



PERCEIVED EFFECTS OF ICTS ON CATALOGUING AND CLASSIFICATION OF INFORMATION RESOURCES IN MICHAEL OKPARA UNIVERSITY OF AGRICULTURE LIBRARY, UMUDIKE, ABIA STATE, NIGERIA

DR. JULIET ONUOHA

*University Library,
Michael Okpara University of Agriculture,
Umudike, Abia State, Nigeria.
transformerjuls@gmail.com*

&

CHUKWUEMEKA CHUKWUEKE

*Library and Information Science Department,
Taraba State University, Jalingo, Nigeria.
chukwuemeke.chukwueke@tsuniversity.edu.ng*

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ABSTRACT

Library automation is no longer new in librarianship. This is because almost the entire operations of the library are experiencing the introduction of ICTs. As to whether there is an effect of this adoption of ICTs in the cataloguing and classification of information resources, is a matter of great concern. This is why the present study investigated the perceived effect of ICTs on the cataloguing and classification of information resources in Michael Okpara University of Agriculture Library, Umudike. Three (3) objectives guided the study. The descriptive survey design with a study sample of 5 respondents representing the entire staff strength of the Cataloguing and Classification Unit was chosen using the complete census sampling technique was used. Data was collected using a combination of an observation checklist and a 23-item questionnaire titled "Effect of ICTs on Cataloguing and Classification of Information Resources" Questionnaire. The analysis and presentation of data were done using frequency counts and mean scores with appropriate tables. The findings show that computers, online databases, and Internet servers are among the ICTs adopted. The perceived effects are seen in the areas of making cataloguing and classification easy and reducing errors in cataloguing and classification, among others. It was further revealed that poor funding of library technical operations, inadequate ICT facilities, inadequate number of ICT-competent cataloguers, etc. were among the factors militating against the adoption of ICTs in the library operation. Based on the findings, it was recommended, among others, that libraries should develop means of generating additional funds to finance most of their projects and services.

Keywords: ICT, Cataloguing, Classification, Information resources, Library

Introduction

To remain relevant in the digital era has been the backbone behind the recent growth in the adoption or application of information and communication technologies (ICTs) in the operations and services of Nigerian libraries. Library operations concerned with the application of ICTs are the cataloguing and classification of



information resources. Recalling the views of Akidi and Okezie (2018), ICTs have shown their absolute effect on the entire library system and services and remain a veritable apparatus for the growth of 21st-century libraries. Its integration has not only increased the effectiveness in the acquisition of information resources, and made the processes of cataloguing and classification easy, but has made for easy access to information, and the overall diversification of the library services and resources. To this end, ICTs in libraries have enhanced data storage; data and full-text searching, eliminated uninteresting and repetitive work; helped in the avoidance of duplication of efforts; increased the range of services (Chukwueke & Okafor, 2019); and facilitated cooperation and the formation of networks and resource sharing among libraries (Chukwueke & Nnadozie, 2019).

Libraries are charged with the responsibility of collecting, processing and preserving information resources, which must be arranged in an orderly manner so that users can retrieve them without necessarily wasting much energy and time. It is the cataloguing and classification operation that makes this easy as the resources are organized according to their subject areas, authors, titles, year of publication, etc. It is pertinent that any library with millions of volumes of information resources that are not organized for easy retrieval will be judged as having nothing. Corroborating this, Nwalo (as cited in Atanda & Ugwulebo, 2017) observes that a building filled with books is not necessarily a library unless the books have been organized for access and made available for use. It is therefore not an overstatement that cataloguing and classification are referred to as the hallmark of librarianship.

Cataloguing as noted by Nwalo (2003) describes a book and points out its subject contents, which ultimately places it in a subject class while classification involves assigning a class number to a book that corresponds with its subject contents, following a chosen classification scheme. Cataloguing shows vividly the bibliographic details of materials in such a way that a user can easily identify them with ease, even when there is no help coming from staff. It is the process of compiling a catalogue or constructing entries for insertion into a catalogue. This process, however, entails the preparation and maintenance of the catalogue, which includes classification, assigning subject headings and subject indexing. Classification is the act of using a specific classification scheme to assign a specific heading, which corresponds to the subject treatment of a book, so it can be identified in the library.

