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APPLICATION OF ICT TO CATALOGUING AND CLASSIFICATION FOR EFFECTIVE BIBLIOGRAPHIC CONTROL IN THE NATIONAL LIBRARY OF NIGERIA: ISSUES AND CHALLENGES

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Abstract

The study examines the application of information and communication technology (ICT) to cataloguing and classification for effective bibliographic control, with a focus on the National Library of Nigeria as the bibliographic control agency of the nation. The study was guided by six objectives. The research design adopted was survey research method. Population of study was 33 cataloguers, while the sampling technique was complete census of cataloguers in the National Library of Nigeria (NLN), as the population was manageable. The instrument for data collection was structured questionnaire, comprising forty-two item statements in six clusters. Method of data analysis involved the use of statistical tools like frequency table, percentage, mean and standard deviation. The findings revealed that the NLN highly adopts various forms of cataloguing practices like quality, original, copy and centralized cataloguing, while online cataloguing and outsourcing are not adopted. The findings also revealed that there is low effectiveness of the NLN in application of ICT to its cataloguing and classification practices. The extent of adoption of library software packages revealed high extent in the use of only CDS-ISIS. The finding on ICT knowledge and skills of cataloguers revealed high extent of computer and internet skills, and low extent on other items, while extent of application of ICT knowledge and skills to cataloguing and classification practices revealed low extent. The findings also revealed that the challenges of application of ICT to cataloguing and classification of information resources involve inadequate funding, lack of adequate infrastructural facilities, incessant power supply, lack of internet facility and inadequate bandwidth, lack of vendor technical support, lack of maintenance culture and lack of adequate training for staff, among others. The study therefore recommended among others, that the National Library of Nigeria should adopt the use of online cataloguing in addition to other forms so as to avoid or reduce backlog; Cataloguers in the NLN should improve on their effectiveness in application of ICT to cataloguing and classification practices; NLN should adopt the use of library software packages and equally solicit vendor support; the Federal government of Nigeria should improve on funding of the National Library, while the NLN should prudently use the available fund to acquire and maintain ICT infrastructure; ensure regular power supply, provide internet facility and adequate bandwidth; and provide opportunity for adequate staff training on ICT skills. The study however concluded that application of ICT to cataloguing and classification of information resources enhances effective bibliographic control, thus, there is need for the National Library of Nigeria to overcome every obstacle that hinders application of ICT to cataloguing and classification practices.

Keywords: Application, information and communication technology, cataloguing, classification, bibliographic control, National Library of Nigeria.

Introduction

Information and Communication Technology (ICT) has demonstrated its unalloyed impact on library systems, services, operations, and particularly bibliographic control. Ramzan and Sigh (2009) opined that ICT ensures easy integration of various library activities, increases efficiency in acquisition, cataloguing, classification, access to data, and information retrieval and dissemination. It enhances data storage; data and full-text searching; eliminates uninteresting and repetitive work; helps in avoidance of duplication of efforts; increases the range of services; facilitates cooperation and the formation of networks and resource sharing in libraries, among others. Globally, application of ICT to library functions and services results in improved services, saves the time of the staff and users, thus, librarians are manipulating ICT to meet the varied needs of their users.

Application of information and communication technology to cataloguing and classification of information resources involves identification of the bibliographic features of an information resource, identification of the appropriate subject headings, assignment of appropriate call marks, preparation of catalogue entries, production of catalogue cards and library catalogue maintenance, among others. It equally entails using online bibliographic utilities and other electronic devices in cataloguing and classification of information resources. Aniebo (2004) opined that automating the cataloguing department 'facilitates the establishment and maintenance of catalogue database, name authority and subject authority files' (p.94), while Abdullahi, Yunus and Awarri (2011) opined that ICT makes cataloguing practices using online services possible.

Bibliographic control according to Reitz (2004) covers a range of activities which include the creation of complete bibliographic records for published items, the standardization of bibliographic description, provision of wide access to bibliographic records through the compilation and distribution of union lists and subject bibliographies and the provision of physical access through consortia, networks or other cooperative endeavours. One of the objectives the National Library Act of 1970 set out for the National Library of Nigeria according to Iwuji in Akidi (2017) is to 'ensure the availability of a comprehensive collection of recorded knowledge in all forms and facilitate access to such treasury both within and outside the nation's boundaries' (p.37). Application of ICT to cataloguing and classification enables effective bibliographic control, as information explosion experienced in the digital age has brought about creation of various kinds of publications such that users are faced with problems of how to identify and locate recorded knowledge as contained in books (printed and electronic), serials, databases, and other media that currently flood the book industry and the web.

From the foregoing, one can deduce that cataloguing and classification is one of the bibliographic control practices. Thus, application of information and communication technology to this practice brings about effectiveness and ultimately ensure that the bibliographic agency achieves the purpose of bibliographic control, which among others, involve easy accessibility and availability of information resources globally. This is also in line with Iwuji in Akidi (2017) assertion that since the advances in information and communication technology have changed the nature of bibliographic control in developed countries, as emphasis is being shifted from ownership of information resources to access, it is imperative to assess the national effort in this direction. This brings to the fore the motivating factor in this study.

Statement of the Problem

Application of information and communication technology to cataloguing and classification of information resources enhances effective bibliographic control. It brings about effective bibliographic control as there will be reduction in backlogs, timely production of national bibliography of Nigeria, and production of machine-readable catalogues, and availability of online public access catalogue, among others. Application of ICT will result in automated cataloguing system in the National Library of Nigeria. It has been noted that over the years, National Library of Nigeria has been grappling with the application of ICT to its functions. The library has ventured into the process of automation without much enduring recorded success. This corroborates with Aina and Onuoha (2016) argument that the potential benefits of ICT to bibliographic services are not yet fully exploited in Nigeria owing to lack of institutional framework. The authors lamented that it resulted in haphazard approach that has reasonable financial implications without commensurate results.

The implication is that this lack of exploitation of benefits of ICT has affected most of National Library services and functions. Bibliographic control being one of the statutory functions of the National Library of Nigeria is the worst hit in the scenario. Authors have noted that backlog of information resources yet to be catalogued, delayed production of national bibliography of Nigeria, lack of publication of MARC records of national publications, lack of online public access catalogue, among others are witnessed. Without application of ICT to cataloguing and classification practices, the problems of backlog of information resources to be catalogued and delay in production of national bibliography of Nigeria (NBN), lack of availability of online public access catalogue (OPAC), lack of production of machine-readable catalogue of the bibliographic control agencies national output, and even difficulty in compilation of national union catalogue will persist as impediments to effective bibliographic control in Nigeria.

