **Benefits of ICT in Libraries**

Globalization driven by ICT is presently having phenomenal impact on library practices ICTSs are significant and useful tools for sustainable development in all fields and all aspects of our society. ICTs provide means to actualizing developmental goals in education, health, agriculture, business and commerce among others. According to Olise (2010), the introduction of ICTs in education had brought about computerization of traditional materials such as books, journals newspaper and other information resources in the library. This has also led to the existence of virtual library. Educational researchers, through the use of ICT can access current literature materials with ease. ICTs also encourage collaboration among researchers irrespective of their locations.

Internet provides up-to-date information on any subject. Likewise, earlier research findings can be easily accessed through the internet. In the area of agriculture, ICTs are being used to provide farmers with information as regards their plants and animals, which will eventually improve their productivity.

On professional duties, computers are used to automate different manual functions. Acquisition, cataloguing of library materials, circulation, cataloguing of library materials, circulation and serials management are now automated in libraries, using available software in the market. ICTs enable libraries to locate store, retrieve and disseminate information. ICT tools such as CD-ROM, e-mail are used in libraries for dissemination of information. In addition, digitization of information resources which involves converting print resources to electronic form is also carried out, using ICT.

Other benefits of ICT in libraries as stated by Ashikuzzaman (2014) include:

- Provision of speedy and easy access to information.
- Provision of remote and round the clock access to users.
- Provision of access to unlimited information from different sources.

- ICT enable easier, faster, cheaper and more effective library operations.
- ICT helps to manage information overload as information retrieval is made easier in computerized systems.
- Computerization helps the library to save space and reduce paper.

There is no doubt that integration of ICT into provision of library services is able to bring great benefits to the entire community and nation. ICT which remains an enabling tool for provision of timely and current library and information services is also indispensable to the sustainable development drive in Nigeria (Nwabueze and Ozioko, 2011) ICT can be applied to every aspects of human endeavor to achieve result oriented service delivery.

In his study, Olise (2010) found out that majority of the respondents see ICTs as significant tool for sustainable development in Africa. The respondents believed that ICTs improve education and other sectors' services. Using ICT tools, enable organizations and institutions to provide services more effectively.

### **ICT Resources in Libraries for Sustainable Development**

ICT as aggregate of computers, telecommunication gadgets, multi-dimensional resources and other related technologies are applied and utilized in the total process of information management and dissemination. The various components of ICT have provided a facelift for the support of varying professional services. Nwabueze and Ozioko, (2011); Umana (2018) identified the following primary ICT resources as imperative in actualizing Nigeria's sustainable development goal. Likewise, the same ICT resources are paramount to effective delivery of library services. The ICT resources include:

- 1) **Computers:** These are essential management tools which can be used to handle different operations more efficiently. Computers can be used for various activities such as information generation, processing, storage, analyzing and information dissemination for sustainable development. The use of computers in the library is noted with great assets such as speedy information transmission, cost effectiveness and optimal utilization of available resources. Other computer accessories include CDs, Flash drive and so on. The computers are used to perform various library operations and routine such as ordering/acquisition, circulation e.t.c.
- 2) **The Internet:** This ICT resources is a means to speedy flow of information. It is a network of computers, communicating with others, often via telephone line. The internet provides a worldwide platform for information sharing among individuals, institutions and

organizations. The use of internet enables the provision of current and useful information to enhance productivity and good governance.

- 3) **Electronic Mail (E-mail):** This is the most widely used resource of the internet. It is used for sending and receiving of messages otherwise known as mails. The messages are communicated through electronic device. E-mail enables faster and cheaper organizational communication.
- 4) **World Wide Web (WWW):** This is also an internet- based resource. Websites help individuals, organizations or institutions find products or information and transacts business. Relevant information is made available to members of the public through the websites of many organizations or institutions. Being on the web, places any nation or organization on the right cause of speedy and sustainable development in line with emergence of changes in technology, economic and political area.
- 5) **Video Conferencing:** This enables people at different locations to hold conferences by data communication network. It is convenient and less expensive for conducting a conference between two or more participants situated at different remote location (Mishra and Mishra, 2014).
- 6) **Printing Technology:** A printer is a device that converts computer output into printed images. There are different kinds of printers used in library. They include Laser printer, Inkjet Dot-matrix printer and so on.
- 7) **Online Public Access Catalogue (OPAC):** It is the computer form of library catalogue to access information materials in the library. It is an online database of materials held by a library or group of libraries. It is a computerized library catalogue made available to the public. Most OPACs are accessible over the internet to users all over the world (Mishra and Mishra, 2014).

