

**APPLICATION OF CATALOGUING STANDARDS TO ELECTRONIC
INFORMATION RESOURCES FOR EFFECTIVE RETRIEVAL IN PUBLIC
UNIVERSITY LIBRARIES IN SOUTH-EAST, NIGERIA**

By

**PROFESSOR A. J. C. MOLE, CLN
ANEZI LEONARD EZEMA, CLN
and
CHIMEZIE DAMIAN OGBUABOR, CLN**

Abstract

This study was designed to ascertain the extent of application of cataloguing standards on e-resources for effective retrieval in public university libraries in South East, Nigeria. To achieve this, two research questions with one hypotheses were posed. These cover: availability e-resources, and extent of application of cataloguing standards on e-resources. The research design adopted for the study is descriptive survey. The study covers ten (10) public University Libraries in South East Nigeria. The population comprises 184 librarians currently working in libraries understudy. The instruments for data collection were a questionnaire titled: “Application of Cataloguing Standards on E-resources for effective Retrieval Questionnaire” (ACSEIRERQ) and check-list for observation of available e-resources. Two experts in the Department of Library and Information Science, University of Nigeria, Nsukka (UNN) and one research expert in measurement and evaluation unit of the Department of Science Education, UNN, face validated the instruments. A reliability test using Cronbach Alpha technique yielded a correlation of 0.87. Research Assistants were used for data distribution and collection. The data collected were analyzed using mean and standard deviation. The hypotheses were tested at 0.05 level of significance. Findings of the study show that e-resources were available in university libraries investigated and cataloguing standards were applied on e-resources. The researcher recommendations: increase in the budgetary allocation of e-resources to make available more electronic information resource, and a constant refresher course on cataloguing through seminars and workshops on cataloguing to keep cataloguer updated on the application of new standards.

Key: Cataloguing Standards, EIR, University Library, Retrieval

Introduction

The application of cataloguing standards to electronic information resources is critical for ensuring efficient organization, seamless accessibility, and easy retrieval in university libraries in Southeast Nigeria, thereby enhancing the quality of information services and supporting academic excellence.

University libraries are libraries attached to universities, serving the teaching and research needs of the staff and students of the parent institution. They play two key roles: supporting the institution's curriculum and supporting research and learning by university faculty, staff, and students (Abubakar, 2017; Mirza & Mahmood, 2018). University libraries are essential infrastructures that have been established in universities. Their existence is aligned with the functions of the institutions where they are situated. According to Gabbay and Shoham (2019), university libraries are developed to serve two complementary purposes: to support the curriculum of the host institutions and to support the research of faculty members, students, and the host community by providing both print and Electronic information resource.

Electronic information resources (EIRs) are collections of information in electronic or digital formats that are accessed on electronic devices, such as computers, smartphones, tablets, and e-readers (Adenariwo, & Sulyman, 2022). These resources include e-books, e-journals, multimedia materials, e-databases, e-conference proceedings, e-reports, e-maps, e-pictures/photographs, e-manuscripts, e-theses, e-newspapers, newsgroups, subject gateways, USENET, and other forms of digital content. An EIR is defined as information accessed via the internet, and this definition has been extended to include CD-ROMs, as they can be accessed online (Ugwu & Onyegiri, 2013).

According to Ekere, Omekwu, and Nwoha (2016), electronic information resources include the World Wide Web, Wi-Fi, search engines, online indexes, video CDs, VSAT-based Internet connectivity, online library catalogues, online databases, portals, e-journals, and e-books. Anyim (2021) identified five benefits of using electronic information resources, including speed of access and retrieval, a wide range of high-quality databases, and printout capabilities.

These resources, updated more frequently than printed materials, offer significant potential benefits to researchers, provided they are accessible and retrievable through the internet.

