

## **APPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN ACADEMIC LIBRARIES**

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## **Abstract**

*The library is the life wire of any institution of learning; be it academic or research. It is usually referred to as the strong house of knowledge. Gone are the days when libraries contained only books in their collections. The advent of Information technology has reshaped the face of libraries and the way libraries operate these days; especially academic libraries. The library users are now information technology dependent and their information needs are increasing. They are no longer contented with the traditional or convectional ways of handling information. As a result, the libraries are also changing and embracing information technology in order to be relevant to their users. Information technology therefore, can no longer be ignored in academic libraries. It has been an invaluable catalyst in complementing traditional library operations and service provision. This paper therefore, examined the application of Information Communication Technology in academic libraries, its impact as well as its benefit to the library users, the library staff and the library as a whole. It looks into Information and communication technology devices used in academic libraries and challenges of ICT application. Recommendations were also made to proffer solutions.*

## **Introduction**

The global world is undergoing a tremendous technological change that was brought about by information revolution that gives way to information explosion. These changes in information environment are aided by the Information and Communication Technologies. Everybody is catching the fire of information communication technology; the generation of nowadays (21<sup>st</sup> century) is technology- dependent and net-based generation.

Information and communication technology has transformed every facet of our lives, and the libraries are not left out. The impact of information and communication technology on information creation, provision, storage, retrieval and delivery in the library generally cannot be under-estimated, especially in academic libraries. It has a lot of advantages in every area of library operations and services, users and library staff also benefited. Thus I.C.T. applications have brought about tremendous development and improvement in the library operations and services world-wide. As a result, the traditional concept of academic libraries are being redefined from a place to access the books to a place which houses the most

advanced media including CD-ROM, internet, and remote access (resources) to a wide range of resources. ( Midda, Khan, Khan, and Mukherjee, 2006). However, in spite of these positive and current global trends, many academic libraries are yet to maximize the opportunities, brought about by ICT for enhanced information exchange, improved service delivery and professional development (Anasi, Akpan and Adedokun, 2012).

In academic libraries in Nigeria nowadays, library users are getting impatient with the conventional library methods of service delivery and information provisions. The manual/traditional approach to library and information service delivery is becoming cumbersome, inadequate and ineffective. To buttress this, Anunobi, Nwakwo, Oga, and Benard (2011) stressed that the global information revolution of the Twentieth Century made manual systems of information delivery services in the libraries, especially academic and research libraries mundane, clumsy and inefficient. As a result, the library users tend to depend on net and some other information and communication technology applications to meet their information needs. Academic libraries have enormous task to perform, therefore, they cannot endure the time wasting traditional/ manual system of library operations and service delivery. The academic libraries must fully embrace the information and communication technology in their operations and services, lest they become obsolete and irrelevant.

Information and communication technology facilities are needed in academic libraries to ease the creation, generation, acquisition, processing, storage, organization, retrieval, and dissemination of relevant, accurate, up-to-date, correct, complete and right information to the right users at the right time in the right format, at the right place, irrespective of their locations in the most effective and efficient manner.

### **Academic Library**

The academic library is the nerve center of an academic institution. It is the heart beat of any academic institution and can also be referred to as the life-wire of academic and scholarly activities/ endeavor of an academic institution. Academic libraries are libraries found in tertiary institutions such as: universities, polytechnics, monotechnics, colleges of education, theological colleges, major seminaries, colleges of agriculture, and so on.

Academic libraries are established primarily in support of the mission, vision, goals and objectives of their parent institutions and support the programmes and curriculum of their

parent institutions. They also aid teaching, learning, and research and scholarly activities of their parent institutions, at the same time, provide and serve information needs of the students, lecturers, researchers, other staff, and the academic community as a whole.

### **Application of Information and Communication Technology in Academic Libraries**

ICT is a term which encompasses the application of communication technologies and other technologies to information handling and operations, which can be in form of information creation/generation, processing, storage, organization, retrieval, dissemination, and general information management.

The academic libraries are divided into various sections and departments for smooth running and operations. All the sections and units in the library utilize information communication technology to enhance their operations, service delivery and productivity.

#### **Acquisition Department**

This is the section where information resources are selected, acquired, either by purchase, gift, endowment, subscription, or by other means, it is where invoices are prepared, and payments are made. There are so many records, and files to maintain in acquisition department and the work are repetitive in nature. The use of ICT in acquisition department makes the work more interesting. It eliminates repetitive work and increase speed. With the use of ICT, communication with the aggregator is easier and faster, multiple accesses to resources are also possible. There are CD- ROM that store databases on different fields and disciplines, which made the library to cancel certain subscriptions and some of the print bibliography. The online indexes enable the library to select up-to-date resources. The use of ICT in acquisition department enables the library to acquire electronic resources such as e-journal, e-books, electronic databases such as EBSCO host, HINARI, AGORA e. t. c.

