Use of Internet Facilities and Metadata as Precursors to Electronic Resource Cataloguing In Selected University Libraries In South-Western Nigeria

by

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Abstract

The study examined use of internet facilities and metadata as precursors to electronic resource cataloguing in selected academic libraries in South-West Nigeria. Six University libraries were randomly selected. One hundred (100) respondents comprising current cataloguers and those who had worked as cataloguers were sampled for the study. A descriptive survey method using a self constructed questionnaire was used. Six research questions and one null hypothesis were raised and tested using descriptive and inferential statistics of frequency counts, percentages, mean and Pearson correlation. Results show that there is a significant relationship in the use of internet facilities and metadata in cataloguing electronic resources. Other major findings include: high availability of CD-ROMs, electronic journals and web resources in the selected libraries, high availability of the internet, cataloguing modules and Online Public Access (OPAC) and high usage of internet facilities such as the E-mail, web browsing and Discussion forums. The respondents signified that the internet has helped in reducing their workload and the metadata in use in the library is very suitable for cataloguing electronic resources. There was a significant relationship between the use of internet facilities and metadata in cataloguing electronic resources ($r = .298$, $P<.01$). The importance of ICT in cataloguing activities cannot be overemphasized. Academic libraries need to equip their cataloguing sections with adequate ICT facilities. It is recommended that academic libraries provide internet bandwidth that is sufficient enough to carry out various tasks in the cataloguing sections and also attract sophisticated users. This could be achieved by acquiring VSAT meant only for the library instead of sharing with other units in their parent institutions. It is also recommended that there should be an action plan for the maintenance of IT facilities to forestall breakdowns and malfunctioning of the facilities. Some facilities such as computers and scanners needs to be changed or upgraded as the need arise.

Introduction

Cataloguing serves as a hub on which librarianship revolves. It is the hallmark of librarianship. Cataloguing brought about the remedy for the chaos that would have been the case in libraries if the resources are not organized. Nwalo (2003) citing Aje (1980**)** averred that there is no doubt that cataloguing and classification constitute the core of librarianship: it is a fundamental discipline….cataloguing and classification as control channels provides orderliness in the library. Cataloguing is a means of organizing knowledge according to their various subjects while providing the physical description of library materials in order to distinguish each one of them. The whole essence of organization of library materials is to meet the information needs of users. A more comprehensive definition was given by Moving Image Collection (2005**),** and it states that cataloguing is the process of creating and systematically arranging records which describe materials held by a particular repository. These records are designed to facilitate search and retrieval and support administrative activities such as acquisitions, circulation, preservation and rights management. Before the introduction of computers into library operations, cataloguing was done manually using the AACR2 rules as a guide in order to achieve uniformity and maintain standards. According to Ajulo (2007), cataloguing was looked at as a stereotypical image of typewriters, 3x5 cards and books of convoluted rules. She also added that cataloguers were described as librarians who had to work hard with rules, in dusty offices of the library surrounded by books and catalogue cards.

Today, the case is no longer the same with cataloguing because it has emerged as one of the most interesting areas of library work. Omekwu, Egberongbe and John-Okeke (2006) posited that computer based cataloguing are among the most successful large-scale applications of ICT in libraries. It is technically possible for librarians to derive and preserve cataloguing records using ICTs.

Literature review

Information, Communication and Technology (ICT) has revolutionized every walk of human society and the library is no exception. Nwalo (2011) submitted that application of ICTs has astronomically increased the capacity to produce and disseminate information in a wide variety of media across borders as has never being known before in the history of mankind. Information seeking behavior of users in this milieu of universal access according to Nwalo (2011) deserves to be taken into cognizance. Many users are in a hurry to get information and would access and use information not minding the source or the authenticity of the information itself. As the amount of information on the World Wide Web increases each day, Wiggins (2010) posited that it is critical that librarians continue to provide library users with organized access to quality information. Akintunde (2011) posited that for librarians and information service providers, the key word is access and not essentially about physical location of a material, but how the resource can be accessed. It is also not which library has a resource, but availability of a resource anywhere, in any format, as long as it is accessible.