Retrieval is the process of obtaining something from a particular place, specifically referring to the action of obtaining or consulting material stored in a computer system. Effective retrieval is the ability of a system to retrieve relevant documents while simultaneously suppressing the retrieval of non-relevant ones (Echem and Udo-anyanwu, 2018). They emphasized that the effectiveness of a library as a learning instrument is determined by its success in providing users with the necessary tools to access and retrieve the information they seek. The cataloguing standard tools use in cataloguing and classification includes Anglo-American Cataloguing Rules 2 (AACR2), Resource Description and Access (RDA), Subject heading lists, MARC formats etc. This tools according to Darries (2017) are any device or document (print-based or electronic) that assists in the creation of an original bibliographic record or in the verification of bibliographic information in existing records.

Cataloguing Standards are "authoritative rules, codes, and guidelines that are acceptable and used by the communities of practice and regarded as essential to attain accuracy and consistency in the creation of a catalogue record."(Bamise, Oluwaniyi, and Igbeneghu, 2019). According to Ekere and Mole (2014), these rules includes: the British Museum rule for the compilation of catalogues of printed books published in 1841, Cutter's rules for a dictionary catalogue published in 1876, Anglo-American Cataloguing Rules first published in 1908, Library of Congress Rules for descriptive cataloguing, published in 1949, and ALA Rules of Cataloguing published in 1949, and Resource Description and Access (RDA) instructions are based on the Functional Requirements for Bibliographic Records (FRBR), Functional Requirements for Authority Data (FRAD), and IFLA's International Cataloguing Principles (Oni, Oshiotse &

Abubakar, 2018). RDA is a standard designed to focus attention on the user and the tasks they carry out in the process of resource discovery. For easy retrieval, it is critical that these cataloguing standards are effectively applied to electronic information resources.

The application of cataloguing standards to electronic information resources refers to the advancement of capabilities and professional know-how or techniques in cataloguing electronic information resources in the library. Applying these cataloguing standards enhances the user experience by improving access to electronic resources, fostering a more organized digital environment (Gorman, 2015) It is pertinent to apply internationally accepted cataloguing standards to electronic information resources for effective retrieval in university libraries, providing access points that enable users to gain access to and harness the numerous benefits of these resources. Considering the importance of cataloguing standards in cataloguing the information resources of university libraries for easy access, effective retrieval, and international standardization, this study is focused on the “Application of Cataloguing Standards to Electronic Information Resources for effective retrieval in public University Libraries in south East, Nigeria”

Statement of the Problem

Access and retrieval remain crucial for harnessing these essential resources, which offer current, up-to-date, ease of access and retrieval from remote locations. With the increasing volume and variety of research resources becoming available electronically, university libraries need to apply cataloguing standards in organizing these resources to keep track of the information available and the type of information these resources provide. Users are increasingly demanding information in non-print forms due to the ease of obtaining what they require, but lack of access and poor retrieval hinder them from fully utilizing these resources.

Unfortunately, personal observation shows that the primary issue hindering the retrieval of electronic information resources in libraries is the lack of access points which is as a result of inadequate application of internationally developed cataloguing standards to electronic information resources.

It is of a great concern that despite the pressing need for a study to determine the application of cataloguing standards to electronic information resources for effective retrieval in university libraries in southeast Nigeria, no such study has been conducted to the best of my knowledge. This gap justifies the need for this study, which framed as a question form is: What is the cataloguing standards applied to electronic information resources for effective retrieval in university libraries in southeast Nigeria?

Research Question

The following research questions were formulated to guide this study:

1. What are the electronic information resources available in public university libraries in the south-east, Nigeria?
2. What is the extent of application of cataloguing standards on electronic information resources for effective retrieval in public university libraries in the southeast, Nigeria?

Research Hypotheses

Null hypotheses tested on a 0.05 level of significance were formulated to guide this study:

H₀₁: There is no significant difference in the mean rating of male and female librarians on the extent of application of cataloguing standards on electronic information resources for effective retrieval in public university libraries in South-East Nigeria.

Literature review

University libraries

University libraries are regarded as the centers of intellectual life within their host institutions and among their members. These libraries are established in universities as systemic information resource banks, where recorded knowledge is organized by professionals to serve their institutions. Supporting this assertion, Sivakumaren, Geetha, and Jeyaprakash (2019) noted that university libraries are a group of libraries established, maintained, and administered by universities to meet the needs of their students and academic staff. Consequently, the main goal of a university library is to support the university's objectives, which are to promote teaching, learning, and research through the provision of resources (both conventional and electronically). Emphasizing the importance of university libraries, Meitei and Dave (2018) stated that the development of a university depends largely on the provision of fully and well-equipped libraries and information resource centers.