Consequently, before the adoption of ICTs in library operations and services, cataloguing and classification were done using the manual system. It, therefore, becomes imperative to stand on the practice of manual cataloguing as a premise for building an understanding of the effect of ICT in cataloguing and classification. At inception, cataloguing and classification were not tedious tasks. This is perhaps because there was no explosion in information (Ilo, as cited in Adebayo & Emeahara, 2012). Then, books were organized using length, colour, size and shape. This was not difficult because there were just a few resources. If the same manual system is to be used in this age of information growth and explosion, there could be many problems in an attempt to achieve effectiveness and efficiency in the cataloguing and classification of information resources in most libraries. Consequently, the application of ICT to the cataloguing and classification of information resources involves the identification of the bibliographic features and the appropriate subject headings of an information resource, assignment of appropriate call marks, preparation of catalogue entries, production of



catalogue cards and library catalogue maintenance, among others (Akidi & Okezie, 2018). It also entails using online bibliographic utilities and other electronic devices in the cataloguing and classification of information resources.

Abdullahi, Yunus and Awarri (2011) opine that ICT in cataloguing and classification facilitates the establishment and maintenance of catalogue databases, in addition to making cataloguing practices using online services possible. Bamidele and Olusegun (2017) believe that it has further removed the sluggishness accompanying manual cataloguing and classification as there is no longer delay because bibliographic details are now copied. Also, library software, powered by ICT has provisions for bibliographic entries of books where the library staff makes the entries directly into the computer (Akidi & Okezie, 2018), thereby, saving the time and energy that would have been used for copying on the worksheets, erasing, re-copying and typing on the catalogue cards (Adebayo & Emeahara, 2012). Furthermore, multiple copies of titles, which are sometimes scattered because of errors in classification, are brought together through the Online Public Access Catalogue (OPAC) as well as an increase in the volume of materials classified within a given time. Additionally, libraries that are connected to the Internet automatically have access to the materials classified in other libraries, if such materials have been uploaded too. Through the Internet, it is easy for classifiers to gain access to the Library of Congress or other platforms for copy cataloguing

Though ICT in cataloguing and classification is full of gains, Aina and Onuoha (2016) note that the potential benefits of the adoption and application of ICT for the organization of library resources are not yet fully exploited in Nigeria university libraries owing to the lack of institutional framework, high cost of acquiring ICTs, inadequate funding of university libraries, inadequate ICT skills on the sides of the cataloguer librarians, poor Internet connectivity, among others. Moustapha and Ahmad (2021) observe that Nigerian libraries are not adopting ICTs in their cataloguing properly due to challenges such as erratic power supply, insufficient funding, staff shortage, and lack of cataloguing experience or knowledge, among others. If these challenges are not handled, the result may be disastrous. However, Omekwu (2008) is of the view that the most critical role of cataloguers, especially those in developing countries, is the adoption of cataloguing practices that effectively mainstream information resources into the global information network environment. By so doing, a cataloguing system that would become tools for access and controlled description of physical and virtual resources will evolve. From the viewpoint of Bassey (2016), only about 44% of cataloguing module is fully automated in most libraries in Nigeria. With these statistics, the effect of ICT on the cataloguing and classification of information resources may not be properly ascertained.

Consequently, a preliminary survey of literature and observation showed that most university libraries have adopted ICTs in their cataloguing and classification operations, the same can also be said of MOUAU Library. A careful look at the literature failed to empirically show the effect of ICT on the cataloguing and classification of information resources in the Library. This is the gap identified. Except, empirically proven, the revelation of the effects of ICTs on the cataloguing and classification of information resources in MOUAU Library could be best referred to as mere speculation. It is against this backdrop that the present study was conceived to examine the effect of ICT on the cataloguing and classification of information resources in Michael Okpara University of Agriculture, Umudike (MOUAU) Library.