The study therefore seeks to find out issues and challenges hindering the National Library of Nigeria from application of ICT to cataloguing and classification so as to have effective bibliographic control of the national publication output.

Objective of the Study

The main objective of this study is to investigate the application of information and communication technology to cataloguing and classification for effective bibliographic control in the National Library of Nigeria (NLN). Specifically, the objectives of the study include to:

(1) ascertain the forms of cataloguing practices adopted by the National Library of Nigeria (NLN).

(2) find out the effectiveness of the NLN in application of ICT to cataloguing and classification of information resources;

(3) ascertain the extent of adoption of library software packages in cataloguing and classification of information resources;

(4) identify the extent of ICT knowledge and skills of the cataloguers in the National Library;

(5) ascertain the extent of application of ICT knowledge and skills by the cataloguers in the National Library of Nigeria; and.

(6) identify the challenges confronting application of ICT to cataloguing and classification of information resources in the NLN.

Literature Review

Cataloguing and Classification

Cataloguing can be defined as “the process of creating entries for a catalogue” Reitz (2004: 122). The author further opined that cataloguing involves "bibliographic description, subject analysis, assignment of classification notation, and all the activities involved in physically preparing the item for the shelf, tasks usually performed under the supervision of a librarian trained as a cataloguer” (p.122). Cataloguing according to Unegbu (2013) is a forerunner of classification, and one does not go in isolation of the other, which made Taylor and Joudrey in Unegbu (2013) to state that classification of information resources is part of the process of cataloguing, and usually the first activity to occur as new resources are received in the library.

Aina (2004) opined that cataloguing involves two parts, which are descriptive cataloguing and subject cataloguing. Descriptive cataloguing entails providing bibliographic description using the elements available in the information resource to be described and being guided by choice of access points. The elements used in bibliographic description include the author, title, edition, place of publication, name of the publisher and date of publication, International standard book number (ISBN) for books, or international standard serial numbers (ISSN) for serials, among others. Through cataloguing, individual items are made to be unique from other items. In order to maintain international standards, descriptive cataloguing is carried out with the aid of Anglo-American Cataloguing Rules, second edition (AACR2), which is gradually being replaced by resource description and access (RDA) in this digital age. Thus, some libraries, mostly in developed countries have started using the Resource Description and Access (RDA) in place of AARC2 in cataloguing. In corroboration, Aina and Onuoha (2016) averred that many national libraries like British Library, Library of Congress, National Library of Australia, National Library of Singapore, National Library of Malaysia and National Library of Philippines have implemented resource description and access (RDA) in their cataloguing practices. The authors however, concluded that the National Library can play significant role in promoting and supporting efforts towards bibliographic control and implementation of RDA in Nigeria by upgrading her ICT facilities and the Centre for Advanced Library and Information Management (CALIM).

Subject cataloguing according to Aina (2004) involves the provision of subject headings through subject analysis and assignment of classification number, which is carried out with the aid of subject heading lists and classification schedules/schemes, depending on the scheme the library adopts.

Methods Adopted in Cataloguing and Classification

Cataloguers in the digital age are contending with various forms of cataloguing and classification like 'original cataloguing, cooperative and centralized cataloguing, with its varied manifestations involving 'quality cataloguing, copy cataloguing, online cataloguing, online public access catalogue (OPAC) and outsourcing', among others (Unegbu, 2013: 6). Ekere and Mole (2015) maintained that original and copy cataloguing are the major forms, while the others are derivatives.

Quality cataloguing implies application of standards or rules of cataloguing to cataloguing practice. It requires emphasis on maintenance of cataloguing rules. Khochar (2014) opined that quality control involves attention to all positions in cataloguing department even to the lowliest, as

quality work in one area can be negated by sloppiness in another. This could be "ruined by careless inputting" (p.137). Consequently, Anglo- American Cataloguing Rules and presently Resource Description and Access came as a result of the need for standardization in bibliographic description of information resources. In addition, Library of Congress Classification Scheme; Dewey Decimal Classification Scheme, Bliss Bibliographic Classification Scheme; Colon Classification Scheme; and Elizabeth Moys classification scheme for law books, among other classification schemes emerged as a result of the quest to maintain standard in classification of information resources. Thus, Unegbu (2013) opined that in order to have uniformed system of representing bibliographic features of any information resource, different subject heading lists emerged, and the most popular ones are the Library of Congress Subject Heading List and Sears List of Subject Headings, and each is used depending on the classification system adopted by a particular library. All these efforts are geared towards making information resources easily accessible and retrievable in order to serve the clientele better and faster.

Original cataloguing can be defined as a process whereby cataloguers prepare bibliographic records of information resources from the scratch. According to Reitz (2004), it is done without the use of a pre-existing catalogue record for that information resource. Original cataloguing is also defined by Lisiwiki (2012) as creating a catalogue record for an item without the aid of an existing library record, which requires good training and apprenticeship; proficiency both in descriptive cataloguing and in subject cataloguing, and familiarity with the cataloguing tools. Unegbu (2013) noted that the emergence of online cataloguing has resulted in many libraries discouraging their cataloguers from practising original cataloguing, as original cataloguing is presumed to be tasking and requires intelligent and articulate persons with adequate skills, knowledge and experience. However, original cataloguing should take precedence in cataloguing, as it encourages mentorship so as to ensure that at every point in the cataloguing and classification unit, seasoned cataloguers that would mentor others are found.

Copy cataloguing according to Reitz in Unegbu (2013) is defined as the adaptation of a pre-existing bibliographic record to fit the characteristics of the item being processed, “with modifications to correct obvious errors and minor adjustments to reflect locally accepted cataloguing practice” (p.180). Copy cataloguing is mostly required for books that are difficult to catalogue and completely new books. However, for books that are already in existence in the library, application of ICT makes copy cataloguing easy as with Internet access and a click of a button/ mouse, information on the book or related books comes up and the cataloguer takes the

required decision. Copy cataloguing can also be manually done with the aid of national bibliography and could be electronically carried out if the national bibliography is hosted online.