Electronic Information Resources

Electronic Information Resources (EIRs) refer to digital materials accessible through electronic devices and networks, including e-books, e-journals, online databases, multimedia resources, and open educational resources (OERs) (Buba, Abubakar, & Lawal, 2019; Banwet and Datta, 2019). These resources provide instant access to up-to-date information and have become essential in academic and research settings. EIRs enhance research productivity by offering a wide range of scholarly materials, often integrating interactive features such as hyperlinks and multimedia content to enrich learning experiences. (Singh and Singh, 2021; Smith, Brown, & Johnson, 2022).

Cataloguing Standards

Cataloguing standards are authoritative rules, codes, and guidelines that are accepted and used by communities of practice. They are regarded as essential for achieving accuracy and

consistency in the creation of catalogue records. (Fajiwe, Subair, Enamudu, Omonagbe & Ogungbemile, 2023). These standards constitute a set of rules and guidelines for preparing bibliographic records to represent library resources, established to maintain consistency within a catalogue and among the catalogues of libraries using the same code (ISO, 2020).

Research methodology

This study employed a descriptive survey design, a population of 184 professional librarians in public university libraries in Southeast Nigeria was used. Two instruments were used for data collection: a structured questionnaire titled “Application of Cataloguing Standards on Electronic Information Resources for Easy Retrieval Questionnaire” (ACSEIRERQ) and a 26 item observation checklist to assess the availability of electronic information resources in the libraries under study. The two instruments were validated by research experts from the Department of Library and Information Science and one research expert from the Measurement and Evaluation Unit, Faculty of Education, both at UNN. Cronbach’s alpha (α) method which yield overall reliability score is 0.87 was used to ascertain the reliability of the instruments. The data for this study was administered and collected by the researcher and six research assistants. Data from research question one, using the observation checklist, were analyzed using frequency count and percentage and descriptive statistics were used to answer research questions two while Null hypotheses were subjected to t-test statistical computation at a 0.05 level of significance.

Findings and discussions

TABLE 1: Distribution of questionnaire by Institution before and after Administration

Institution	Admin.	Return	%		
Federal					
AE-FUNAI	7	7	100%		
FUTO		48	33	68.7%	
MOUAAU	23	21	91.3%		
NAL		45	36	80%	
PFANL	15	15	100%		
Total		137	97	70%	
State					
ABSU		10	8	80%	

COOU	10	8	80%
EBSU	7	6	85.7%
ESUT	10	10	100%
IMSU	10	10	100%
Total	47	42	89.3
Grand Total	184	154	83.6%

Source: field survey 2024

Research Question One: What are the electronic information resources available in public university libraries in the southeast of Nigeria?

Table 2: Frequency and percentage of electronic information resources available in university libraries in south East, Nigeria.

