

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

---

Spring 7-12-2023

## An Assessment of the Implication and Adoption of Current Global Paradigm in Cataloguing in Nigerian University Libraries

Samson Adesina Akinola

Joseph Ayo Babalola University, Nigeria, saakinola@jabu.edu.ng

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Scholarly Communication Commons](#)

---

Akinola, Samson Adesina, "An Assessment of the Implication and Adoption of Current Global Paradigm in Cataloguing in Nigerian University Libraries" (2023). *Library Philosophy and Practice (e-journal)*. 7863. <https://digitalcommons.unl.edu/libphilprac/7863>

# **An Assessment of the Implication and Adoption of Current Global Paradigm in Cataloguing in Nigerian University Libraries**

Akinola Samson Adesina  
Joseph Ayo Babalola University  
Ikeji – Arakeji  
[samsonadesina592@gmail.com](mailto:samsonadesina592@gmail.com)  
08165625219

## Abstract

This paper looked at the current global paradigms in cataloguing and the significance and difficulties for library adoption in developing countries like Nigeria. The paper employed a four-sturdy approach to explore the subject. The first approach to the paper put forward the concept of library in the 21st century. The second approach focused on the dimension of information and communication technology in cataloging and the latest modern cataloging practices. The third approach compared cataloging practices in advanced countries with Nigeria, while the last approach expatiated the significances, problems, and methods for libraries in Nigeria to espouse. The paper enumerated some problems and methods that libraries in Nigeria and other emerging countries in Africa can embrace for instance, sufficient funding, adequate staff training, adequate provisions and prompt maintenance of infrastructure, elimination of corrupt practices, and so on. Although a lot of literature has appeared on the problems of ICT diffusion to library operations and management in Nigeria, only a few significant doable and practical strategies have been identified for solving the problems. The writer proffered the utilization of the latest development to cataloguing initiatives and suggested the adoption of new and workable strategies for the effective application of ICT to cataloguing operations.

**Keywords: Cataloguing, 21st century library, Nigerian libraries, ICT in cataloguing**

## **The 21st Century Library**

The contemporary library scenario is rapidly shifting off from the use of the old traditional labor-intensive manual method to a computerized system for performing library operations and services. The emergence of integrated library management software and the internet have enhanced library automation. Integrated Library Management software enables librarians and other information professional to perform library operations and services via computer systems and internet. Accordingly, cataloguing and classification operations are currently performed with the utilization of computers and the web. Library automation is characterized by the deployment of electronic and mechanical facilities, generally computer systems and other information technology apparatuses for dispensing library operations and services. These operations and services include acquisition, cataloguing, classification, circulation, reference services, serials services, etc. The adoption and usage of automation in the performance of and carrying out library tasks provide a solid basement for efficient services. Librarians can do more work in less time with less physical effort. In addition to increasing productivity among library professionals, automation enhances library consistency and uniformity in practice and ensures standardization of the cataloging practice and improves the methods of exchanging knowledge and information resources sharing among librarian and libraries

### **Information and Communication Technology (ICT) in Cataloguing/Classification**

In today's information age, where easy access to information is one of the key trends, information and communication technologies (ICT) have become very important in the cataloging process. Therefore, the cataloging department, which is the main unit of the library, is extremely important in this technological era, as this department is responsible for creating and maintaining the online public catalog (OPAC) and the manual catalog in its various forms such as author/title, subject, shelf list, access list, and libraries have already migrated to OPAC or WEBPAC. It is worth noting that all library work depends entirely on the catalogue work environment, as this department is the nerve center of all libraries. The appearance of digitalization with its emergence of new types of materials and new forms of communication has had a major impact on cataloguing. In addition, the transition of scholarly publications from print to digital formats and the explosion of online content on the World Wide Web has led to a paradigm shift in libraries from a prevalence of collection "ownership" to a combination of "ownership" and "access" to subscription databases and other free web resources that provide the full text of journals and books (Dagsboro, 2003). We live in a dynamic digital age. The growing popularity of the web is affecting every aspect of our lives, changing the way we live, work, learn, and even think. As a result, the role of