Objectives of the Study

The study sets out to examine the:

1. ICTs adopted in cataloguing and classifying information resources in MOUAU Library;
2. perceived effects of ICTs on the practices of cataloguing and classification of information resources in MOUAU Library; and
3. factors militating against the adoption of ICTs in cataloguing and classifying information resources in MOUAU Library.

Significance and Motivation of the Study

The benefits of the adoption and application of ICTs to library operations and service delivery cannot be overemphasized. This is the singular reason why almost all the areas of services of university libraries, have found the application of ICTs on them. These ICTs present a revolutionary approach to addressing developmental questions due to their unequalled capacity to provide access to information instantaneously from any location in the world at a relatively low cost. Today, cataloguers now have access to an online catalogue which enables them to search for class numbers and other bibliographic information about a book. For this reason, the present study examines the effect of ICT on the cataloguing and classification of information resources in MOUAU Library.

It is, however, expected to be of immense benefit to librarians and administrators of university libraries as they will understand, from the cataloguers' perspective, the perceived effects of these ICTs on the cataloguing and classification of information resources, as well as what should be done to improve the adoption of ICT in cataloguing and classifying information resources in the library. The study will equally aid researchers and authors who are interested in knowing the effects, challenges, and possible solutions to the problems, facing ICT adoption in the cataloguing and classification of information resources. It will also be a source of information in ensuring that every librarian becomes an accomplished cataloguer due to the solution to the identified challenges. Finally, this study will add to the existing literature on the cataloguing and classification of information resources and ICT in libraries.

Review of Related Literature

ICT could be referred to as a merger of computing and telecommunication technologies for information acquisition, storage, retrieval and dissemination. According to Hart, Emeli and Okorogba (2016), they are a merger of computing and telecommunication technologies for information acquisition, storage, retrieval and dissemination. Amuchie (2015) sees ICTs as those technologies that are used to access, gather, manipulate and present or communicate information They include hardware such as computers and other devices; software applications and connectivity; access to the Internet, local networking infrastructures and video conferencing (Amuchie, 2015). ICTs present a revolutionary approach to addressing developmental questions due to their unequalled capacity to provide access to information instantaneously from any location in the world at a relatively low cost (Arinola, Adigun, Oladeji, & Adekunjo, 2012).

Consequently, the emergence of ICTs ushered in the dawn of a new era in the cataloguing and classification of information resources (Ladan, 2012). These technologies not only ensure easy information processing and storage but also ensure



effectiveness in the areas of information retrieval and dissemination. Onouha, Chikezie and Chukwueke (2019) observed that the rapid development and influx of ICTs to operations and services of academic libraries have made a commensurate impact and have led to a series of innovations, among which is the ICT-based cataloguing and classification of information resources found in the library. This has in no fewer manners improved the cataloguing and classification workflow in libraries and has greatly reduced manual work (Bhoi, 2017). ICT-based cataloguing and classification enable para-professionals in libraries to effectively perform many of the duties that hitherto were the exclusive domain of professional librarians (Eze, 2012).

Further amplifying the above, Alabi (2018) carried out a study on ICTs applications for cataloguing and classification in Nigerian libraries and found that cataloguers have embraced the use of diverse library software and also utilise online catalogues for copy cataloguing coupled with the fact that they have a positive attitude towards ICT application in performing cataloguing and classification activities. In the same vein, the study of Adebayo and Emeahara (2012) on the use of Internet facilities and metadata as precursors to electronic resource cataloguing in selected academic libraries in South-west, Nigeria found that there is a significant relationship between the use of Internet facilities and metadata in cataloguing electronic resources, which has resulted in high availability of CD-ROMs, electronic journals and web resources in the selected libraries, high availability of the Internet, cataloguing modules and OPAC and high usage of Internet facilities such as the E-mail, web browsing and Discussion forums. This further informed the assertion of Alabi (2018) that many libraries in developed countries have adopted the use of ICTs in carrying out cataloguing and classification functions, and Nigerian libraries are no exception. These ICTs, according to the author have transformed how cataloguing and classification routines are carried out and have impacted the traditional ways of organizing library information resources.