EIR	Name of University																				Overall		R	
	NAL		FUTO		MOUAU		PFANL		FUNAI		ESUT		IMSU		ABSU		COOU		EBSU		A%	NA %		
	A	N A	A	N A	A	NA	A	N A	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA				
Electronic books	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		100	0%	A	
Electronic journals	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		100	0	A	
Electronic newspapers		✓	✓		✓			✓		✓		✓		✓		✓		✓		✓		30	70	NA
Electronic magazines		✓		✓	✓			✓		✓		✓		✓		✓		✓		✓		20	80	NA
Electronic full text database	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		60	40	A	
CD ROM	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		100	0	A	
Electronic projects	✓		✓		✓		✓		✓		✓		✓			✓	✓		✓		80	20	A	
Electronic Thesis/Dissertation	✓		✓		✓		✓		✓		✓			✓		✓	✓		✓		70	30	A	
Electronic lecture notes		✓	✓			✓		✓		✓		✓		✓		✓		✓		✓		10	90	NA
Electronic Past Question Papers		✓	✓		✓			✓		✓		✓		✓		✓		✓		✓		10	90	NA
Electronic Reference Materials	✓		✓			✓	✓		✓		✓		✓			✓	✓		✓		60	40	A	
Electronic Internet database	✓		✓		✓		✓		✓		✓			✓		✓	✓		✓		70	30	A	
Electronic Courseware		✓	✓			✓		✓		✓		✓		✓			✓		✓		40	60	NA	
Electronic Research Reports		✓	✓			✓		✓		✓		✓		✓		✓		✓		✓		20	80	NA
Online Databases	✓		✓		✓		✓		✓		✓		✓		✓		✓			✓		80	20	A
AGORA	✓		✓		✓		✓			✓		✓		✓		✓		✓		✓		100	0	A
JSTOR	✓			✓		✓	✓		✓		✓		✓			✓	✓		✓		60	40	A	
HINARI	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		100	0	A	
EBSCO	✓		✓		✓		✓			✓		✓		✓		✓		✓		✓		100	0	A
Electronic Clippings		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		0	100	NA
Electronic indexing databases		✓	✓			✓		✓		✓		✓		✓		✓		✓		✓		10	90	NA
Electronic Abstracting		✓	✓			✓		✓		✓		✓		✓		✓		✓		✓		10	90	NA
Image collection		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		100	0	A
E-Reference database		✓	✓			✓		✓		✓		✓		✓	✓			✓		✓		20	80	NA
Electronic patents		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		0	100	NA
Electronic Standards		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		0	100	NA
Total in %	50	50	76.9	23	53.8	46.1	50	50	30.7	69.2	53.8	46.1	46.1	53.8	42.3	57.8	50	50	38.4	61.5				

The result presented in Table 2 shows the electronic information resources available in public university libraries in the southeastern region of Nigeria. The results from the table reveal that a total of 14(53.8%) EIRs are available, while 12(46.2%) are not available; This is consistent with Buba, Abubakar, and Lawal (2019), who lists e-books, databases, e-journals, articles, and CD-ROMs etc. as EIRs available in university libraries.

Research Question Two: What is the extent of application of cataloguing standards on electronic information resources for effective retrieval in public university libraries in the southeast, Nigeria?

Table 3: Mean and standard deviation of respondents on the extent of application of cataloguing standards on electronic information resources for effective retrieval in public university libraries in the southeast, Nigeria, n = 154

S/N	Cataloguing Standard	Federal \bar{X}	SD	State \bar{X}	SD	Overall mean \bar{X}	SD	R	Remark
1	Punctuation	3.39	.53	3.40	.51	3.40	.52	4	HE
2	Capitalization	3.37	.60	3.35	.55	3.36	.57	7	HE
3	Assignment of headings	3.29	.54	3.41	.53	3.37	.54	6	HE
4	Subject cataloguing	3.45	.50	3.43	.54	3.44	.52	1	HE
5	Descriptive cataloguing	3.45	.58	3.41	.53	3.42	.55	2	HE
6	Application of edition statement	3.24	.62	3.31	.54	3.29	.57	10	HE
7	Application of standard numbers	3.24	.62	3.32	.58	3.29	.59	10	HE
8	Application of title	3.41	.50	3.36	.59	3.38	.56	5	HE
9	Statement of responsibility	3.37	.63	3.27	.60	3.31	.61	9	HE
10	Application of series statement	3.35	.59	3.30	.57	3.32	.58	8	HE
11	Application of call number	3.39	.53	3.37	.54	3.38	.54	5	HE
12	Uniform locator	3.27	.67	3.23	.60	3.25	.62	11	HE
13	Authorized access point	3.25	.59	3.31	.54	3.29	.56	10	HE
14	Application of authority/vocabulary control	3.25	.59	3.30	.59	3.29	.59	10	HE
15	Classification	3.41	.64	3.41	.55	3.41	.58	3	HE
16	Application of imprint	3.25	.66	3.31	.56	3.29	.59	10	HE
17	Note area	3.27	.75	3.23	.60	3.25	.65	11	HE
18	Application of collation	3.14	.72	3.20	.63	3.18	.66	14	HE
19	Shelf list management	3.12	.74	3.18	.71	3.16	.72	15	HE
20	Application of filing methods	3.22	.67	3.21	.65	3.21	.66	13	HE