librarians and information professionals is changing intensely. Information and communication technologies have penetrated libraries in terms of automation and computerization. This is not a free choice of alternatives for libraries. Malholt (1997) makes it clear that libraries and librarians need to make friends with the use of ICT in their activities if they are to be properly integrated into their profession. Likewise, he does not believe that now is the time to discuss whether societal changes, especially technological changes, still have an impact on the work of libraries. The fact is that the profession has changed significantly as a result of changes in the information and ICT environment. Knopp (1994) and Sullivan (1995) consider the impact of changes in ICT on library operations. The production and distribution of information on such a large scale is a real advantage to cope with it a number of strategies and techniques are needed, including persistence. Perhaps the most important stratagem is the ability of librarians to evolve their professional expertise in line with contemporary realities. Technology is the capacity to manipulate and to control the technologies that support the generation, storage and distribution of information. Today, the ever-increasing development of information and information technology, the increasing volume and variety of information formats, and changing user expectations and behavior are making cataloging even more challenging. To maintain their professional ethics in creating timely and quality records, cataloguers must adopt new thinking to address the increasing complexity of cataloging. New technologies require new skills. The modern cataloguer must have a range of skills, be computer literate, be able to work with a variety of internal library systems, be able to use online packages such as MARC21 online standard schemes, WEB Dewey, Web LC, and search interfaces. Cataloguers must keep up with the changing environment, handle new formats, be able to work with different metadata schemas, and catalogue for different environments and user audiences. Libraries previously viewed as incremental repositories of knowledge, have taken on a new perspective in the modern era of information and communication technologies. The erstwhile explosive growth of online content on the Web has led to a paradigm shift in libraries from primarily owning collections to a combination of owning and accessing subscription databases and other free online resources that provide full-text journals and books. Jagboro (2003). Today we live in a rapidly evolving digital age. The growing popularity of the internet is affecting every facet of our lives, changing the way we live, work, learn, and even think. As a result, the role of librarians and information professionals has also changed substantially. Information and communication technology has emerged in libraries as part of automation and computerization...For libraries it is not a question of free choice of alternatives. Malholt (1997) explicitly states that libraries and librarians need to use ICT in their work if they are to integrate properly into their profession...It is also not the time to discuss if societal changes,

especially technological changes, have affected current library activities. The truth is that the librarianship profession has changed significantly due to changes in the Information and ICT landscape. Knoop (1994) and Sullivan (1995) discussed the effects of the changes which ICT brought to library operations. To this extent, it is a very powerful tool for generating and disseminating information, and it takes a lot of ingenuity and skill, including perseverance, to keep up with it.

Prior to the adoption of computers and information communication technologies to library operations, cataloguing/classification were carried out manually using the Anglo-American Cataloguing Rules (AACR2) as a parameter to maintain and achieve uniformity, consistency and maintenance of standards. At this time, cataloguing was perceived as a stereotypical image of typewriters, 3x5 cards, and cluttered rule books, and cataloguers were portrayed as librarians who had to work hard with rules in dusty offices surrounded by books and cataloguing slips (Ajulo 2007). Eguaveon (2013) argues that the work of cataloguing and classification requires a lot of energy, great concentration, commitment and the application of a high intellectual level.

- a. Standardizes efficient cataloguing of records created for libraries
- b. Enables the creation of resource sharing networks (online access to cooperative databases)
- c. Machine-readable cataloguing (MARC) enables libraries to share bibliographic resources
- d. Helps libraries easily migrate to commercially available library automation systems
- e. Links and shares online access to cooperative databases/bibliographic resources.

Mosuro (2000) summed up all these benefits when he said that ICTs have turned the world into a global village and everyone into an electronic neighbor. Internet connectivity has made it easy to access the databases of libraries around the world, especially the Library of Congress and OCLC to view their catalogues and then import available records relevant to your library's collections. Computerization of the cataloguing process has become trendy according to Ugoji (2001) to improve the efficiency and effectiveness of services. Most libraries now rely on various software packages to manage their daily operations and meet the needs of their users. Cataloguing modules are embedded in all these software packages. According to Nwalo (2013), the act of copying cataloguing in publication (CIP) data from a printed book or MARC tape by the librarian to a cataloguing worksheet marks the first stage of library computerization. CIP records help improve library services to users by providing all the information that cataloguers need to create a record for a particular material in their databases or card catalogue. Most

cataloguing operations have been greatly simplified by the use of computer technology. New trends and paradigms have emerged as a direct and indirect result of the incorporation of ICT into library operations. These include the online public access catalogue (OPAC)/web based public access catalogue (WEBPAC), online/copy cataloguing and the use of Resource Description and Access (RDA)

ICT has influenced cataloguing work in many ways. Ajibero (2003) acknowledged this fact, while Yusuf (2009) listed some of these areas of change. Firstly, the use of computers has influenced the way cataloguing is done and by whom. Although cataloguing has been the sole job of professional librarians, over the years, para-professionals, usually called library officers are now involved in cataloguing in most libraries, especially public libraries. Ejedafiru (2010) stated that libraries need to adopt and use ICT to achieve resource sharing by libraries. One of the key areas where resource sharing reflects and supports a library is in the area of library cataloguing (sharing of catalogue data). Yusuf states that such resource sharing reduces cost and duplication of efforts in cataloguing. Ejedafiru quoting Song (2000) clarifies that no library can adequately meet the needs of all users with the resources within its walls. Users must have access to universal information before they can be satisfied. Online cataloguing is another main alteration that ICT invented into cataloguing. According to Yusuf, it involves finding and then copying cataloguing data online through international computer networks. In addition to traditional card catalogues and microfilm readers, most libraries now offer an online public access catalogue (OPAC). They also pointed out that the catalogues of major libraries today are available in web.