Online cataloguing can be defined as the process of using bibliographic information stored in bibliographic utilities or online catalogues. It is a derivative of copy cataloguing. Cerbo 11 in Nwosu 2015) averred that online cataloguing and classification on the web have improved cataloguers work output as library resources are processed faster using appropriate software. Cataloguers who catalogue online do some modifications peculiar to their own library needs. However, since there are many national publications that are not online, original cataloguing still becomes indispensable. Thus, Hixson in Unegbu (2013), advised cataloguers at the University of California, Los Angeles "to adhere to stricter qualitative standards than copy cataloguing because original records are shared with thousands of other libraries"(p.10). Another form of online cataloguing is the use of other libraries online public access catalogue (OPAC) in cataloguing and classification practices.

Online public access catalogue (OPAC) can be defined as a computerized library catalogue. Unegbu (2013) viewed it as a database of bibliographic records describing the information resources in a library that are accessible to the public through public terminals. It is noted that with the emergence of the Internet, most libraries have made their OPAC accessible from a server to users and other libraries globally. The author equally maintained that as a result of the availability of call numbers that are displayed for accessibility through OPAC, it has become a standard form of bibliographic access globally, and databases are built based on it. Thus, the WWW has enabled libraries to make their catalogues freely available to a wider audience, and makes it serve as an online cataloguing tool for cataloguers, thereby enhancing bibliographic control.

` Outsourcing is defined by Reitz (2004) as "the contracting of library services formerly performed in-house to an outside service provider, usually a for-profit enterprise" (p.511). Though there are many divergent views regarding outsourcing, Unegbu (2013) noted that it is necessary when there are backlog of information resources to catalogue; and could be adopted during accreditation exercise in academic libraries. Outsourcing could also be adopted during processing of information resources for production of national bibliography; it is also necessary when there is inadequate fund to engage adequate permanent staff in the library. The author however, suggested that outsourcing of cataloguing practices of any library should not be encouraged on a regular basis in the library profession, so as not to compromise professionalism.

Application of Information and Communication Technology in Cataloguing and Classification of Information Resources for Effective Bibliographic Control

Aina (2004) maintained that information resources should be organised so as to make them accessible to users who have diversity of interests. According to Akidi (2017), information resources acquired through legal deposit in National Bibliographic Agencies are processed to enhance easy identification, accessibility, and utilization. This is in agreement with IFLA Best Practices for National Bibliographic Agencies (2014) and the IFLA Professional Statement on UBC (2012) which maintained that a national bibliographic agency (NBA) has the responsibility of providing authoritative bibliographic data for publications of its own nation; documentation of authorised access points; and equally making the data available to other national bibliographic agencies (NBAs), libraries, and other communities through appropriate and timely services thereby increasing open access to the bibliographic data. Olugbenga (2016) emphasized that the main purpose of cataloguing is to bring the user to the books or the books to the user within the quickest possible time, which is one of the parameters for measuring effectiveness of cataloguing and classification practices.

Barton & Waters in Whong (2014) noted that in an automated catalogue, library patrons use keywords to search information resources and their various locations in the library, and that the Internet makes possible the remote search for catalogues of other libraries, which is far better than the manual system of surfing through catalogue cards of information resources only within a library. The author also maintained that automated catalogue have the capacity of improving sophisticated searching of the library stock; provides a link to the circulation control system by enabling a borrower to not only ascertain the particular item that the library holds, but also know its loan status at the time.

Application of information and communication technology to cataloguing and classification enhances effective bibliographic control of information resources, which can equally be seen in the areas of online cataloguing, copy cataloguing, use of online public access catalogue (OPAC), production and use of machine-readable catalogue, among others. Nwalo in Akidi (2017) opined that the major phases of computerization of subject cataloguing discernible involve: cataloguing-in-publication (CIP) data copying; Online cataloguing; Cataloguing on the web; and Searching thesaurus online, which is another system of computerized subject cataloguing. The author however, maintained that the terms of availability differ, which may include payment of subscription fee.

In corroboration, Eze (2012) opined that cataloguing and classification practices have witnessed reasonable changes in the era of ICT and online cataloguing is a major change that ICT has brought to cataloguing. She equally maintained that adopting ICT in cataloguing 'has made the work much easier, time saving and more accurate (p.7). The application of information and communication technology to cataloguing and classification practices has also brought about subscription to bibliographic utilities, which Ajibero (2006) noted to imply that libraries can access databases to get bibliographic details of resources, suggested call mark and location of the resources.

Eyitayo (2009) also opined that the impact of information and communication technology on cataloguing practice is such that it has become greatly germane for librarians and information professionals to move their catalogue from manual to automated systems for obvious advantages associated with such paradigm shift. The author averred that consequent upon information explosion, authoritative records and irrelevant ones are commonly found on the Web, which makes it imperative for the librarians and information professionals to assist the users "to sieve through the muddy groove and identify the relevant and all inclusive information for their varied needs" (p. 52). Khochar (2014) also opined that as many libraries have backlogs created over a period of time, which remains a problem for the staff and users, ''automation can change the point at which backlog are considered crisis'' (p. 32).

Application of ICT to cataloguing and classification is also imperative as Calhoun in Cerbo 11 (2011) noted that "today, a large and growing number of students and scholars routinely bypass library catalogue in favour of other discovery tools, and that the library catalogue represents a shrinking proportion of the universe of scholarly information' (p.1)'. This implies that application of ICT to cataloguing and classification has the capacity to enable the users easily seek, identify, find, locate and use information resources. In the same vein, Gorman in Cerbo 11 (2011) viewed the digital age as a great opportunity for cataloguers, with the library of the future having an integrated catalogue into all facets of its programs and practices.

Moreso, bibliographic control practices in this digital age result in some libraries adopting a standard business approach to technical services especially in cataloguing and classification, involving the use of bibliographic utilities like OCLC WorldCat services, Research Libraries Information Network (RLIN), and vendor supplied records so as to reduce pressure in cataloguing and classification of information resources. Thus, Burman in Akidi (2017) averred that libraries, and particularly cataloguing practices, among others are grossly affected by dwindling budgets and increasing services and technology demands over the years, resulting in 'rethinking priorities and radically re-designing internal processes to accomplish new goals'. According to the

author, this has resulted in adopting business approach to catalogue additional library resources, and this approach to some extent transforms the nature of cataloguing and classification and equally the presentation of the library catalogue.