In another study, Akidi and Okezie (2018) revealed a low extent of the adoption of library software packages with the adoption of CDS-ISIS being high. According to the authors, although, the cataloguers had a high knowledge of computer and Internet skills, the application of such knowledge and skill in the practice of cataloguing and classification of information resources, is low, owing to challenges such as inadequate funding, inadequate infrastructural facilities, incessant power supply, lack of Internet facilities and inadequate bandwidth, lack of vendor technical support, lack of maintenance culture and lack of adequate staff training, among others. Agreeably, Arinola, Adigun, Oladeji and Adekunjo (2012) had earlier observed a poor utilization of ICTs in the cataloguing and classification function of most libraries due to cost, technical know-how and management issues.

Amidst its challenges, Arinola, Adigun, Oladeji and Adekunjo (2012) x-rayed the impact of ICT on the cataloguing and classification of library materials in ten randomly selected University libraries in the South-western part of Nigeria and revealed that ICT could bring lasting relief to the stress of manual classification and cataloguing, which is prone to human error. However, the result is that cataloguing has grown more important as library users can now log on to online catalogues from the comfort of their homes. As well, Alabi (2018) carefully observed that ICT-based cataloguing and classification of information resources and how it has proven the routines for manual cataloguing to be drudgery, repetitive, boring in nature and often seen as a “hard” area of librarianship. This, according to Bassey (2016), is because of the availability and utilization of library software like ALICE for Windows, Virtua, Techlib Plus, Libsys, CDS/



ISIS, Lib Info, WINISIS, LMS, SOUL, TINLIB, X-LIB, GLAS, KOHA, SLAM, Liberty 3, and Docuware, for the operations (Bassey, 2016).

Additionally, ICT-based cataloguing and classification of information resources have brought about efficiency and effectiveness in resource sharing, easy and increased accessibility, reliable storage, accuracy, resource availability, reduced duplication of efforts and cost-effectiveness (Arinola, Adigun, Oladeji & Adegunjo, 2012). It has also led to increased work productivity among cataloguers. For instance, Akintunde (as cited in Alabi, 2018) stated that the ICT-based cataloguing operations in the University of Jos, Plateau State, Nigeria have proved useful in increasing the number of books processed in the Cataloguing section from as low as 5% to 50%. It has also empowered cataloguers to embark on integrated operations and resource sharing. However, through resource sharing, cataloguing records are now readily available, and there is a serious reduction in effort duplication among cataloguers (Nwalo, 2006). Summarily, new features brought about as a result application of ICTs into the cataloguing and classification of information resources in libraries include the OPAC, a database containing the library's collection that can be accessed by anyone online, Cataloguing-In-Publication (CIP) data, involvement of non-professionals in copy cataloguing, the introduction of software, cataloguing of internet resources and other electronic files (Francis-Swanson, 2010; Yusuf, 2009).

It is very clear from the literature that ICTs in the cataloguing and classification of information resources in libraries have proven to be of high positive effects although fraught with some challenges. It is also clear that these are reports from other libraries while some are based on personal opinions. To this end, no literature was found as to the effect of ICT on the cataloguing and classification of information resources in Michael Okpara University of Agriculture Library, Umudike, thereby, leaving a gap in the literature that the present study tends to fill, upon completion.