### **OPAC/WEBPAC**

Perhaps one of the most important advantage of library automation is the transition of the library card catalog to an Online Public Access Catalog (OPAC). OPAC is an online bibliography of a library collection that is accessible to the public via computer terminals. Guha and Saraf (2005) stated that the use OPAC first appeared in North America, Europe and parts of Asia in the late 1970s and early 1980s. It went through several generations of developments, resulting in WEBPAC (Web-Based Online Public Access Catalog). The WEBPAC is an online library catalog that graphic browsers can view on the internet. It appears in a hypertext format that allows users from the library catalog to link to full-text electronic resources when available. Omoike and Oke (2014) noted that while most libraries in developed countries adopted OPAC in the early and mid-1980s, libraries in Nigeria did not enter the trend until recently. Unfortunately, only a few libraries in Nigeria are fully automated, and a functional OPAC / WEBPAC is used. Some of the benefits of OPAC / WEBPAC in a library include:

- a. It provides the users with more options to search or access, especially by using keywords. In addition, the use of Boolean operators (AND, OR, NOT) makes searching easier
- b. OPAC enables hyperlinked search, which allows users to access related information sources.
- c. Users can search the library catalog from remote locations, outside the library building. WEBPAC provides an Internet-based platform that allows users to access the library catalog from anywhere in the world.
- d. It provides users with detailed information about the availability, number of copies, and location of an information resource.

### **Resource Description and Access (RDA)**

The emergence and consequential acquisition of digital or electronic resources by libraries has necessitated the adoption of international standards to facilitate the description of and access to these resources. The Anglo-American cataloguing rules, 2nd edition (AACR2) which hitherto was used in description of lib designed to overcome challenges observed in AACR2. RDA is a set of guidelines and instructions used to describe and ensure the accessibility of all types of information sources, including digital or electronic materials. The usage of RDA as the international standard for describing and accessing resources has enabled libraries to achieve the goal of making the right material available to the right users at the right time. This is an evolving trend that many libraries in Nigeria have not yet adopted. (Esse, 2013)

### **Online/Copy Cataloguing**

Online cataloguing or copy cataloguing is a relatively new development in the cataloguing process. It involves the systematic use of information and communication technology to search for an object in an existing cataloguing document (bibliographic file) and to conform the information found to the requirements of the library concerned. Orbih and Aina (2014) define copy cataloguing as "the process of cataloguing existing bibliographic records obtained from different sources and adapting these records to meet local cataloguing standards". Duplicate or online cataloguing is also referred to as derived cataloguing; it is the result of the process of obtaining data from bibliographic records. Similarly, Beall and Kafadar (n.d.) define replication cataloguing as the process of copying bibliographic records from source databases, such as WorldCat at the Online Computer Library Center (OCLC), the Library of Congress, etc. They also argue that this systematic process of copying and editing bibliographic data from existing

catalog records helps to achieve efficiency. The online cataloging process avoids unnecessary duplication of effort. It is also of utmost importance to note that catalogers must have the necessary computer skills when cataloging and copying copies online in order to avoid possible typographical errors, which can sometimes be widespread. If typos are not corrected in the process, the entire cataloging activity may be futile as the resource may not be retrieved by potential library customers. Bhatt and Mishra (2012) note that copy cataloging cannot be considered to work at a "professional" level because it involves the use of records already created by others, although they also note that this form of cataloging may also involve some upgrades and improvements to minimally retrieved records.

### **The development of ICT use in Libraries of developed countries in comparison with Nigeria**

Trends in developed countries show that the use of ICT in libraries has shifted from managing internal operations to accessing information in various forms and locations Borgman, (1997). Libraries in these countries have shifted from ownership to access to information resources through electronic means. As a result, library services can be provided to users in different locations simultaneously. The concepts of online cataloging, WEBPAC, and, for example, thedo not provide enough rare materials for electronic resources. The RDA is a new standard for description and accesses. The creation and subsequent adoption of the RDA (as an improvement on Anglo-American cataloging rules) was intended to expand the limits of access and to globalize library services. These libraries have gone beyond providing basic infrastructure and automated facilities, and have taken full advantage of the opportunities offered by the Internet to provide globalized information services and to transcend their surroundings. Unfortunately, counterparts in developing countries, such as Nigeria, are still struggling to provide the basic facilities for automated library operations. A retrospective review of the research literature on the employment of ICT in Nigerian libraries indicates that the use of ICT is in a poor state. During the 1970s, Ahmed Bello University in Zaria began efforts to automate the library environment. Omoniwa (2001) reported a fruitless attempt at the automation of the serials records and circulation operations of the Ahmadu Bello University, Library in 1972 and 1976 respectively. These attempts and efforts were not successful as a result of lack of funding, infrastructure and qualified staff, although some prominent foreign indigenous based research libraries in Nigeria have recorded significant success in the adoption of computerization to their library project. The International Institute for Tropical Agriculture (IITA) library Ibadan, which was accomplished in 1984, is a good example of this. In the late 1980s frantic effort were embarked upon by academic libraries to clip up with academic libraries in developed nations... These efforts were harmonized at the university level by the National Universities Commission and enthralled on automating library services and operations nationwide. Regrettably the stride was very



