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Provision of Electronic Information Resources for Library Users of Selected Federal University Libraries in South East Nigeria: Review Of Empirical Studies

Jonathan N. Chimah
jonachim2000@yahoo.com
Energy Research Centre Library,
University of Nigeria Nsukka

Caroline Okoro
Carolokoroamara@gmail.com
Dept. of Library & Information Science,
Michael Okpara University of Agriculture, Umudike

Chinwendu Akpom
chinwemakpom40@gmail.com
Law Library University of Nigeria Enugu Campus

Abstract

In this paper the authors reviewed definitions and identified categories of electronic information resources (EIRs). They also reviewed 2012 surveyed study on the EIRs provided by South East Nigerian federal university libraries for their library users. Research method employed in this study is descriptive survey using questionnaire and interview to collect data. Data collected was presented and analyzed using simple percentages. Result of the empirical study reviewed shows that there are different categories of electronic information resources. It also revealed that e-resources provided by the selected federal universities vary in type and quantity. Forty (40)e-resources were identified, out of which University of Nigeria (UNN) has a total number of 28 (70%) of the total electronic information resources available in the universities. Federal University of Technology Owerri (FUTO) subscribed 13 (32%). Nnamdi Azikiwe University Awka (NAUA) has 11 (27%); while Michael Okpara University of Agriculture Umudike (MOUAU) has 6 (15%) of the e-resources in its university library. Recommendations which include: ICT Infrastructural development, active awareness programme for faculty and students and Electronic Information literacy programmes are made for improvement.

Keywords: *Electronic information resources, e-resources categories, availability, use, university libraries*

1.0 Introduction

Evidently, hundreds of thousands of monographic materials, journals, learning resources, databases, etc. are now available in electronic formats, and these materials can be accessed from the remote corner of a country, thereby increasing the use of information and literature and the efficiency of information services. Users are now more independent than before; they can have access to these electronic resources from their home computers and search databases according to their needs. Electronic source is any library or information resources that can be accessed via computer, CD-ROM, email or more commonly via World Wide Web. Libraries are

increasingly making this type of resource available to their users. According to the Anglo American Cataloguing Rule 2 (2005) electronic resources consist of data (information representing numbers, text, graphics, images, maps, moving images, music, sounds, etc.), programs (instructions, etc., that process the data for use), or combinations of data and programs. This implies that electronic source is any library or information resources that can be accessed via computer, CD-ROM, email or more commonly via World Wide Web. Libraries are increasingly making this type of resource available to their users.

Moreover, the library acts as a medium of getting latest scientific and technological information either in print or electronic form. In addition to maintaining collection within library building, it is important for library services to focus more on the use of resources provided for their patrons. As noted by Ogbuiyi, Oriogu and Obuiyi (2013), library resources included not only traditional print on-paper media like books, journals, newspapers, and maps, but also audiovisual materials like records, audio cassettes, slides, CD-ROM, diskette, film strip, microfilm, micro fiche, video cassettes and projectors. Other e-resources include e-books, e-journals, e-databases, etc.

Remote access to library's electronic resources using computers, modems and networking has made the library more accessible and has potentially attracted a new population of users, who have the capability to use the library without physically entering it. More importantly, library users can now gain access to what has traditionally been classified as "library resources", without depending on the library's intermediary role. Ukachi (2008) observes that many users especially students prefer to use electronic reference sources than the print versions because their use of the electronic sources tend to give them greater personal satisfaction

and improves their attitude towards the library. In this study, authors investigated the electronic information resources provided by the selected South East University Libraries in order to ascertain the extent to which library users' information need in these academic environment are met.