Methodology

The study adopted the descriptive survey design with a focus on Michael Okpara University of Agriculture, Library Umudike, Abia State, Nigeria. A sample of 5 respondents representing the entire staff strength of the Cataloguing and Classification Unit was chosen using the complete census sampling technique. The staff were chosen because they are directly involved in the operation of cataloguing and classification of information resources in the Library studied and would be in the best position to provide reliable data. Furthermore, data were collected using a combination of an observation checklist and a 23-item questionnaire titled "Effect of ICTs on Cataloguing and Classification of Information Resources Questionnaire (EICTs CCIRQ)". Firstly, the observation checklist was used to examine the ICTs adopted while the questionnaire answered questions bothering on the effects and factors militating against the adoption of ICTs in the cataloguing and classification of information resources. Additionally, the questionnaire was structured using a four (4)-point scale of Strongly Agree, Agree, Disagree, and Strongly Disagree with a criterion mean of 2.50. This implies that any questionnaire item with a mean score of 2.50 and above was regarded as "agreed" while items with a mean score below 2.50 were regarded as "disagreed". A total of five (5) copies of the questionnaire were distributed and all were returned, giving a response rate of 100%. Data analysis and presentation were done using frequency counts and mean scores with appropriate tables.



Analysis and Results

A total of five (5) copies of the questionnaire were distributed and all were returned, giving a response rate of 100%. Data collected and analysed are presented in the tables below; following the order of the research objectives.

RO 1: To examine the ICTs adopted in cataloguing and classifying information resources in MOUAU Library

Table 1: ICTs Adopted in Cataloguing and Classifying Information Resources

S/No.	Items	Adopted	Not Adopted
1	Computers	√	-
2	Printers	√	-
3	Scanners	√	-
4	CD-ROM Technology	√	-
5	Photocopiers	-	√
6	Internet servers	√	-
7	Machine-readable catalogue (MARC)	-	√
8	Online Public Access Catalogue (OPAC)	-	√
9	Library Based Software e.g. KOHA	-	√
10	Online database	√	-
11	Radio Frequency Identification Devices (RFID)	-	√
12	Barcode Readers	-	√

Table 1 captures the data collected through the use of the observation checklist on the ICTs adopted in the cataloguing and classification of information resources in the library studied. A total of twelve (12) ICTs were investigated. The result shows the adoption of 6 of the 12 ICTs which include computers, printers, scanners, CD-ROM technology, Internet server and online databases. On the other hand, photocopiers, Machine Readable Catalogue (MARC), Online Public Access Catalogue (OPAC), library-based software e.g. KOHA, Radio Frequency Identification Devices (RFID), and barcode readers were not adopted, as observed.

RQ 2: To ascertain the perceived effects of ICTs on the practices of cataloguing and classification of information resources in MOUAU Library



Table 2: Perceived Effects of ICTs on the Practices of Cataloguing and Classification of Information Resources

S/n	Statements	SA	A	D	SD	Mean	Decision
1	ICTs in the cataloguing and classification process make the process easy	3	2	0	0	3.60	Agreed
2	Reduces errors in cataloguing and classification	3	2	0	0	3.60	Agreed
3	Brings about quick cataloguing and classification practice	5	0	0	0	4.00	Agreed
4	Makes for effective search, location and retrieval of information resources	4	1	0	0	3.80	Agreed
5	Saves time for the user and the librarian	5	0	0	0	4.00	Agreed
6	Saves the energy of searching by the user	5	0	0	0	4.00	Agreed
7	Provides access to the right and relevant information materials	2	3	0	0	3.40	Agreed
8	Saves space in the library	2	3	0	0	3.40	Agreed
9	Provides access to different formats of information materials	2	3	0	0	3.40	Agreed
10	Reduces labour	4	1	0	0	3.80	Agreed
11	Saves cost for the library	4	1	0	0	3.80	Agreed
Cluster Mean						3.71	Agreed

Table 2 captures the views of the respondents on the perceived effects of ICTs on the practices of cataloguing and classification of information resources in MOUAU Library. The result shows that the majority of the respondents agreed with all the perceived effects which include: ICTs in the cataloguing and classification process make the process easy (3.60), reducing errors in cataloguing and classification (3.60), bringing about quick cataloguing and classification practice (4.00), makes for effective search, location and retrieval of information resources (3.80), saves the time of the user and the librarian (4.00), saves the energy of searching by the user (4.00), provides access to right and relevant information materials (3.40), saves space in the library (3.40), provides access to different formats of information materials (3.40), reduces labour (3.80), and saves cost for the library (3.80). This agreement is because the mean values of the item statements fall within the mean limit of agreement (i.e. if mean value ≥ 2.50). The summary flows from the result of the cluster mean of 3.71 obtained, which showed that the majority of the respondents strongly agreed and reported positive effects of the adoption of ICTs in the cataloguing and classification of information resources.