The evolution of electronic resources cataloguing has added extra task for the 21st century cataloguer. Atinmo

(2009) posited that prior to the evolution of the internet; the cataloguer organized the library collection through description and subject cataloguing of resources using standard tools which had been developed over many years. These tools were the Anglo American Cataloguing Rules (AACR2), the international standard bibliographic Description (ISBD), Sears List of Subject Headings, and the Library of Congress List of Subject (LCSH). Atinmo (2011) in her key note paper presented at the Cataloguing, Classification and Indexing Section of the Nigerian Library Association, posited that cataloguers must go beyond the ordinary and become knowledgeable in the use of new and emerging technologies, multimedia applications, systems analysts and systems maintenance. She also admonished cataloguers to master the use of existing metadata schema such as Dublin Core and/or be able to create in house metadata elements to describe digital documents.

Mehsafar (2004) asserted that the proliferation of internet formats introduced the perception that the available cataloguing standards could not be satisfactorily adapted to their demand for description and discovery; so it became apparent that the unique characteristics of electronic resources in terms of location, document version, instability, redundant data reveals some inappropriateness in using traditional schemas such as cataloguing rules. Weinberger (2007) came up with his own opinion that to sort through a deluge of information, more information is needed. This means that the solution to numerous information is a "metadata" which has been described as information about information.

Metadata, both as word and concept according to Akintunde (2011) has gained prominence in the last few years as more materials get digitized and resources are assessed electronically. A metadata is structured information that describes, explains, locates or otherwise makes it easier to retrieve, use or manage an information resource. It is often called data about data and it helps to facilitate the discovery of relevant information, organize electronic resources, facilitate interoperability and legacy resource integration; provide digital identification and support archiving and preservation (National Information Standards Organization, 2004). In his key note address at the 28th Cataloguing and Classification workshop held in Ilorin, Oladele (2008) posited that a metadata is an advanced form of cataloguing. It contains predefined fields in cataloguing or elements aimed at assisting information seekers to identify resources in a collection. Elements include titles, author or creator, publisher, identifier or location address, format and relation. He further stated that these elements provide access to the resources and they are described by nature. Some of the existing metadata schemas are Dublin core, AACR2, EAD (Encoded Archives Descriptions), and ACLS (Australian Government Locator Service). Modern cataloguers must at least have a working knowledge of scheme semantics like HTML (Hyper-Text Markup Language), XML (Extensible Markup Language), RDF (Resource Description Framework), MIME (Multipurpose Internet Mail Extension), MARC (Machine Readable Catalogue) and SGML (Standard Generalized Markup Language). Other examples of metadata listed by Atinmo (2011) are library catalog records, indexes and abstracts, finding aids, standard bibliographic description tools such as MARC 21 formats, Library of Congress Subject Headings (LCSH), Dewey Decimal Classification (DDC) and Sears List of Subject Headings (SLSH). All these are structured data that describes the characteristics and contents of information resources to facilitate their discovery and use; therefore, metadata is not new. Howarth (2003) admonished cataloguers to choose the appropriate metadata schema that will achieve its purpose of serving their users maximally. Cataloguing electronic resources would be an exercise in futility without internet facilities. The internet can be conceived as a rich, multi-layered, complex ever-changing textual for information dissemination and a medium for collaborative interaction between individuals and computers without regard for geographic limitation of space (Lerner et al 2000, Sigh, 2000). In the submission of Carbo (2003) the world is shrinking, resulting to immediacy of information. While Annunobi (2006) observed that the mode of acquiring and disseminating information for University education changed from physically available prints with virtual reality Oketunji (2004) submits that the Internet and other ICTs provide a golden opportunity for the provision of value-added services by libraries. He further posited that the indexing, abstracting and publication of local research and their digitization are a means of facilitating learning.