21	Development of added entries	3.24	.68	3.22	.63	3.23	.64	12	HE
	Cluster Mean	3.30	.47	3.21	.41	3.31	.43		HE

The result in Table 2 shows the extent of application of cataloguing standards to electronic information resources for effective retrieval in university libraries in the Southeast of Nigeria. The results reveal that subject cataloguing, with a mean score of 3.44; descriptive cataloguing, with a mean score of 3.42; classification, with a mean score of 3.41; punctuation, with a mean score of 3.40; application of call numbers, with a mean score of 3.38; assignment of subject headings, with a mean score of 3.37; capitalization, with a mean score of 3.36. This indicates that the extent of application of cataloguing standards to electronic information resources for effective retrieval in university libraries in Southeast Nigeria is high. This is in line with Aina (2014), who opined that there is a need to adopt a cataloguing standard in cataloguing practice for uniformity and consistency.

Hypothesis One: There is no significant difference in the mean rating of male and female librarians regarding the extent of readiness for applying cataloguing standards to electronic information resources for effective retrieval in university libraries in Southeast Nigeria.

Table 4: An independent t-test analysis of a significant difference in the mean rating of male and female librarians on the extent of readiness for application of cataloguing standards on electronic information resources for effective retrieval in university libraries in the southeast of Nigeria

Gender	N	Mean	SD	df	t-value	P-value
Male	51	3.30	.47	152	-.099	.922
Female	103	3.31	.41			

Result Table 3 shows the t-test for independent samples assuming equal variance. The result is as follows: $t(152) = -.009$, $p = .922$. Hence, the null hypothesis of no significant difference was accepted since the p-value (.922) is greater than the 0.05 level of significance.

The researcher therefore concludes that there is no significant difference in the mean rating of male and female librarians on the extent of readiness for application of cataloguing standards on electronic information resources for effective retrieval in university libraries in South-East Nigeria.

Recommendations

Based on the study's findings, the following recommendations are made:

1. Library management should increase the budgetary allocation for electronic information resources to provide more resources for users because of its usefulness.
2. Public university libraries should adopt internationally recognized cataloguing standards such as RDA, Dublin Core to ensure consistence and interoperability, and ease of information exchange
3. Librarians should be encouraged to participate in refresher courses and workshops on cataloguing to stay updated on the application new cataloguing standards to EIRs to easy accessibility.
4. University libraries should implement automated cataloguing tools and integrated library systems ILS that support international standards to streamline that cataloguing process , reduced errors and improve efficiency
5. Regularly review and update cataloguing standards and practices to keep pace with technological advancements and evolving user need by ensuring that the cataloguing process remains effective for electronic information resources.

Conclusion

The study assessed the application of cataloguing standards on electronic information resources for effective retrieval in university libraries in the Southeast of Nigeria. The focus was

to determine the extent of application of cataloguing standards to electronic information resources for effective retrieval in these university libraries. It is noteworthy from the study's findings that there are a number of electronic information resources available in the university libraries investigated. Cataloguers also apply the necessary cataloguing to electronic information resources for effective retrieval in public university library in south east Nigeria.