RO 3: To identify the factors militating against the adoption of ICTs in cataloguing and classifying information resources in MOUAU Library



Table 3: Factors Militating Against Adoption of ICTs in Cataloguing and Classifying Information Resources

S/N	Statement	SA	A	D	SD	Mean	Decision
1	Poor funding of library technical operations	4	1	0	0	3.80	Agreed
2	Inadequate ICT facilities	1	4	0	0	3.20	Agreed
3	Inadequate number of ICT-competent cataloguers in the library	5	0	0	0	3.00	Agreed
3	Unstable power supply	4	1	0	0	3.80	Agreed
4	Frequent changes in technology	1	4	0	0	3.20	Agreed
5	Inadequate technical support	3	2	0	0	3.60	Agreed
6	Lack of maintenance culture	1	4	0	0	3.20	Agreed
7	Changes in software applications in libraries	1	4	0	0	3.20	Agreed
8	Low Internet bandwidth	2	3	0	0	3.40	Agreed
9	Management problems	4	1	0	0	3.80	Agreed
10	Incompetent personnel	1	4	0	0	3.20	Agreed
11	Lack of continual training of cataloguers	2	3	0	0	3.40	Agreed
Cluster Mean						3.40	Agreed

Table 3 shows the result generated on the factors militating against the adoption of ICTs in cataloguing and classifying information resources in the library studied. It shows that majority of the respondents agreed with all the item statements to be the factors militating against the adoption of ICTs. These factors agreed with and their mean scores include poor funding of library technical operations (3.80), inadequate ICT facilities (3.20), inadequate number of ICT-competent cataloguers in the library (3.00), unstable power supply (3.80), frequent challenges in technology (3.20), inadequate technical support (3.60), lack of maintenance culture (3.20), changes in software applications in libraries (3.20), low Internet bandwidth (3.40), management problems (3.80), incompetent personnel (3.20), and lack of continual training of cataloguers (3.40). This agreement is because the mean scores of the item statements fall within the mean limit of agreements (i.e. mean \geq 2.50). However, a cluster mean value of 3.40 obtained showed that the majority of the respondents agreed to the existence of numerous factors militating the adoption of ICTs in cataloguing and classifying information resources in MOUAAU Library.

Discussion of the Findings

Considering the first objective of the study, it was revealed that 6 of the 12 ICTs examined were adopted for the cataloguing and classification operations of the Library. The ICTs reported being adopted by the majority of the respondents, including computers, printers, scanners, CD-ROM technology, Internet server and online databases. Although this result partially agrees with the findings of Alabi (2018), which found the existence of numerous ICTs such as computers, printers, and photocopiers in academic libraries in Nigeria, one could rightly observe the adoption and application in



the practices of cataloguing and classifying information resources, to be low. This is contrary to the submissions of Akidi and Okezie (2018) in their study, which revealed a high extent of use of ICTs for cataloguing and classifying information resources in most Nigerian libraries. It is, however, important for one not to conclude that the application of computers or only a few ICTs summarizes the adoption of ICTs in such operations. This is because, some relevant ICTs are necessary but their application, is relegated.

Additionally, on the perceived effects of ICTs on the practices of cataloguing and classification of information resources, the finding shows a highly positive effect. The effects range from making cataloguing and classification easy, reducing errors in cataloguing and classification, bringing about quick cataloguing and classification practice, making for effective search, location and retrieval of information resources, saving the time of the user and the librarian, saving the energy of searching by the user, provides access to right and relevant information materials, saves space in the library, provides access to different formats of information materials, reduces labour, and saves cost for the library. These findings tally with the report of Arinola, Adigun, Oladeji and Adekunjo (2012), which revealed that ICTs could bring lasting relief to the stress of manual classification and cataloguing. Furthermore, Akintunde (as cited in Alabi, 2018), Bassey (2016), Bhoi (2017), as well as Akidi and Okezie (2018) reported many benefits and positive impacts attached to the application of ICT in library services and operations. These benefits as reported by the authors sum up to easy delivery of library services.