Objectives of this study

This study essentially seeks to establish relationship between the use of internet facilities, metadata and cataloguing electronic resources. Specific objectives are to:

1. Investigate the electronic resources available for cataloging in the selected University libraries,
2. To find out the perception of cataloguers towards the use of internet facilities,
3. Examine the frequency of use of internet facilities for cataloguing electronic resources in the selected University libraries,
4. Assess the available metadata for cataloguing electronic resources in the selected University libraries,
5. Determine the suitability of the available metadata for cataloguing electronic resources, and

6. Examine the relationship between the use of internet facilities, metadata and cataloguing of electronic resources.

Hypothesis

Ho1: There is no significant relationship between the use of internet facilities and metadata in cataloguing electronic resources available among the selected libraries in Nigerian Universities.

Scope of the study

The study focuses on electronic resource cataloguing in six universities in South-Western Nigeria. It consists of 3 federal and 3 private University libraries randomly selected for the study. These libraries include: University of Lagos and Ibadan library, Federal University of Agriculture library, Abeokuta. Covenant University library, Babcock University library and Redeemers University library.

Methodology

The descriptive survey method was adopted for this study. The target population for this study is all cataloguers in the selected academic libraries in South Western Nigeria. The study covered six (6) University libraries in South Western Nigeria. The selected University libraries are drawn from three (3) Federal and three (3) Private universities. All librarians who are currently serving or have served in the cataloguing sections of the six University libraries were used as respondents. A self developed questionnaire was used to collect research data so as to elicit the views of cataloguers. A total of one hundred and twenty (120) copies of the questionnaire were distributed to the cataloguers in the selected University libraries. One hundred and four (104) were retrieved but only a hundred (100) were found to be usable for this study. Data collected was analyzed using descriptive and inferential statistics. The demographic data of the respondents was analyzed using simple percentages, the research questions was analyzed using frequency counts and mean while the hypothesis was tested using Pearson correlation.

Data analysis

Table 1 Demographic distribution of the respondents

Gender	Frequency	Percentage
Male	47	47.0
Female	53	53.0
Total	100	100.0
Age range	Frequency	Percentage
20-30 years	16	16.0
31-40 years	38	38.0
41-50 years	38	38.0
51-60 years	4	4.0
Above 60years	4	4.0
Total	100	100.0
Highest qualification	Frequency	Percentage
BLS	24	24.0
MLS	63	63.0
PhD	3	3.0
Others	10	10.0
Total	100	100.0
Job status	Frequency	Percentage
Assistant librarian II	60	60.0
Librarian I, senior librarian	29	29.0
Prin. Lib-dep. Lib	11	11.0
Total	100	100.0
Years worked as a cataloguer	Frequency	Percentage
1-5 years	36	36.0
6-10 years	34	34.0
11-15 years	19	19.0
Above 16years	11	11.0
Total	100	100.0

Table 2 Electronic resources available for cataloguing in the selected academic libraries

S\N	Availability of electronic resources	NA	%	A	%
1	CD-ROMs	2	2%	98	98%
2	Electronic journals	13	13%	87	87%
3	Electronic books	19	19%	81	81%
4	Web	29	29%	71	71%
5	Reference sources	22	22%	78	78%
6	Indexes	41	41%	59	59%
7	Library catalog	24	24%	76	76%
8	Image databases	42	42%	58	58%
9	Sound recordings	49	49%	57	57%

Table 3: The perception of cataloguers on the use of internet facilities for cataloguing