Nwosu (2015) posited that it is very important to understand that cataloguers are facing technical challenges in this 21st century, which include understanding of metadata schemas, MARC, the implementation of Resource Description and Access (RDA) and Functional Requirements for Bibliographic Records (FRBR), among others. Thus, the digital age calls for cataloguers to adopt a new set of rules like the Resource Description and Access (RDA), which replaces the Anglo American Cataloguing Rules 2nd ed., (AACR2). In corroboration, Cerbo 11 (2011) also maintained that with the ever increasing use of electronic resources, cataloguers are given the opportunity of providing the user with accurate and usable records to ensure that the resources that are sought are actually found, as in addition to physical books and serials, e-books, e-journals, websites and repositories are available and accessible to users at the press of a button or the click of the mouse.

Thus, Omekwu (2006) maintained that librarians who do not reposition themselves by upgrading their skills and competences through professional development may find it difficult to meet up to the challenges of the digital era. In the same vein, Nwosu (2015) also noted that cataloguers are life-long learners, and as cataloguing tools are regularly updated so are cataloguers required to update their skills and knowledge. Cataloguers need to keep abreast of the innovations in all spheres of their practices, especially in cataloguing and classification among others. Thus, application of ICT to cataloguing and classification of practices becomes a necessity for all libraries, especially the apex library so as to achieve effective bibliographic control of the national publication output.

Methodology

The study adopted a survey research method. The area of study is the National Library of Nigeria headquarters in Abuja Federal Capital Territory. National Library of Nigeria headquarters was used because the institution adopts centralized cataloguing system. The population of the study is 33 cataloguers in the National Library of Nigeria headquarters, Abuja. There was no sampling, as complete census was adopted since the population was manageable. The sampling technique adopted was purposive sampling of the cataloguers, since there are the only people that can respond better to the questions on the area studied. The study adopted the use of questionnaire for data collection; using structured questions comprising six clusters made up of 42 item statements. Modified four point Likert scale, comprising Strongly Agree / Very High Extent / Very

Highly Adopted (SA/VHE/VHA) = 4; Agree/ High Extent/ Highly Adopted (A/HE/HA) = 3; Disagree / Low Extent / Less Adopted(D/ LE/LA) = 2; Strongly Disagree/Very Low Extent/Not Adopted/ (SD/VLE/NA) = 1. The criterion mean was 2.50, and the decision rule was to accept mean responses of 2.50 and above and to reject mean responses below 2.50. The method of data analysis involved use of statistical tool like frequency table, percentage, mean and standard deviation.

Presentation of Results

Table 1: Gender, Qualification and Years of experience of the respondents

Gender	Frequency	Percentage
Male	18	54.5%
Female	15	45.5%
Total	33	100%
Highest educational qualification	**Frequency**	**Percentage**
WASC/GCE/NECO	0	0%
OND/NCE	1	3.0%
BA/BSc/B.ED/BLS/BLIS/B.Tech	16	48.5%
MA/MSc/MBA/M.ED/MPA/MLS	16	48.5%
PhD	0	0%
Years of working experience in Cataloguing and Classification Department	**Frequency**	**Percentage**
0-6	15	45.5%
7-13	8	24.2%
14-20	2	6.1%
21 and above	8	24.3%

Table 1 shows the demographic variables of the respondents. It presents that out of a total of thirty-three respondents who took part in the survey, 18 (54.5%) were males and 15 (45.5%) were females. Furthermore, it shows that the respondents were majorly found with Bachelor's degree 16 (48.5%), Master's degree 16 (48.5%) and OND/NCE 1 (3.0%). It further showed that none of the respondents has PhD and O'level as highest educational qualification. The result obtained further shows that 15 (45.5%) have worked in the library between 0-6 years, for 7-13 years, there are 8 (24.2%) respondents; 14-20 years 2 (6.1%) respondents, and for 21 and above years, 8 (24.3%) respondents.

Table 2: Mean responses on forms of cataloguing practices adopted by the NLN

S/N	Item Statement	VHA	HA	LA	NA	Mean	St. Dev	Remark
1	Quality cataloguing	21	10	2	0	3.58	0.61	Accept
2	Original cataloguing	24	3	6	0	3.55	0.79	Accept
3	Copy cataloguing	10	6	10	7	2.58	1.15	Accept
4	Online cataloguing	5	2	10	16	1.88	1.08	Reject
5	Centralizing cataloguing	14	2	8	9	2.64	1.30	Accept
6	Outsourcing	5	1	9	18	1.79	1.08	Reject
	Cluster Mean					**2.67**		**Accept**

Table 2 presents mean responses on the forms of cataloguing practices adopted by the National Library of Nigeria (NLN). The table indicates that the respondents accepted quality cataloguing 3.58 (0.61); original cataloguing 3.55 (0.79); copy cataloguing 2.58 (1.15) and centralizing cataloguing 2.64 (1.30) as the forms of cataloguing practices adopted by the National Library of Nigeria. It further presents that online cataloguing 1.88 (1.08) and outsourcing 1.79 (1.08) are not among the cataloguing practices adopted by NLN. The finding is in line with Unegbu (2013) study which maintained that cataloguers are contending with quality, original, and copy cataloguing. However, the finding on online cataloguing and outsourcing are in contrast with Unegbu (2013) study.

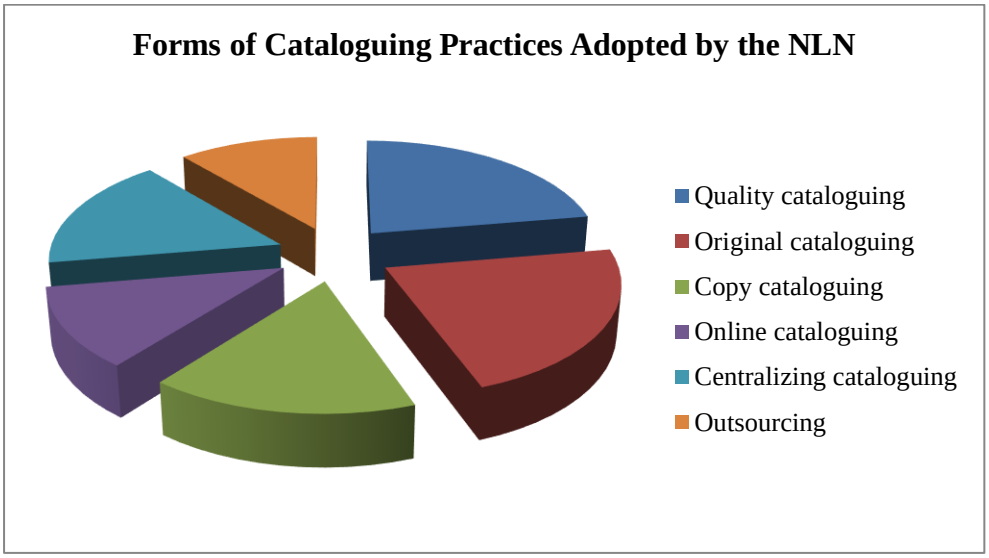


Table 3: Mean responses on effectiveness of the NLN in application of ICT in cataloguing and classification of information resources