dawdling, and no library was completely automated (Abbas, 2014). In Nigeria several academic libraries still depend on the use of the traditional cabinet card catalogue as the search tool for library materials, and the preparation of indexes and abstracts manually. However, some private universities have fully automated their library services, for instance the Covenant University Library and the American University of Nigeria Library (Ifijeh, 2011). Otunla and Olagbemiro (2016) and Iroaganachi, Iwu-James and Esse (2015) analyzed the degree of automation among some selected academic libraries in Nigeria and summarized their findings as shown in the table below:

**Degree of Library automation in selected academic libraries in Nigeria**

S/No	Name of Institution	Software in use	Degree of automation
1.	Adeleke University, Ede	KOHA	Partially automated
2.	Bowen University, Iwo	KOHA	Fully automated
3.	Lagos State University, Lagos	Alice for Window	Partially automated
4.	Pan African University	No Software	Low automation
5.	Fountain University, Oshogbo	No Software	Low automation
6.	Macpherson University	Liberty3	Partially automated
7.	Osun State University Osogbo	KOHA	Partially automated
8.	University of Lagos, Akoka, Lagos	Millennium	Partially automated
9.	Redeemers University, Ede	KOHA	Partially automated
10.	Olabisi Onabanjo University, Ago Iwoye	Alice for Window	Partially automated
11.	Bells University of Technology, Ota	No Software	Low automation
12.	University of Ibadan, Ibadan	VTLS	Partially automated
13.	Joseph Ayo Babalola University, Ikeji-Arakeji	KOHA	Partially automated
14.	Obafemi Awolowo University, Ile Ife	VIRTUAL	Partially automated
15.	Covenant University, Ota	Millennium	Fully automated
16.	Oduduwa University, Ife	No Software	Low automation

In addition, a number of research libraries in Nigeria are well advanced with computerization projects. Abbas (2014) noted that one of the most successful and extensive computerization programmes in Nigerian libraries is the computerization programme of the library of the International Institute of Tropical Agriculture (IITA) in Ibadan, which was completed in 1984. Nigerian public libraries are in a very poor state of repair. Many of them lack comfortable reading facilities and modern reading materials as

well as functional information and communication tools. Eze (2013), in his study on the state of public libraries, found that although some public libraries, particularly in the south-eastern part of Nigeria, have installed servers and internet access through subscription service providers, none are functional. This is due to lack of maintenance and funds to maintain the facilities.

### **Significance, difficulties and strategies for Nigerian libraries**

The rapid growth of information has made manual systems redundant and electronic storage and retrieval of information essential. Efficient and effective processing of large volumes of data can only be accomplished by computers, which have the advantages of being highly accurate, speedy, up-to-date and adding value to the information. The use of computers to automate library work is particularly useful as much of the library work is repetitive, tedious and mechanical and requires accurate updating of records. Information communication technology in libraries improves operational efficiency. It ensures speed of operations, accuracy and labor savings. Computers increase the productivity of library staff. It frees professional staff from intensive manual deskwork and allows them to concentrate more time in providing effective user-oriented library services. The quality of library services is improved.

### **Funding**

Lack of fund is a major setback to carrying out automation and computerized activities in libraries. The subvention and overhead funds allocated to libraries from the governments can hardly pay the workers' salary leaving little or nothing to finance development of the library facilities. Nwokocha (2002) lamented on the mode of funding and the ill-effect of poor funding of libraries in Nigeria as a major problem that has persistently afflicted library services delivery in Nigeria. The financial cost of the installation and maintenance of information and communication gadgets and internet networks is very exorbitant and not affordable to most academic institutions in Nigeria owing to their poor financial position. Daniel (2013) asserted that inadequate finance is the key reason for the backwardness of libraries in Nigeria. He also pointed out that except the issue of poor financing is solved, all efforts to transform libraries in Nigeria will continue to be an illusion. Though academic and research libraries seem to be doing better than other libraries, their facilities are disparate from what obtains in Europe and America due to poor funding. The main source of fund for libraries in academic institutions in Nigeria is the 10% recurrent budgetary allocation of their parent institutions as stipulated by the Government Okiy (2005). This allocation is grossly inadequate if the libraries are to measure up with the global standards. Public and School libraries are funded by the Government; with the recent economic recession in the country, these libraries have experienced substantial cuts in their budgets. Funding for

trainings and other essentials like user group meetings are hardly mentioned in the meager budgets provided for libraries. It has therefore become necessary for libraries to seek for alternative source of funding. Some libraries have ventured into charging users for overdue fines, lost books, reprography services amongst others. Despite all these efforts made to make more money available, these libraries still lag behind financially. Perhaps, they should begin to explore the option of seeking for funds from philanthropists, industrialists, non-government and international organizations.