S\N	Use of internet facilities	U	D	SD	A	SA	Mean	S.D
1	The use of internet facilities have reduced work load and stress in cataloguing my library	1 1.0%	1 1.0%	12 12.0%	40 40.0%	46 46.0%	4.29	.80
2	The policy on the usage of internet facilities in the institution makes it impossible to achieve set targets in cataloguing	10 10.0%	5 5.0%	37 37.0%	28 28.0%	20 20.0%	3.43	1.17
3	Slow internet connectively discourages the use of internet facilities for cataloguing in my library	10 10.0%	11 11.0%	24 24.0%	39 39.0%	16 16.0%	3.40	1.18
4	My library does not have adequate technical support staff for the use of internet facilities	12 12.0%	16 16.0%	23 23.0%	31 31.0%	18 18.0%	3.27	1.27
5	The fear of virus attack and loss of data discourages the use of internet facilities for cataloguing in my library	7 7.0%	18 18.0%	32 32.0%	27 27.0%	16 16.0%	3.27	1.14
6	There are no adequate equipments to support the use of internet facilities in my library	13 13.0%	15 15.0%	22 22.0%	37 37.0%	13 13.0%	3.22	1.24
7	I have a phobia for using internet facilities	14 14.0%	31 31.0%	36 36.0%	12 12.0%	7 7.0%	2.67	1.08
8	My library is not connected to the internet, therefore cannot use internet facilities in cataloguing	25 25.0%	24 24.0%	28 28.0%	12 12.0%	11 11.0%	2.60	1.29

Table 2 shows that CD-ROMs (98%) was ranked highest by their percentage score rating and was followed in succession by Electronic journals (87%), Electronic books (81%), Web (71%), Reference sources (78%), Indexes (59%), Library catalog (76%), Sound recordings (43%) and lastly by Image databases (42%) respectively.

The researcher sought the perception of cataloguers on the use of internet facilities for cataloguing and their response is indicated in table 3. The use of internet facilities have reduced work load and stress in cataloguing my library (Mean =4.29) was ranked highest by their mean score rating and was followed by The policy on the usage of internet facilities in the institution makes it impossible to achieve set targets in cataloguing (Mean =3.43), Slow internet connectively discourages the use of internet facilities for cataloguing in my library (Mean =3.40), My library does not have adequate technical support staff for the use of internet facilities (Mean =3.27), The fear of virus attack and loss of data

discourages the use of internet facilities for cataloguing in my library (Mean =3.27), There are no adequate equipments to support the use of internet facilities in my library (Mean =3.22), I have a phobia for using internet facilities (Mean =2.67) and lastly by My library is not connected to the internet, therefore cannot use internet facilities in cataloguing (Mean =2.60) res

Table 3: Frequency of use of internet facilities?

S\N	Items	Never used	Least used	Used	Most used	Mean	S.D
1	Email	-	8 8.0%	50 50.0%	42 42.0%	3.34	.62
2	Web browsing	3 3.0%	10 10.0%	53 53.0%	34 34.0%	3.18	.73
3	Discussions	8 8.0%	23 23.0%	46 46.0%	23 23.0%	2.84	.87
4	News	15 15.0%	32 32.0%	39 39.0%	14 14.0%	2.52	.92
5	File transfer	24 24.0%	29 29.0%	36 36.0%	11 11.0%	2.34	.97
6	Telnet	35 35.0%	24 24.0%	32 32.0%	9 9.0%	2.15	1.01

Table 4: Availability of cataloguing (metadata) tools.

S\N	Items	Not Available		Available	
		Freq.	%	Freq.	%
1	Library of congress subject heading (LCSH)	8	8%	92	92%
2	Anglo American cataloguing rules (AACR2)	13	13 0%	87	87%
3	OPAC	15	15 %	85	85%
4	WEBPAC	42	42%	58	58%
5	Catalog records	30	30%	70	70%
6	Resources description and access (RDA)	54	54%	46	46%
7	Indexes and abstracts	63	63%	37	37%
8	Finding aids	71	71%	29	29%
9	Encoded archives descriptors (EAD)	74	74 %	26	26%
10	Dublin core	75	75 %	25	25%

Email (Mean =3.34) was ranked highest as the most frequently used by the mean score rating and was followed by Web browsing (Mean =3.18), Discussions (Mean =2.84), News (Mean =2.52), File transfer (Mean =2.34) and lastly by Telnet (Mean =2.15) respectively.