S/N	Item Statement	VHE	HE	LE	VLE	Mean	St. Dev	Remark
1	Uses e-tools in cataloguing and classification of information resources in the digital age	6	2	7	18	1.88	1.17	Reject
2	Has automated her cataloguing and classification practices	3	1	4	25	1.45	0.94	Reject
3	Use of Web-Dewey	3	6	0	24	1.45	0.91	Reject
4	Use of electronic Library of Congress classification scheme (e-LC)	2	1	7	23	1.45	0.83	Reject
5	Use of Resource Description and Access (RDA) for cataloguing of information resources	2	5	8	18	1.73	0.94	Reject
6	Uses MACR 21 formats for bibliographic data	1	6	7	19	1.67	0.89	Reject
7	Uses OCLC bibliographic formats and standards	1	6	8	18	1.70	0.88	Reject
8	Uses metadata formats/ schemas/ standards	4	8	6	15	2.03	1.10	Reject
	Cluster Mean					**1.67**		**Reject**

Table 3 presents mean responses on the effectiveness of NLN in application of ICT in cataloguing and classification of information resources in the digital age. The overall result shows a rejection and low application of ICT by NLN in the cataloguing and classification of information resources. Furthermore, all the items in the cluster scored mean scores below the criterion mean and were therefore rejected. It shows that there is relative low extent of use of e-tools in cataloguing and classification of information resources in the digital age 1.88 (1.17). Consequently, the respondents rejected that NLN has automated her cataloguing and classification practices 1.45 (0.94); Use of Web-Dewey 1.45 (0.91); Use of electronic Library of Congress classification scheme (e-LC) 1.45 (0.83); Use of Resource Description and Access (RDA) for cataloguing of information resources 1.73 (0.94); Uses MACR 21 formats for bibliographic data 1.67 (0.89); Uses OCLC bibliographic formats and standards 1.70 (0.88); and Uses metadata formats/ schemas/ standards 2.03 (1.10). The cluster mean of 1.67 revealed low effectiveness in the application of ICT to cataloguing and classification by the NLN. The findings are in agreement with Okoroafor (2013) study which revealed that the National Library of Nigeria has not fully adopted ICT in her functions.

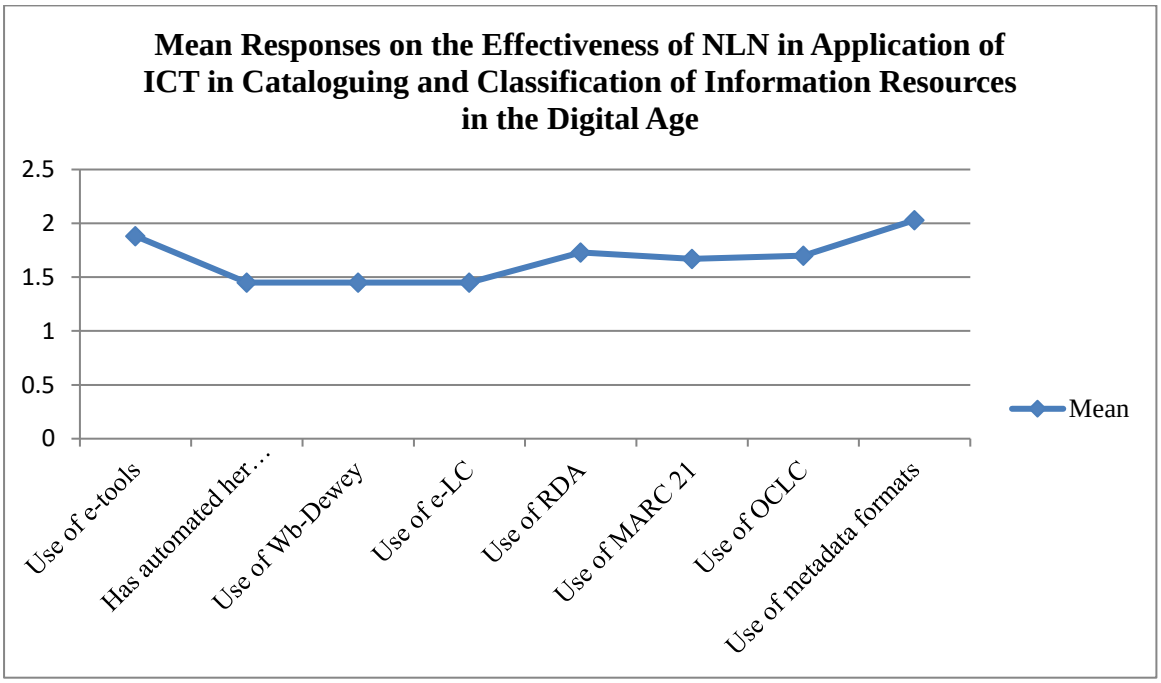
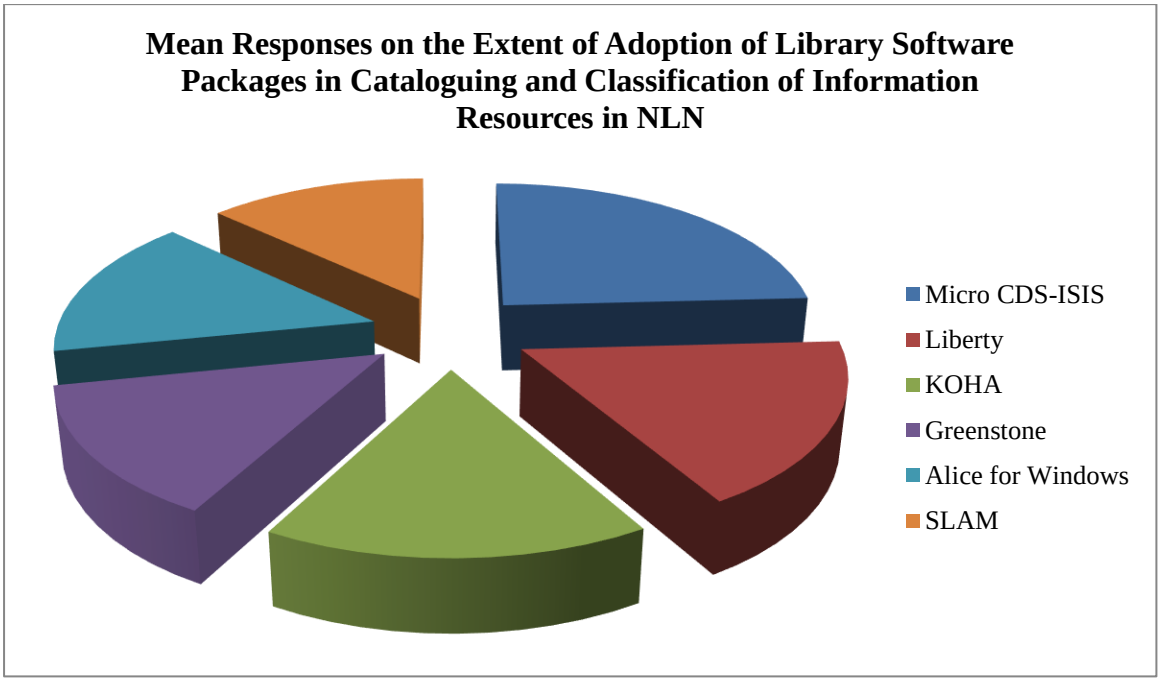