Large industries and businesses located in the conterminous area with libraries should be involved in the funding and development of these libraries. This should be the responsibility of the federal government, and on a proportional basis, to ensure coherence and consistency. Nigerians have embraced the emergence of the cell phone network with a global system operated by major telecommunication companies. Nigeria is one of the largest users of this technology on the African continent (World Fact Book, 2007); therefore, these telecommunication companies can be requested to provide basic computer systems and network infrastructure, establish and offer media services in libraries, sponsor library staff to attend conferences, seminars, workshops or short courses, and user group meetings. In addition, some libraries, especially university libraries, have a bindery to help repair torn and damaged books. It is important to note that these binding sections are used for commercial purposes. Students may pay to have their theses and papers bound, and other users may pay to use the binding service. This will generate additional funds for the library.

### **Staff training**

Applying ICT effectively and efficiently in cataloguing practices, library management needs to recruit, train and employ competent staff to manage the technical and professional operations. It is sarcastic that library schools in Nigeria do not possess the utilities to train librarians to adjust to the computer environment. In support of this argument, Atinmo (2013) argued that libraries need to train and retrain staff to cope with the dynamic changes in the information environment in the 21st century. Bello and Thomson (2013) argued that the lack of staff with the necessary ICT skills is a barrier to library automation in Nigeria. Staff training for automation would include the acquisition of basic computer skills and the ability to use library software, as well as training system librarians in the installation and repairs of computer hardware, library software and other network infrastructure. Bello and Mansur (2011) point out that MOU in addition to formal education, training can be provided through internships, conference attendance, workshops, workplace exchanges and self-directed learning. Library associations can play an important role in filling the training and skills gaps for cataloguers in the age of

automation. The association could organise regular conferences, workshops and seminars on current trends in cataloguing and classification; library associations could obtain sponsorship for such training from companies, non-governmental agencies and international development partners. The library association could also work closely with library parent organizations; these should be made aware from time to time of the need to fund training and retraining of cataloguers to ensure the effectiveness of automated library systems. A few years ago, a Memorandum of Understanding was signed between the Nigerian Library Association and the Polish Library Association in this regard. The MoU allowed a Nigerian librarian to visit and train part of a Polish library every year. Such MOUs should be signed with other library associations, which could give more librarians the opportunity to train in established libraries around the world. Ossai-Ugbah (2013) and Gbaje (2013) argued that the Nigerian Library Association must rise to the gauntlet of training and updating Nigerian catalogers to conform to contemporary standards of trends and new best practices. Bello and Thomson (2013) asserted that the absence of adequate IT compliance staff with the necessary ICT skills is a setback

#### **Acquisition, maintenance and repairs of ICT infrastructure**

The foundation of any automation system that supports the process of organizing library resources is the availability and maintenance of the infrastructure. Basic infrastructure, such as computer hardware and software, Internet and intranet, continuous power supply, etc., is vital to automated cataloging processes. Jan and Sheikh (2011) found that computer hardware and software, internet connectivity and other resources such as human resources and funding are essential for library automation. Neelakanda, Duraisekar, Balasubramani, and Ragavan (2011) identified that problems in implementing computerized library management systems in India are related to the lack of appropriate infrastructure in India such as hardware, software, network facilities, and funding resources. The scenario in India replicates that of Nigeria. Cases have been reported where libraries are connected to computer networks but are not operational due to lack of stable electricity, virus attacks, insufficient internet bandwidth and other reasons (Orbih and Aina, 2014). Inadequate funding and lack of competent staff remain the main causes of these situations. As mentioned earlier, libraries need to use external sources of funding and engage in recruitment and retraining of staff.

## **Corruption**

In most developing countries, such as Nigeria, the trend of corruption is increasing daily and getting to dangerous levels. It is widespread and part of daily life (Khan, 2006). Public or government decisions, such as awarding contracts to procure ICT equipment, are subject to corrupt practices. Corruption is described as a process whereby public officers violate the rules and regulations to serve their private interests. The most prevalent practices of corruption are bribery and extortion. It may also involve the allocation of resources based on short- or long-term private interests. Corruption imposes significant costs on libraries, including disruption of development plans, detour of funds or resources that would have been wisely invested or spent, and employment of unqualified staff for work that is highly professional. The diffusion of ICT facility to the service of any library involves both short- and long-term planning. Corrupt officials, including librarians can wreck these plans for egocentric interest and gains. For example, strategic plans to purchase certain equipment in a given time period may be dumped and abandoned. In this situation, libraries are denied basic equipment necessary for efficient and effective automated processes and services. Unexcitingly many of these corrupt officers are inclined towards the foulest case situations where government or its agencies allocate funds, most of which goes into secluded individual pockets to fix apparently avoidable network failures. Some of these officers responsible for managing libraries hide under various masks and excuses to divert these funds to satisfy their own interests. The result of this is that in many instances, the library is left with very little funds to carry on its operations like workers' salaries. Corruption is considered one of the main reasons why business and government organizations like the library fail to discharge and fulfill their social responsibilities to the society (Khan, 2006)...The government of Nigeria is pursuing hard to eliminate or at least reduce corruption. The government's efforts have not appeared to yield positive results, largely because those charged with enforcing anti-corruption laws have been compromised. It is only hoped that the government will intensify more efforts at eradicating this negative inclination.