### **The Role of Library in the provision of Information for Sustainable Development**

Information is a vital tool for development and there is no nation that can experience developmental sustainability without continuous flow of relevant information. Libraries are majorly concerned with the acquisition, organization, dissemination and preservation of information to educate and enlighten the citizens. The development of any nation depends on provision of relevant, adequate and timely information on education, security, health and so on. Access to such information are provided in various formats through the libraries.

Library is a place where knowledge is created and shared. It is a storehouse where knowledge in various formats, be it print or electronic is preserved. There are different kinds

of libraries which include academic, school, public, national and special library. The library, irrespective of its kind perform various roles. According to Afolabi and Abidoye (n.d) the primary role of the library is to provide information service to support the educational, recreation, cultural, economic and technological endeavours of members in their respective communities. It's no doubt that library is one of the organizations that can help the nation to achieve and sustain development. Library also, cannot fulfill this obligation if it continued to rely on the traditional methods of disseminating information. Therefore, there is need for libraries to employ reliable and potential tools like internet and other information and communication technologies (ICTs) to support, economic social and political sustainability.

Olise (2010) simply put sustainable development as developing for the present and future. It is the process of ensuring that the present development is sustained and maintained for the future. Sustainable development focuses on the need to build the nation for the future, through the process of improving the citizens' lives for the future. Adejumo and Adejumo (2014) viewed sustainable development as efficient management of resources for human survival taking into consideration both the present and future generation.

To achieve sustainable development in a globalizing world, there is need for timely information that will leads to the right decision making and that will inform certain actions. The digital divide must be bridged to enable easy accessibility to information by the citizens.

Bradley (2014) affirmed that libraries contribute to sustainable development. The libraries provide access to data and knowledge that support informed research which is instrumental to achieving sustainable development goals. ICT has paved ways for libraries to use ICT creatively in order to enhance service delivery to the users.

### **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:

- **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.

- **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. 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.

- **Lack of ICT Policies:** There is lack of systematic ICT policy in developing countries and it impedes the deployment of ICTs (Afolabi and Abidoye, n.d).
- **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.
  - Lack of technical IT knowledge by library staff.
  - Constant change of software and hardware.
  - Copyright and intellectual property right management.

## Conclusion

Application of ICT to provision of library services is a crucial effort towards sustainable development of Nigeria. Therefore, for libraries to remain agents that will facilitate sustainable development, efforts must be made to provide the right information at the right time. With the ICT in place, the objectives of libraries will not only be achieved but it will also help libraries to compete with their counterparts in the developed world. Developing countries like Nigeria must also recognize ICT as key strategic tool for sustainable development. Organizations,

institutions including the library must be supported and encouraged to embrace and utilize ICT for efficient and effective delivery of service.

### **Recommendations**

Based on the conclusions above, it is recommended that:

- 1) Fund should be provided to libraries on regular basis. All libraries, irrespective of the type need strong financial support from the parent organization.
- 2) Provision of standards standby generator in libraries, to serve the computers and other ICT facilities in case of power outage. In addition to this, the Nigerian government in particular, should strive to permanently solve the challenges confronting the power sector.
- 3) The librarians must become higher system thinkers and fully equip themselves to work in digital and computer environment.
- 4) The Nigeria Library Association (NLA) and National Library of Nigeria (NLN) must encourage and ensure that libraries acquire ICT tools for effective library operations and information disseminations.
- 5) Policies that would encourage the deployment and development of ICTs in all institution should be formulated and implemented for the nation's development to be sustained.
- 6) The government of Nigeria should make library and information services, a part of national development initiatives and plans.
- 7) Training and retraining of all categories library staff should be organized on regular basis. The ICT largely depends on ability of staff to operate ICT facilities. The training should include needed skills and techniques for data input into the computer, internet surfing and using different telecommunication facilities to exchange information.

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