Table 4: Mean responses on the extent of adoption of library software packages in cataloguing and classification of information resources

S/N	Item Statement	VHE	HE	LE	VLE	Mean	St. Dev.	Remark
1	Use of micro CDS-ISIS	11	6	5	11	2.52	1.28	Accept
2	Use of Liberty 3	5	2	8	18	1.82	1.10	Reject
3	Use of KOHA	2	5	7	19	1.70	0.95	Reject
4	Use of Greenstone	1	2	8	22	1.45	0.75	Reject
5	Use of Alice for Windows	3	3	4	23	1.58	1.00	Reject
6	Use of Slam	2	1	4	26	1.36	0.82	Reject
	Cluster Mean					**1.74**		**Reject**

Table 4 above presents mean responses on the extent of adoption of library software packages in cataloguing and classification of information resources in NLN. The result shows a very low extent of application of library software packages in the cataloguing and classification processes of the NLN. However, the finding shows the acceptance of micro CDS-ISIS 2.52 (1.28) as the only library software applied to a high extent in the cataloguing and classification of information resources in NLN. Furthermore, the study found a low extent of application and the rejection of the use of Liberty 3 1.82 (1.10); KOHA 1.70 (0.95); Greenstone 1.45 (0.75); Alice for Windows 1.58 (1.00) and the use of SLAM 1.36 (0.82). The findings also support Okoroafor (2013) study which revealed that the National Library of Nigeria has not fully adopted ICT in her functions.



Tables 5: Mean responses on extent of ICT knowledge and skills

S/N	Item Statement	VHE	HE	LE	VLE	Mean	St. Dev.	Remark
1	Computer skills	10	7	7	9	2.55	1.20	Accept
2	Online cataloguing skills	7	6	13	7	2.39	1.06	Reject
3	Internet skills	13	9	7	4	2.94	1.06	Accept
4	Library software skills	7	8	12	6	2.48	1.03	Reject
	Cluster Mean					**2.59**		**Accept**

Table 5 above presents the findings on the extent of ICT knowledge and skills of cataloguers. The result shows an overall high extent of ICT knowledge and skill, with cluster mean of 2.59. It was further revealed that the respondents accepted a high extent of computer skills 2.55 (1.20) and Internet skills 2.94 (1.06). Furthermore, there is a low extent and rejection of online cataloguing skills 2.39 (1.06) and library software packages skills 2.48 (1.03).

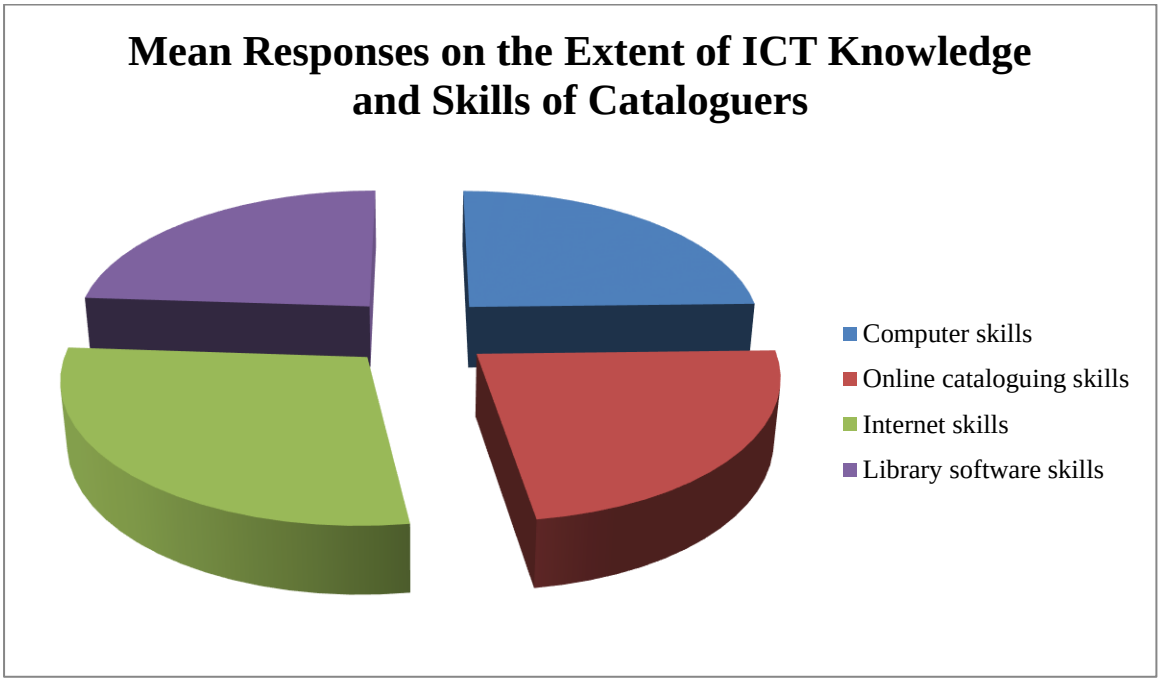


Table 6: Mean responses on extent of application of ICT knowledge and skills of the cataloguers