## **The digital divide**

A considerable gap exists between the developing and developed countries of the world in terms of the level of adoption and use of information and communication technologies (ICTs). It is this disparity that has led to the term digital divide. The International Telecommunication Union (2005) defines the digital divide as "the unequal difference or gap in access to and use of ICTs between different groups or nations." The Digital Opportunities Index (DOI) gauges the digital divide. The DOI captures the digital divide in three successive categorizations: Opportunities, which include access and affordability;

Infrastructure, which includes network characteristics and indicators and Utilization, which includes ICT usage and quality. Nigeria is among the countries with a low Digital Opportunities Index. The results of the Digital Opportunities Index published by the International Telecommunication Union (2005) showed that Nigeria was ranked 31st in the African continent with very low levels of opportunity, infrastructure and usage (0.41, 0.03 and 0.01 respectively). Supporting the ranking of the International Telecommunication Union, Ogege (2010) argues that ministries, agencies and institutions such as libraries do not have access to adequate internet bandwidth needed for ICT services and operations. Nigeria ranks last in the world in terms of internet availability and accessibility Ogege (2010). In order for catalogers to engage in activities such as copy cataloging, they need access to sufficient internet bandwidth and data protection to ensure that security breaches do not occur. Again, the national telecommunications industry needs to provide sufficient bandwidth and affordable access for public institutions such as libraries. Recently, however, the government appears to have begun to put in place the necessary infrastructure for ICT development in the country. In 2014, the Federal Ministry of Electricity and Communications allocated about \$150 million to improve electricity supply and ICT infrastructure (Eboh, 2014). It is hoped that the government's efforts will yield positive results.

### **Management Support**

As previously indicated, the management of an automated library is funds intensive. It is unmanageable to launch such a system without the support of the relevant managements and their boards. This is critical to the success of any project. Without the support of management, it is difficult to obtain funding to implement any project. Attempts by libraries to raise funds from outside sources will not succeed without the support of the leadership of their parent institutions. Libraries and librarians need to liaise with management and provide them with information about why it is important to begin providing automated services. Library leaders need to learn diplomacy and advocacy, especially in their dealings with the leadership of their parent institutions.

### **Conclusion**

The library is described as the heart of every institution and the hub around which all the academic activities revolves. The library main purpose is to acquire, organize, preserve, and disseminate information to users. The information needs of library users can only be met if the available resources are well organized through cataloging and classification. The service of cataloguers and classifiers is therefore essential. Cataloging and classification is an intellectual activity and has led to the elimination

of the chaos that would have existed in libraries. Cataloguing and classification has been seen as a very vital aspect of library work which provides sense and order to what would have been a chaotic scene – books acquired from different fields of knowledge. The integration of ICT into cataloging has facilitated this task and has made the work considerably more simplified, time efficient and more precise than the manually kept records of cards/books. All libraries require automation and electronic ways of maintaining records and carrying out other library routine activities. The world has become a global village and this has stirred the method and procedure of cataloging and classification. Cataloging and classification has turned out to be simple, easy and fast as cataloguers are now absorbed in online/copy cataloging. This has aided libraries to produce accurate and faster access to information materials while maintaining consistency and standards. Notwithstanding all the advantages of automation identified above, libraries in Nigeria are not yet fully engaged in the global trend. Nigerian libraries are likely to lag far behind their counterparts in developed countries unless drastic measures are taken. The strategies outlined in this paper are anticipated to be considered and implemented by the relevant authorities and policy makers.

### **Recommendations**

Based on the Nigerian situation and perhaps also in other developing countries, there is a need for consortia between the libraries. The constellation of a consortium, also known as an alliance, association, collaboration, resource sharing, confederation and network, refers to a formal agreement between a number of organizations, in this case libraries with a mutual interest in sharing resources (Nwalo, 2008). The starting point for any collaboration between libraries is that the members, by working together through consortia, can achieve more than they could do individually. This will help reduce the cost of acquiring software and other ICT facilities; a consortium of libraries will purchase software and other networking facilities at a reduced price from the same vendor. Exchanging experiences among the library staff in a consortium will contribute significantly to expertise and education. Library Managements must engage in advocacy. It is obvious that libraries can no longer depend on their meager budgets to run professional services. They must begin to partner with corporate bodies and international agencies, in order to raise required funds for ICT based operations and services. Corporate bodies could use the libraries as platforms for branding and selling their products, while providing infrastructure and sponsorship.