1.1 Statement of the Problem

Inaccessibility of information has been identified as the bane of effective research in Nigerian Universities. Many library users especially research students have often expressed dissatisfaction over the inaccessibility of information resources of the library. The most frequent complaints include: non availability of such electronic information resources as Internet connectivity, online public access catalogue (OPAC) and other online databases. Although the e-resources have numerous advantages, problems in accessing and using web-based or electronic information resources are still noticed, particularly among students. Monitoring and tracing the available resources and searching for needed papers and publications are major problems in the web-based information system. In Nigerian universities, there has been a paradigm shift in library resources provision from the traditional print-based to the electronic web-based information resources. Even though the print-based resources have not and cannot be completely phased out, but there is high demand on the e-based resources. What are the categories and how much of these e-resources are provided by federal university libraries particularly in the South East Nigeria is a problem worth investigating, hence, the need to embark on this study to identify electronic information resources categories and the quantity of these resources provided by the selected federal university libraries.

1.2 Objective of the Study

This research is carried out in order to:

i) Find out the categories of electronic information resources

ii) Ascertain the type of e-resources provided by the selected federal university libraries

iii) To recommend ways of attracting library users to utilize e-resources

2.0 Literature Review

2.1 Definitional Concept of Electronic Information Resources

Several authors have tried to explain what e-resources are all about. Reitz (2004) defined electronic resource as "material consisting of data and/or computer program(s) encoded for reading and manipulation by a computer, by the use of a peripheral device directly connected to the computer, such as a CD-ROM drive, or remotely via a network, such as the Internet." According to her the category includes software applications, electronic texts, bibliographic databases, institutional repositories, websites, e-books, collections of e-journals, etc. Electronic resources not publicly available free of charge usually require licensing and authentication.

Electronic Resources are resources that can be accessed electronically via the Internet or digital media. Electronic resources encompasses electronic databases, both full text and abstract/citation; e-journals, both individual and collections; e-books; e-article delivery services; etc. E-resources can be accessed remotely via the World Wide Web or delivered locally. Electronic Information Resources may be defined as information resources that are available and can be accessed electronically through such computer networked facilities as online library catalogues, the Internet and the World Wide Web, digital libraries and archives, government portals and websites, CD-ROM databases, online academic databases, such as Medline or Commercial databases such as LexisNexis as noted by Ekwelem, Okafor and Ukwoma (2009).

Information is the pivot of which the survival of any society rests. It remains the major ingredient in taking decision and assists in reducing the degree of uncertainty. Information and its use are as old as man and without information there can be no communication. The technology embrace has led to the proliferation of electronically available information resources. These resources include CD-ROM databases, electronic mails, Online Public Access Catalogues (OPAC) and internet browsing (Oduwole and Akpati, 2003). The Internet, which is the most prominent of these sources, has made possible access to electronic books and journals; various databases and search engines. All these constitute electronic information resources.

Over the last several years a significant transformation has been noticed in collection development policies and practices. Print medium is increasingly giving way to the electronic form of materials (Sharma, 2009). Commenting on the advantages of electronic resources, Dadzie (2007) writes that electronic resources are invaluable research tools that complement the print – based resources in a traditional library setting. Their advantages, according to her, include: access to information that might be restricted to the user due to geographical location or finances, access to more current information, and provision of extensive links to additional resources related contents. This rapid emergence and development of electronic information technologies makes it possible to envision radically different ways of organizing the collections and services the library has traditionally provided.

2.2 Categories of Electronic Information Resources

Electronic information resources are of different categories. Joseph (2010) identified some categories of electronic information

resources as follows:

(A) Federated Search – Federated search as a technology came into existence as a result of the desire by database and electronic resource subscribers to search and retrieve resources from multiple and disparate sources on a single interface.

(B) Virtual Reference – Virtual reference service refers to the remote delivery of reference sources and resources to users who are not inside the library physically. This service includes; Knowledge base, Online chats, Text Messaging, and Co-browsing.

© Digital Institutional Repository – Craw (2002) defined institutional repositories as the "digital collections capturing and preserving the intellectual output of a single or multi-university community (which) provide a compelling response to two strategic issues facing academic institutions." Joseph (2010) on the other hand explains that "this is an online, searchable, web-accessible database containing intellectual works by scholars and researchers organized to increase access to scholarship and ensure their long term preservation.