S/N	Item Statement	VHE	HE	LE	VLE	Mean	St. Dev.	Remark
1	Cataloguers can effectively use ICT tools	7	8	10	8	2.42	1.09	Reject
2	Cataloguers can effectively use the library software packages	4	10	9	10	2.24	1.03	Reject
3	Cataloguers use internet to access bibliographic utilities like cataloguers use OCLC and WorldCat for their cataloguing practices	6	2	12	13	2.03	1.10	Reject
4	Cataloguers can update the catalogue entries	6	9	6	12	2.27	1.15	Reject
5	Cataloguers use Online Public Access catalogue (OPAC)	5	6	8	14	2.06	1.12	Reject
6	Cataloguers do copy cataloguing using online bibliographic utilities	7	5	6	15	2.12	1.22	Reject
7	Cataloguers do online cataloguing using Web-Dewey and e-LC	7	2	9	15	2.03	1.19	Reject
	Cluster Mean					**2.17**		**Reject**

Table 6 above shows the mean responses of respondents on the extent of application of ICT knowledge and skills of the cataloguers. The result shows an overall rejection and a very low extent of application of ICT knowledge and skills of the cataloguers. The finding revealed that cataloguers can effectively use ICT tools with mean rating of 2.42 (1.09); cataloguers can effectively use the library software packages 2.24 (1.03); cataloguers use internet to access bibliographic utilities like cataloguers use OCLC and WorldCat for their cataloguing practices 2.03 (1.10); cataloguers can update the catalogue entries 2.27 (1.15); cataloguers use Online Public Access catalogue (OPAC) 2.06 (1.12); Cataloguers do copy cataloguing using online bibliographic utilities 2.12 (1.22); and Cataloguers do online cataloguing using Web-Dewey and e-LC 2.03 (1.19). The findings are in agreement with Okoroafor (2013) study which revealed that the National Library of Nigeria has not fully adopted ICT in her functions.

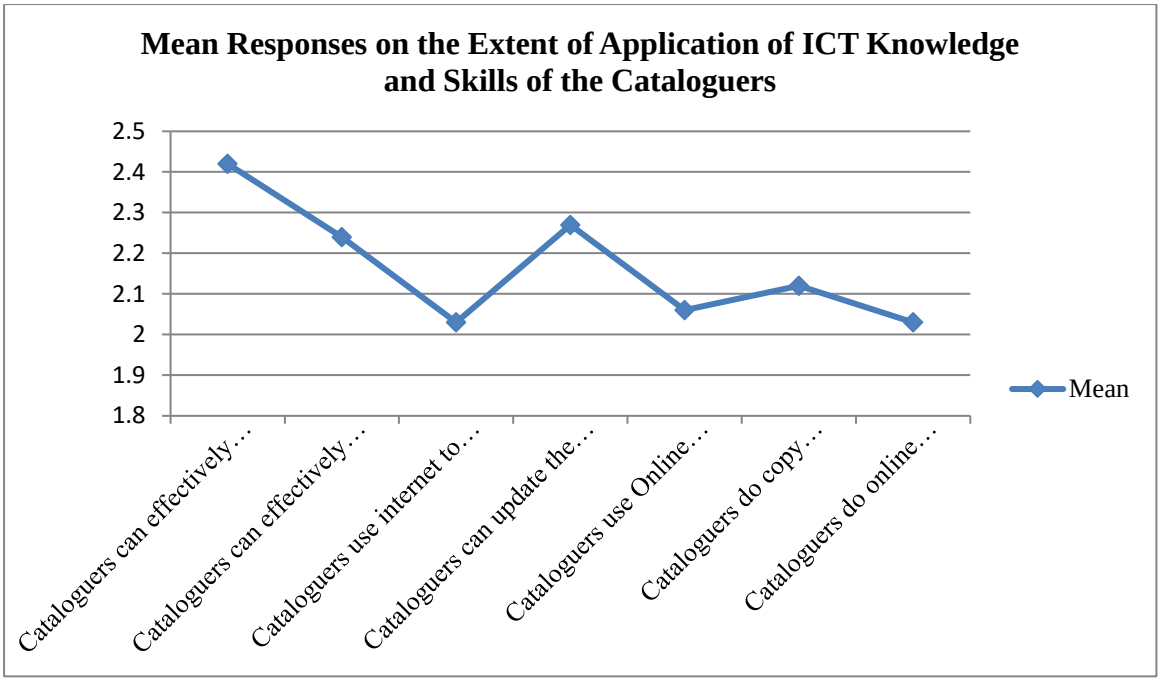
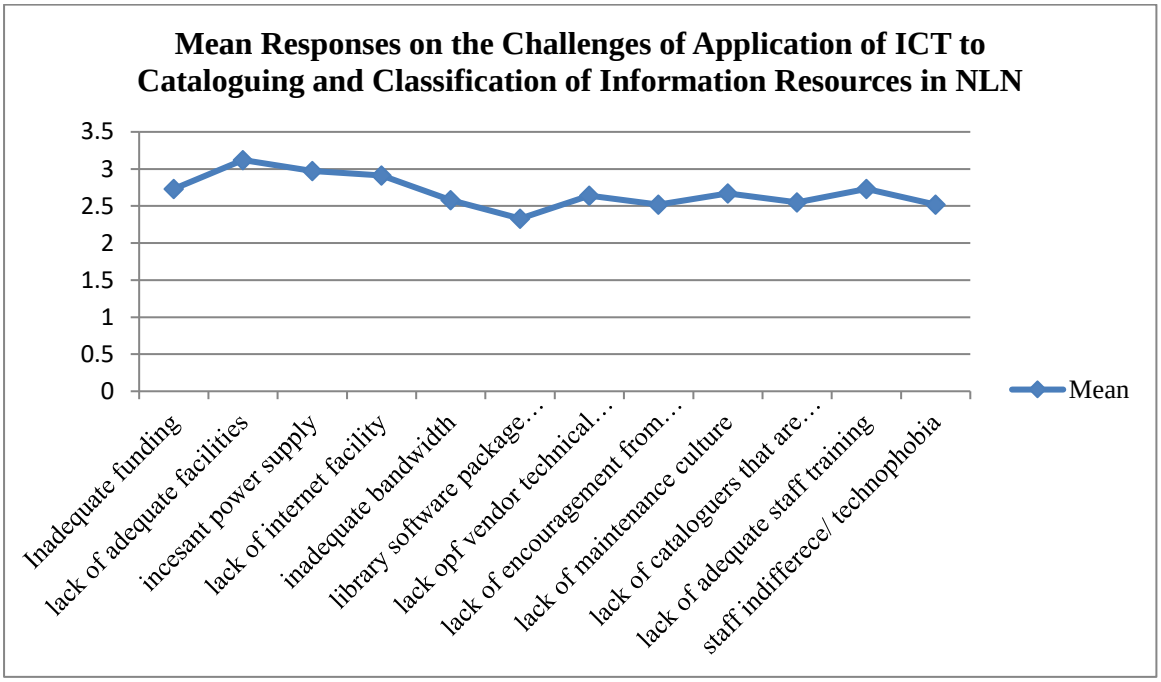