## References

- A.A., P. (2011 ). Chairman's opening speech at the 31st annual seminar/workshop of the Nigerian Library Association, Cataloguing, Classification and Indexing Section held at Badagry from 23rd – 28th October, 2011.
- Abbas, K. (2014). Automation in Nigerian University Libraries: Mirage or Reality. *Information and Knowledge Management*, 4 (4) , Retrieved from [www.iiste.org/Journals/index.php/IKM/article/download/12251/12604](http://www.iiste.org/Journals/index.php/IKM/article/download/12251/12604).
- Ajulo, A. (2007, January 16). *Cooperative Cataloguing Ventures: a discourse*. Retrieved Feb 10, 2020, from [www.unijos.edu.ng/lib/downloads/cooperative\\_cataloguing\\_ventures.doc](http://www.unijos.edu.ng/lib/downloads/cooperative_cataloguing_ventures.doc).
- Atinmo, M. (2013). New Directions in cataloguing and metadata management. *The Nigerian Cataloguer*, Vol.1 No.1 , 71 – 88.
- Beall , J and Kafadar, K. (n.d.). The Effectiveness of Copy Cataloguing at Eliminating Typographical Errors in Shared Bibliographic Records. *LRTS*, Vol 48 (2), Retrieved from <http://eprints.rclis.org/9297/1/LRTSarticle.pdf>.
- Bello, M & Mansur, Y . ( 2011). Cataloguer mentoring: a survey of academic libraries issues, Challenges and Opportunities. <http://eprints.ptar.uitm.edu.y/3125/> . Asia- Pacific Conference on Libray and Information education & practice.
- Bello, M. & Thomson, E. (2013). Recruiting the cataloguers for tomorrow: the need for succession planning in Ghanaian academic libraies. *Library management.*, 24 (6-7). , 310- 315.
- Bhatt, B. &. (2012 ). Needs and Importance of Copy Catalog and Cooperative Cataloguing. Retrieved from <http://www.alibnet.org/public/bookofpaper/ppts/39.pdf>.
- Cabonero, D.A. & Dolendo, R.B. ( 2013). Cataloguing and Classification Skills of Library and Information Science Practitioners in their Workplaces: A Case Analysis. *Library Philosophy and Practice*, University of Nebraska- Lincoln. Retrieved from <http://digit>.
- Daniel, J. ... ((2013 Lack of funds hampers library development in Nigeria' Premium Times, January 18.).
- Eguaveon, O. (2000). Attitude of librarians to cataloguing and classification of library materials in Nigerian Academic Libraries. *Gateway Library Journal*, Vol. 2 ., 17-22.



- Esse, U. .. (2013). Current Trends in Cataloguing and the Challenges of a Cataloguer in the Digital Age. *Information Impact*, 16 – 23.
- Eze, J. (2012 ). Cataloguing in the Era of ICT: What is Happening in the Public Libraries of South-East Nigeria. . *Library Philosophy and Practice, University of Nebraska- Lincoln*. Retrieved from <http://digitalcommons.unl.edu/libphilprac/760/> on 23/12/20.
- FactBook, W. (2007). Communications: Nigeria. Retrieved from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ni.html>.
- Foundation., M. (2005). *Developing Strong University Libraries in Nigeria: Report*. Retrieved from <http://www.webpages.uidaho.edu/~mbolin/1ppissueinde>.
- Gbaje, E. (2013 ). Re-training librarians for the digital work environment by Nigerian library association. *IFLA Journal*. Available at [ifl.sagepub.com/content/39/1/30](http://ifl.sagepub.com/content/39/1/30). Abstract. Access on April 7, 2021.
- Guha, T. a. (2005). OPAC Usability: Assessment through Verbal Protocol. *Electronic Library*, 23(4), 463 – 473.
- Idiegbeyan-ose, J. & Ilo, P. (2013 ). Libraries and Librarians in the 21st Century: A New Perspective. *African Journal of Information and Knowledge Management*, vol 1 (1), 68-74.
- Ifijeh, G. (2011 ). Nigerian university libraries: Current situation, needed improvements, and how marketing might help. *Library Student Journal*. Retrieved from <http://www.librarystudentjournal.org/index.php/ljsj/article/view/229/307>.
- Iroaganach, M A., Iwu James, J & Esse, U. C. (2015). Software Selection and Deployment for Library Cooperation and Resource Sharing Among Academic Libraries in South-West Nigeria. *DESIDOC Journal of Library & Information Technology*, Vol 35 (1).
- Jans, S.U and Sheikh, R.A. (2011 ). Automation of University libraries: A comparative analysis of Islamabad and Khyber Pukhtoon Khwa, Pakistan. *Library philosophy and practice*. Available at <Http://unlib.uni.edu/lpp/>. accessed April 8, 2021.
- Khan, M. ( 2006). Determinants of Corruption in Developing Countries: The Limits of Conventional Economic Analysis, in Susan Rose-Ackerman (ed) *International Handbook on the Economics of Corruption*. Chattenham: Edward Elgar).