#### **Cataloguing and Classification Department**

ICT can be embraced to replace manual cataloguing because of the efficiency and speed of the computer in carrying out library operations, including cataloguing and classification. A single cataloguer, using ICTs can accomplish within a few hours what it would take several cataloguers to accomplish in weeks (Nwalo, 2014).

Adeyemi (2002) highlighted the following advantages of ICT to cataloguing and bibliographic services:

- It enhances efficiency and productivity in cataloguing and authority work is made faster
- It reduces original cataloguing
- It standardizes efficient cataloguing of records produced for libraries
- It allows the formation of networks for resource sharing / online access to cooperative databases
- MARC standards allows libraries to share bibliographic resources with those that use it
- It helps libraries to easily migrate to commercially available library operation systems
- It joins and shares online access to cooperative databases / bibliographic utilities.

In another perspective, the shift from manual to online cataloguing has made it possible to benefit from the services of subject experts in the world's largest bibliographic utilities like the Online Computer Library Center (OCLC) and the Library of Congress (LC). The OCLC database contains almost all works that have been published. The OCLC World Catalogue makes cataloguing an easy operation by the participating libraries. The Machine Readable Cataloguing (MARC) format by the Library of Congress created the International Standard for bibliography description. Users access information and description of Information Resources via Online Public Access Catalogue (OPAC)

### **Serials Department**

Serials department is the unit that takes care and manages information resources that are in successive parts at a regular interval that are to be continued indefinitely. These include journals, magazines, newspapers, etc. ICT application makes the serial collections up-to-date, it makes subscription easy, gives room to multiple access of information resources. ICT also makes serials' management interesting, e-journals, e-magazines and other electronic serials information materials accessible and subscription is faster and easier

### **Readers' Service Departments**

This department has direct contact with the library users, it is the unit where services are provided to the users in order to ensure the full exploitation of the library at the same time meeting their information needs. The services provided by this unit include users' education,

research guidance, lending services (including inter-library loan), current awareness services, compilation of bibliographies, reference and referrer services, etc.

### **Circulation Unit**

The use of ICT in the circulation unit helps to eliminate the tedious manual filing, boredom, repetitive work and duplicated efforts. Charging and discharging, inter-library loan and loan management generally are performed with relative ease. Statistics and record keeping in the circulation department such as over-due notices, fines, use of library, are preserved and maintained for users' consultation.

### **Reference Unit**

Reference unit attends to users' inquiries. Information resources for reference purpose are preserved and maintained for users' consultation. The reference materials are not to be read from cover to cover rather to be consulted for specific information; they include dictionaries, encyclopedias, annuals, who is who, etc. The use of ICT makes the reference services easier, efficient and effective. ICT enables the users to post their reference inquiries and retrieve the answers quickly with ease. It also helps the users to search and retrieve up-to-date information, speedily, round the clock from different sources and formats globally. ICT makes electronic reference services and Selective Dissemination of Information (SDI) possible and easier, ICT devices in academic libraries enable users to join online discussion groups, have access to interactive conferences. ICT makes the reference librarian current, up-to-date, well informed and well-versed in the information provision task.

In general, ICT helps the academic libraries to entice, satisfy and make their services attractive via the use of social networks, especially to younger generation library users. With the use of ICT, vast amount of information are stored, and physical space is preserved and guaranteed. In academic libraries, the use of ICT make cooperation between academic libraries possible and flexible, as a result it is possible for academic libraries to satisfy all ranges of the information needs of their clientele, as no library can provide all its clientele information needs without looking elsewhere(collaborating with other libraries) for managing its shortcomings. Preservation and conservation of Information Resources is easy and effective through the use of ICT devices

## **INFORMATION TECHNOLOGY DEVICES USED IN ACADEMIC LIBRARIES**

The ICT Devices and applications in academic libraries include the Computers, internet, printers, telephones, modems, network cables, computer software, CD-ROM databases, electronic-mail (e-mail), electronic conferencing or video - conferencing. All these technological devices can be regarded as backbones of the concept of globalization.