The ranking of availability of cataloguing (metadata) tools in the selected academic libraries is as follows:- Library of congress subject heading (LCSH) was ranked highest by their percentage score rating of (92%) and was followed by Anglo American cataloguing rules (AACR2) with (87 %), OPAC (85%), WEBPAC (58%), Catalog records (70%), Resources description and access (RDA) (46%), Indexes and abstracts (37%), Finding aids (29%), Encoded archives descriptors (EAD) (26%) and lastly by Dublin core (25%) respectively.

The ranking of the suitability of metadata available for cataloguing electronic resources is as follows:-
Is suitable for cataloguing electronic resources (Mean =4.48) was ranked highest as the most suitable by their mean score rating and was followed by Is adequate in terms of information retrieval (Mean =4.34), Interacts easily with one another (Mean =3.75), Is time consuming when cataloguing electronic resources (Mean =3.38) and lastly by Is not used for cataloguing electronic resources (Mean =2.90) respectively

Table 5 How suitable is the metadata available for cataloguing electronic resources?

S\N	Items	SD	D	U	A	SA	Mean	S.D
1	Is suitable for cataloguing electronic resources	-	1 1.0%	5 5.0%	39 39.0%	55 55.0%	4.48	.64
2	Is adequate in terms of information retrieval	1 1.0%	-	12 12.0%	38 38.0%	49 49.0%	4.34	.77
3	Interacts easily with one another	5 5.0%	8 8.0%	20 20.0%	41 41.0%	26 26.0%	3.75	1.09
4	Is time consuming when cataloguing electronic resources	7 7.0%	15 15.0%	29 29.0%	31 31.0%	18 18.0%	3.38	1.15
5	Is not used for cataloguing electronic resources	25 25.0%	18 18.0%	19 19.0%	18 18.0%	20 20.0%	2.90	1.47

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Hypothesis

Ho1: There is no significant relationship between the use of internet facilities and metadata in cataloguing electronic resources available among the selected libraries in Nigerian Universities

Variable	Mean	Std. Dev.	N	R	P	Remark
Use of internet facilities	26.1500	6.5495	100	.298**	.000	Sig.
Availability of metadata cataloguing	26.2700	5.5156				

** Sig. at .01 level

It is shown in the above table that there was significant relationship between the use of internet facilities and metadata in cataloguing electronic resources available among the selected University libraries (r = .298**, N= 100, P < .01).
Hence, availability of metadata and internet facilities has an influence on cataloguing electronic resources. Null hypothesis is rejected.

Discussion of findings

This study reveals that CD-ROMs, electronic journals and ebooks are the most available in the selected libraries under study. Ojebode (2008) gave reasons for the adoption of information and communication Technology (ICT) in libraries. According to him, one of the reasons is the high rate of publishing materials which has increased the number of printed pieces in circulation. Academic libraries have also adopted ICT because of the rapidly expanding and more literate population that patronize them. Therefore, academic libraries employ the use of CD-ROMs, Electronic journals, OPAC etc to provide quick, effective and efficient information delivery.
The findings from this study revealed that the use of internet facilities for cataloguing electronic resources have reduced the workload on cataloguers. Atinmo (2007) noted that the interconnection of the world through the use of the internet and the web has changed the fundamental roles, paradigms and the culture of libraries and librarians, particularly cataloguers. Furthermore, Fatoki (2011) opined that the internet has expanded concept of catalogues with the Online Public

Access Catalogue (OPAC) which has enhanced search capabilities and is accessible from any computer connected to the internet.

It was also discovered that the cataloguers made good use of internet facilities such as the e-mail, discussion and web browsing. The internet offers a quick communication link and it permits the transfer of files and images, spreadsheets, manuscripts. Ojedokun (2001) maintained that the internet is an important component of electronic resource in academic libraries and cataloguers require this connectivity to remain viable in the present ICT environment. The internet has also been described as an invaluable tool that can assist cataloguers in different locations to achieve timely and improved services (Ani et al, 2005).