Table 7: Mean responses on challenges of application of ICT to cataloguing and classification of information resources

S/N	Item Statement	SA	A	D	SD	Mean	St. Dev.	Remark
1	Inadequate funding	16	3	3	11	2.73	1.38	Accept
2	Lack of adequate infrastructural facilities	19	5	3	6	3.12	1.19	Accept
3	Incessant power outage	18	4	3	8	2.97	1.29	Accept
4	Lack of Internet facility	15	7	4	7	2.91	1.21	Accept
5	Inadequate bandwidth	8	8	12	5	2.58	1.03	Accept
6	Library software package adopted	5	11	7	10	2.33	1.08	Reject
7	Lack of vendor technical support	11	6	9	7	2.64	1.17	Accept
8	Lack of encouragement from the management	7	12	5	9	2.52	1.12	Accept
9	Lack of maintenance culture	9	13	2	9	2.67	1.16	Accept
10	Lack of cataloguers that are digitally savvy	9	11	2	11	2.55	1.23	Accept
11	Lack of adequate staff training	10	11	5	7	2.73	1.13	Accept
12	Staff indifference/ technophobia	10	9	2	12	2.52	1.28	Accept
	Cluster Mean					**2.69**		**Accept**

Table 7 above indicates the mean responses on the challenges of application of ICT to cataloguing and classification of information resources in NLN. The results show a strong agreement on all the items except one, as the challenges facing the cataloguing and classification of information resources in NLN. The finding revealed the acceptance of the following as challenges: inadequate funding 2.73 (1.38); lack of adequate infrastructural facilities 3.12 (1.19); incessant power outage 2.97 (1.29); lack of Internet facility 2.91 (1.21); inadequate bandwidth 2.58 (1.03); lack of vendor technical support 2.64 (1.17); lack of encouragement from the management 2.52 (1.12); and lack of maintenance culture 2.67 (1.16). Others include lack of cataloguers that

are digitally savvy 2.55 (1.23); lack of adequate staff training 2.73 (1.13) and staff indifference/ technophobia 2.52 (1.28). Furthermore, the respondents rejected library software package adopted 2.33 (1.08) as among the challenges facing cataloguing and classification of information resources in the NLN.



Conclusion

Application of ICT to cataloguing and classification of information resources enhances effective bibliographic control. This results in adoption of online cataloguing using e-tools, bibliographic utilities and availability of online public access catalogue (OPAC), which enhances easy access to the available resources in the library, assists in circulation control and equally enables global access to information resources of any bibliographic control agency, among others. It is therefore imperative that NLN as a bibliographic control agency of Nigeria should as a matter of urgency fully apply ICT to its cataloguing and classification practices so as to gain the inherent advantages and ensure that there is no backlog of information resources acquired through purchase or legal deposit, among others. This will invariably improve the timeliness of NBN production and ensure availability of OPAC and MARC records of the national publication output of Nigeria. Thus, for the National Library of Nigeria to achieve effective bibliographic control, there is need to overcome every obstacle that hinders application of ICT to cataloguing and classification practices, among other activities of the apex library.

Recommendations

Sequel to the findings of the study, the following recommendations are made:

1. National Library of Nigeria (NLN) should ensure that in addition to other forms of cataloguing, online cataloguing is adopted, so as to ensure quick processing of information resources and also reduce accumulation of backlog of resources yet to be catalogued and classified.

2. Cataloguers in the NLN should improve on their effectiveness in application of ICT to cataloguing and classification. Thus, electronic tools like Resources Description and Access (RDA); web-Dewey, e-LC, bibliographic utilities, among others, should be adopted and regularly subscribed to by the library. Cataloguing and classification practices should equally be automated.

3. Library software packages and particularly free ones like KOHA should be adopted, while fee-based software packages could be considered to suit the purpose of the statutory functions of the Agency, and particularly bibliographic control. In addition, vendor technical support must be sought in the adoption of any fee-based library software package.

4. Staff of the NLN, and especially cataloguers should improve on their ICT knowledge and skills, for effective bibliographic control and equally remain relevant in this digital age.

5. Cataloguers should improve on the extent of applications of ICT knowledge and skills to cataloguing and classification practices. This could be achieved through effective use of the ICT tool, library software packages, using internet to access bibliographic utilities, use of other libraries' OPAC and also carrying out online cataloguing and classification.

6. Cataloguers in the NLN should be adequately equipped for the digital age through seminars, conferences, workshops and in-house training on ICT. This is sequel to the importance of regular staff training in order to remain relevant in their job.

7. The Federal government of Nigeria should improve on funding of National Library of Nigeria so as to enable the institution acquire and maintain basic ICT infrastructure/tools for their statutory functions, and particularly cataloguing and classification practices.

8. The Management of National Library of Nigeria should lobby for better funding, manage the available fund well and judiciously use it to acquire and maintain ICT tools/infrastructure.

9. There should be regular power supply, internet facility and adequate bandwidth for the application of ICT to cataloguing and classification practices to be effective.

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