Consequently, the study in its finding on factors militating against the adoption of ICTs in cataloguing and classifying information resources in MOUAW Library various militating factors, which include; Inadequate funding, lack of infrastructural facilities, inadequate number of ICT-competent cataloguers in the library, unstable power supply, frequent challenges in technology, inadequate technical support, lack of maintenance culture, changes in software applications in libraries, low Internet bandwidth, management problems, incompetent personnel, and lack of continual training of cataloguers. Consequently, the study agrees with the report of the works of Igwe and Uzuegbu (2013), Bassey (2016), Bhoi (2017), and Alabi (2018), which found that lack of funds, poor management support, unskilled manpower and lack of infrastructural facilities necessary for the full application of ICT were some of the problems encountered in the library which hinders their application of ICT resources in their areas of operations and services. These were the reasons why Mensah (2015), Nitin (2015), Hart, Emeli and Okorogba (2016), as well as Onuoha, Chikezie and Chukwueke (2019) suggested the need for adequate provision of funds for the procurement of ICT facilities, staff and user training on ICT use, provision of an adequate infrastructural facility, among other remedies, should be the top consideration of any academic library with the view of applying ICT in their operations and services.

Conclusion

The practice of automation of libraries is no longer a new phenomenon to most university libraries. However, some of these university libraries are yet to fully tap from the dividends of the adoption and application of these ICTs in their services, especially in the area of cataloguing and classification of information resources. Numerous ICTs have been adopted in the cataloguing and classification of information resources with a high extent and numerous positive effects on the practice, both to the librarians and users of the Library. Although the effects are seen in the areas of making cataloguing



and classification easy, reducing errors in cataloguing and classification, bringing about quick cataloguing and classification practice, making for effective search, location and retrieval of information resources, saving the time of the user and the librarian, among others, modern ICTs are yet to be embraced by the Library studied.

Recommendations

Based on the findings, the following recommendations were made:

1. Management of Michael Okpara University of Agriculture Library should develop means of generating additional funds to finance most of their projects to remedy the constant reference to inadequate funding. To generate these additional funds, the library can decide to place most of its services on a fee-based, and solicit support from individuals and philanthropists, among other means.
2. Libraries should build on the infrastructural facilities available. This is because most of these ICTs require some infrastructure such as strong desks, air-conditioned rooms, etc. for their application and effective functioning. It is also important that these libraries move with the ICT trends and constant changes in technology.
3. There is a high need for the Management of MOUAW Library to recruit more ICT-competent staff that would take care of the various operations requiring a strong ICT presence. As well, the librarians, especially the cataloguers should be exposed to adequate ICT training.

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AUTHORS' PROFILE



Dr. Juliet Onuoha is a Librarian at the Michael Okpara University of Agriculture, Umudike in Nigeria. She holds Ph.D. in Library and Information Science and is certified by the Librarians' Registration Council of Nigeria. Dr. Onuoha has published in various peer-reviewed journals, conference proceedings and book chapters. Her research interests include institutional repository, information literacy, and user and information needs and seeking behaviour.



Chukwuemeka Chukwueke (CLN) doubles as a faculty member in the Department of Library and Information Science and a Librarian (cataloguer/classifier) at Taraba State University, Jalingo. He obtained a first-class (Hons) degree in Library and Information Science with a subject speciality in banking and finance from the Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria and is currently a postgraduate student of the Taraba State University, Jalingo. His research interest includes information literacy, academic and school librarianship, library automation, open education resource, institutional repository and library administration and management. He has published in various local and international journals including book chapters.