- Khan, M. (2006). Determinants of Corruption in Developing Countries: The Limits of Conventional Economic Analysis. In S. R.-A. (ed), *International Handbook on the Economics of Corruption*. Chattenham: Edward Elgar.
- Mosuro, T. (2000 ). Potential impact of New Information Technologies on Libraries and the Library User. In B. a. Edited by Ajibola, *Library Automation for the Information Age*. Ibadan: Centre for Leveraging Information Technologies on Libraries.
- Nadeem ,S and Khalid, M. (2014). Library Software in Pakistan: A review of literature. *Library Review*, 63(3), 224 – 240.
- Neelakandan, B., Duraisekar, S., Balasubramani, S. and Ragavan, S. (2010). Implementation of automated library management system in the school of chemistry, Bharathidasan University using Koha open source software. *International Journal of Applied Engineering Research Dindigul, Vol1 No. 1*, 149-167.
- Nwalo, K. (2013). New mode of Universal Access: Challenge to Nigerian Cataloguers. *The Nigerian Catalogue, Vol.1 No.1* , 89 – 100.
- Ogege, S. (2010). Nigeria’s development challenges in a digitalized global economy. *African Research Review,, 4(4)*, 111 - 122.
- Oketunji, I. ( 2009.). Setting Cataloguing Priorities to Eliminate Backlogs. Paper Presented at the 29th Annual Seminar/Workshop of the Cataloguing, Classification and Indexing Section of the Nigerian Library Association.
- Okiy, R. B. (2005). Funding Nigerian Libraries in the 21st century. Will funding from alternative sources suffice? The Bottom Line. *Managing Library Finances, 18 (2)*, 71-77.
- Ola, C. (2001). Basic cataloguing and classification principles. In *In Practical Methodes to Cataloguing and Classification of Information Resources in Libraries*. Ibadan: End-time Pub.
- Oladapo, S. (2006). *The challenges of Information and Communication Technologies (ICT) to cataloguing and bibliographic services. In Ikpahindi (2006) Resource sharing in cataloguing, bibliographic, and indexing services in an Information and Communication age .*

- Omekwu C, Egberongbe H, & John-Okeke R. (2007). Shared catalogues and cataloguing tools: information and communication as catalyst. *Libr Hi TechnNews*, 24 (3), 19-25.
- Omoike, A and Oke, A. (2014). Online Public Access Catalogue (OPAC) in Nigerian Libraries: A Case Study of Kenneth Dike Library and University of Lagos Library. *Ozean Journal of Social Sciences*, 6(3), 55 - 65.
- Omoniwa, M. (2009). Cataloguing in the 21st Century: The Emerging Trends and Challenges. A Paper Presented at the 29th Annual Seminar/Workshop of the Cataloguing, Classification and Indexing Section of the Nigerian Library Association.
- Orbih, D.E. and Aina, A.J. (2014). Benefits and Challenges of Original Cataloguing Versus Copy Cataloguing: The Experience at the Lagos State University. *International Journal of Library and Information Science*, Vol 16 (5), 88-97.
- Ossai-ugbah, N. (2013). The role of professional association and institutions in facilitating access to information in Africa. *Academic Journal of Interdisciplinary studies.*, Vol.2 (2), 263-270.
- Ratha, B. (n.d.). *Library Automation*. Indore: School of Library and Information Science, Devi Ahilya University.
- Raval, A.M. and BankLaw, B.K.M. (2013). *Problems of Library Automation*. Retrieved from Retrieved from [http://raijmr.com/wp-content/uploads/2021/02/1\\_1-6-Dr.-Ajay-M.-Raval.pdf](http://raijmr.com/wp-content/uploads/2021/02/1_1-6-Dr.-Ajay-M.-Raval.pdf) on 16/5/2021.
- Sales, M. (2005). Cataloguing and Classification. . *Journal of Adventist Education*. Retrieved from <http://circle.adventist.org/files/jae/en/jae200467021804.pdf> on 22/4/2021.
- Ugoji, P. O. (2001 ). Software choice parameters and procedure for cataloguing. *Proceedings of selected seminar papers of the cataloguing and classification and indexing section of the Nigerian Library Association*, (pp. 23-29).
- Union, International Telecommunication. (2005). Building Digital Bridges. *International Telecommunication Bulletin*.

Womboh, B. a. (2008 ). The State of Information and Communication Technology (ICT) in Nigerian University Libraries: The Experience of Ibrahim Babangida Library, Federal University of Technology, Yola. *Library Philosophy and Practice (December)* .