This study revealed that LCSH, AACR2, OPAC were highly in use. This corroborates with the view of Nwalo (2011) who posited that virtually all cataloguers in Nigeria today have been brought up under the old tradition of cataloguing which was biased to print materials; this prompts the high usage of the LCSH and AACR2. Oladapo (2005) is of the view that today's cataloguers need to change their working habits and attitudes rather than complain that the world is not what it was when they started the profession. The new roles require cataloguers with ambition and drive, with in-depth knowledge of IT applications and developments, as well as traditional skills of information management. For cataloguers to prepare for the future, they need to be future prepared. It is essential for Library school graduates to be exposed so that they will be able to consolidate what they have been taught in class with the actual practice.

Cataloguers need to build capacity by attending seminars, conferences and workshops. Youngok (2006) affirmed that the change in the nature and roles of libraries vis-à-vis the digital environment has equally brought about the need for the development and acquisitions of new skills and competencies. In the words of Balarabe (2005), practitioners should be invited on regular basis to share their knowledge and experiences with cataloguers; thereby acquainting them with the latest developments affecting the field of cataloguing.

The respondents of this study strongly agreed to the fact that the internet has reduced their work load. The internet is very fast and can accomplish set targets within a limited time. Ilo and Ifijeh (2010) reiterated that the internet is an electronic resource that is now having the most significant impact on the services, operations and professional activities of librarians particularly cataloguers. The internet provides a medium for communication that has extended the potential of librarians for interactions beyond the physical library; that is they are able to interact with other colleagues and professionals in various ways.

This study also revealed that the metadata in use in the selected libraries are suitable for cataloguing electronic resources. The respondents also agreed that the metadata in use is adequate when it comes to cataloguing electronic resources. However, some other respondents feel that the metadata in use in their libraries is not suitable for cataloguing electronic resources.

Implications of the findings

The University and library management needs to make capacity building in the use of internet facilities for cataloguers a priority because this study reveals that most of the cataloguers lack competencies in the use of internet facilities such as telnet, discussion forums and news. If the cataloguers don't receive the necessary training in the use of ICT, they will soon become irrelevant as emphasis have shifted from use of traditional library resources such as books, monographs etc to use of electronic resources such as CD-ROMs, electronic journals, ebooks and the web. This will affect library patronage as users are interested in getting fast response to their information needs. The finding of this study reveals that most of the cataloguers sampled still use Library of Congress Subject Heading (LCSH) and Anglo American Cataloguing Rules (AACR2) for cataloguing electronic resources. This implies that they are still using traditional methods for cataloguing and this does not identify with the cutting edge competencies cataloguers need to acquire if they are to remain relevant in this information technology era. The implication of this is that they would not be able to compete favorably with their colleagues in other parts of the world and this is a great limitation for them because job opportunities might surface from other parts of the world but they would not be eligible to apply because they may not meet the recruitment standards.

Recommendations

1. Regular ICT training should be organized by library management for cataloguers. This will help them to be more proactive and explorative in discharging their duties. It will also help cataloguers to keep abreast of current developments in ICT related to their job.
2. The study identified the use Library of Congress Subject Heading (LCSH) and Anglo American Cataloguing Rules (AACR2) as the most used metadata in the selected libraries. It is important that cataloguers come out of the ordinary; meaning that they should be more proactive and think of easy but effective ways to make information retrieval easy for users. This could be achieved by collaborating with other cataloguers all over the globe. Library management should make provision for staff exchange programs as this will enlighten the cataloguers and also help them in becoming multi

skilled professionals with cutting edge competencies.

3. To facilitate effective use of internet facilities, it is important for the library to have its own personal internet facilities such as bandwidth, VSAT, computers, scanners instead of sharing with other units in the University.
4. It is also of great importance for the library to have a 1000KVA generator to combat with the issue of power failure which has become the order of the day in this part of the world.

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