References

- Abubakar, B. P. (2017). Academic libraries in Nigeria in the 21st Century. *Library Philosophy and Practice (e-journal)*. Paper number 446. <http://bit.ly/1QCMk9d>. Accessed on 02/02/15.
- Adenariwo, & SULYMAN, (2022). Availability and Accessibility of Electronic Information Resources in Academic Libraries as Predictors of Academic Performance of Student. *Library Philosophy and Practice (e-journal)*. 7205. <https://digitalcommons.unl.edu/libphilprac/7205>.
- Aina R. F. (2014). Awareness, Accessibility and Use of Electronic Databases among Academic Staff of Babcock University Business School. Kuwait. *Journal of Business and Management Review*, 3(6), 73-85.
- Anyim W. O. (2021). Relevance of Electronic Resources and Improvement of Access for Effective Distance Learning and Continuing Education Programme. *International Journal of Asian Education*, 2(1), 101-125.
- Bamise, O. F., Oluwaniyi, J. T. & Igbeneghu, O. I. (2019). Evaluation of Cataloguing and Classification Competencies of Librarians in Nigerian academic libraries. *International Journal of Library and Information Science Study*, 5(4), 1-12
- Banwet, D. K. & Datta, B. (2019). Effect of service quality on post-visit intentions overtime: The Case of a Library. *Total Quality Management*, 13(4), 537 – 546.
- Darries, F. (2017). *Competencies for Cataloging and Metadata Librarians*. "IGBIS seminar". Centurion Lake Hotel, 8 September 2017. [Online]. Retrieved from: <https://www.liasa.org.za/igbis-seminar> presentation.
- Echem, M. & Udo-Anyanwu, A. J. (2018). Information Retrieval Tools and Library Physical Environment as Correlates of Library Utilization by Students in Rivers State University Library, Nigeria. *Library Philosophy and Practice (e-journal)*, 71-78. <https://digitalcommons.unl.edu/libphilprac/1772>.
- Ekere, F. C. & Mole, A. J. C. (2014). *Theory and Practice of Cataloguing and Classification*. Enugu: Praise House Publishers.

- Ekere, F. C., Omekwu, C. O. & Nwoha, P. U. (2016). Users' Perception of the Facilities, Resources and Services of the MTN Digital Library at the University of Nigeria, Nsukka. *Library Philosophy and Practice (e-journal)*, 1390. Available at <http://digitalcommons.unl.edu/libphilprac/1390>.
- Fajiwe, O. T., Subair, R. E., Enamudu, A. I., Omonagbe, C.O., and Ogungbemile, A. E. (2023). "INFLUENCE OF LIBRARIANS ATTITUDE TOWARD CATALOGUING AND CLASSIFICATION IN ACADEMIC LIBRARIES" *Library Philosophy and Practice (e-journal)*. 7795. <https://digitalcommons.unl.edu/libphilprac/7795>
- Gabbay, L. K., & Shoham, S. (2019). The role of university libraries in research and teaching. *Journal of Librarianship and Information Science*. Advance online publication. 10:1177/0961000617742462
- Gorman, M. (2015). *The enduring library: Technology, tradition, and the quest for balance*. *American Library*, 54(3)
- International Organization for Standardization (ISO). (2020). *The Dublin Core Metadata Element Set*. Retrieved from <https://www.iso.org>
- Meitei, L. S. & Davi, P. (2018). Information needs in rural Manipur: an assessment. *Annals of Library and Information Studies*, 5(6), 35-40.
- Mirza, M. S. & Mohmood, K. (2018). Web-based services in university libraries: A Pakistani Perspectives. *Library Philosophy and practice*, 7843. Annual: <http://bitily/ijrhGHJ>
- Oni, O., Oshiotse, J. O. & Abubakar, T. G. (2018). Cataloguers' awareness and perception of resource description and access (RDA) rules for cataloguing practice in some selected libraries in Bauchi State of Nigeria. *Webology*, 15(1), 108–120.
- Singh, R., & Singh, P. (2021). *Advances in electronic resources for academic libraries: Trends and challenges*. *Journal of Digital Information Systems*, 15(4), 123–135.
- Sivakumaren, K. S., Geetha, V. & Jeyaprakash, B. (2019). ICT facilities in universities libraries: A study. *Library Philosophy and practice*, 50-69. Retrieved from <http://unllib.unledu/lppl.on16/6/20>.
- Smith, J., Brown, A., & Johnson, K. (2022). *Emerging technologies in electronic resource management: AI and cloud-based solutions*. *International Journal of Library Science*, 10(2), 45–59.
- Ugwu, I. C. & Onyegiri, D. C. (2013). Management problems of electronic information resources: a case study on university of Nigeria, Nsukka library. *International journal of library and information science*, 5(5), 41-47. Accessed from <http://www.academicjournals.org/IJLIS>.

Gorman, M. (2015). *The enduring library: Technology, tradition, and the quest for balance*.
American Library Association