## **CHALLENGES OF ICT APPLICATION IN ACADEMIC LIBRARIES**

The benefits of application of ICT in academic libraries are enormous, but we also have to look at the challenges, which include, low level of ICT skills; lack of functional ICT policy, economic barriers (funds), lack of adequate ICT infrastructure, resistance to change, human resources; unskilled and untrained human resources, low level of ICT literacy skills/competences among academic library staff (without adequate education and training, organizations may not be able to use ICT effectively), poor maintenance of equipment by vendors and lack of maintenance culture and sustainability by the academic libraries ( most vendors are foreign and their response is usually untimely), epileptic power supply, the software packages issues; quite a number of different software are making in-roads found their way into the Nigerian market, besides the prohibitive cost of acquiring software and hardware.

The proliferation of new technologies opens a number of challenges for libraries, the situation is further worsened by the information divide which has resulted in the computer information skills of users being a major complicating challenge; the ability of academic libraries to deliver authenticated and reliable information is continuously challenged by new technologies

Nwakwuo, and Nwakwuo (2014) pointed out that; the challenges confronting effective application of ICT in academic libraries in Nigeria are paucity of funds, poor physical and telecommunications infrastructure, poor institutional and sometimes government policy and lack of skills.

## **SOLVING THE CHALLENGES OF ICT IN ACADEMIC LIBRARIES**

1. The management of the academic institution where academic libraries are situated should give academic libraries priority in their budget, because information is power, ignorance is a

disease, and they should not necessarily wait for accreditation periods, before releasing fund to the library

2. The training and retraining of staff in the academic libraries especially on the use of ICT skills should be a priority and imperative. The capacity building should be paramount in academic libraries

3. The Librarians and other library staff in the academic Libraries should be up to date in the knowledge and skills of Information and Communication Technology. They must be dynamic and innovative and be able to meet up with the challenges of information explosion and information technology and ready to proffer solutions to the challenges

4. Academic Libraries should have supportive infrastructure and enabling environment for ICT devices and application to function effectively and efficiently. There shall be improvement to epileptic power supplies or alternative to electricity supply in academic Libraries

5. Academic Libraries' staff should engage in holistic marketing activities in order to showcase their products and services, as a result of application of ICT. This will go a long way in making the students, lecturers, staff and the academic community as a whole, aware and appreciate the contributions of the libraries in meeting and attending to their information needs

6. Users' Education and training in the use of ICT is also important, to enable them make use of ICT devices and applications effectively.

In conclusion, despite all the challenges, ICT remains invaluable tool in academic libraries for competing favorably and relevant in the 21<sup>st</sup> century information management business. It is expedient for academic libraries to embrace ICT for efficient, attractive, and effective information service delivery. They should also be pro-active and not reactive to changes in the global world and ICT adoption. The stakeholders in institutions of higher learning should give priority to the academic libraries in terms of funding, training and development and some other areas that needs management attention, not necessarily waiting for accreditation periods before giving libraries attention.

## REFERENCES

- Adeyemi, N.M. (2000). Cataloguing and Classification and the Challenges of new Information Technology in Nigerian Libraries in the next Millennium. Keynote Address Presented at the Cataloguing, Classification and Indexing Seminar/Workshop held at the University of Jos.
- Anasi, S. N. I., Akpan, I. J. and Adedokun, T. (2012). Information and Communication Technologies and Knowledge Sharing Among Academic Librarians in South-West, Nigeria: Implications for Professional Development. In: Aina, L. O. and Mabawonku, I. (Eds) Nigerian Library Association at 50: Promoting Library and Information Science Profession for National Development and Transformation. Ibadan: University Press. P.2
- Anuobi, C.V., Nwakwo, O.P. and Oga, M. and Benard, I.I. (2011). The adoption of ICT for Library and Information Services: the Case of the Library, Federal University of Technology, Owerri. *Nigerian Libraries*. 44 (1) P. 89
- Midda, A.M., Khan, M.A., Khan, B. and Mukherjee, S. (2006.). Changes of Activities in Academic Library System in India. Retrieved from [www.Change mgt ical-53-153-336-1-Rv.pdf](http://www.Change%20mgt%20ical-53-153-336-1-Rv.pdf) 0.
- Nwalo, K.I.N. (2014) Changing Cataloguing Practices and their Implications for Cataloguer's in Nigerian Libraries. Paper Presented at the 34<sup>th</sup> Annual Seminar/Workshop of the Cataloguing, Classification and Indexing Section of the Nigerian Library Association held at Owerri, 19th- 24th October.
- Nwakwuo, C.L, and Nwakwuo, P.O.(2014). The influence of information and communications technology (ICT) on information services delivery in academic libraries in Imo State. Nigeria Africa Journal online .11(1) retrieved from <http://www.ajol.info/index.php/ict/article/view/109495>