(D) Online Databases – JSTOR (http://www.jstor.org): Journal Storage is a United States-based online system for archiving academic journals, providing full-text searches of digitized back issues of several hundred well-known journals.

(E) Digital Libraries – A digital library may be perceived as an information service or a collection of electronic information resources, in which all the information resources are available in computer processable form. Mutula and Ojedokun (2008) identified several examples of digital libraries to include; Bartleby Library – Great Books Online (), Library of Congress (http://www.loc.gov) The New York Public Library (http://digital.nypl.org),

(F) Virtual Libraries – Virtual library refers to an information service or collection of electronic resources whose collections are entirely in virtual or digital form and information is accessed over a network. Such a library provides access to virtual indexes, catalogues, and books. (Mutula and Ojedokun (2008) a virtual library does not have physical space, where users visit to access information resources.

(G) Open Access Repository – Open access is interested in the free availability of scholarly outputs on the Internet granting the user to make legal and non commercial use of the document and at the same time acknowledging the intellectual ownership of the author of the document.

2.3 Review of Literature on Empirical Studies

The opportunity brought about by electronic information sources has in recent years exerted pressure on educational institutions and their libraries. The pressure on the institutions is the provision of the necessary infrastructure and the actual access to these sources. The pressure on the library and information centres is in the sourcing, acquisition and repackaging of these sources; as well as the provision of necessary guidance to end users.

Libraries all over the world make available a wide variety of electronic information sources for use by the undergraduates, postgraduates, researchers and staff in their respective institutions. These e-resources form an essential part of the reference services provided by the university libraries. But provision is only part of the equation; resources must be utilized by staff and students at undergraduate and postgraduate levels.

Igbo and Imo (2010) examined the challenges of accessibility of information resources by the postgraduate library users of the University of Nigeria Nsukka. A sampled 200 respondents was drawn from a population of over 1000 postgraduate library users. The findings revealed that library resources were

not easily accessible to 65% of the students as a result of inadequacies emanating from out-datedness of resources. It was recommended among others that electronic online information resources should be made available in the library to help researchers have access to current materials.

Olatokunbo and Asiru (2011) studied "Use of Electronic Information Sources by Postgraduate Students in Nigeria: Influencing Factors." The study examined the factors that influence the use of electronic information sources among postgraduate students. The study covered six universities in the South West, Nigeria namely; University of Ibadan, University of Lagos, Olabisi Onabanjo University, Ogun State; Federal University of Technology, Akure; University of Agriculture Abeokuta and Lagos State University. Versatility in the use of electronic sources of information had a greater influence in their use of e-resources. Majority of the respondents expressed high confidence in their search skills. The study revealed that 1548 (70.78%) of the respondents had formal training while 639 (29.22%) had no formal training. The training they had also influenced the frequency of use of e-resources.

Researchers' summary of EIRs categories are presented in Table 1.

Table 1: Researchers' summary of e-resources categories

S/N	Categories	Examples of Resources
1.	*Federated Search*	**WebFeat:** (http://www.webfeat.com); EBSCOhost **Integrated Search:** (http://www.ebschohost.com); **SwetsWise Searcher:** (http://www.swets.com; **Swish-e:** (http://www.swish-e.org).
2	*Virtual Reference*	**Ref Desk** - http://www.refdesk.com; **QuestionPoint** (http://www.questionpoint.org); **Library 2.0** (Wiki, Blogs, RSS-Really Simple Syndication).
3	*Digital Institutional Repository*	**DSpace** – http://www.dspace.org; **Greenstone** – http://www.greenstone.org; **VITAL** – http://www.vtls.com/products/vital.
4	*Online Databases*	JSTOR (http://www.jstor.org): PubMed (http://www.pubmedcentral.nih.gov): **HINARI -** Health InterNetwork Access to Research Initiative
5	*Digital Libraries*	Bartleby Library – Great Books Online (http://www.bartleby.com) Library of Congress (http://www.loc.gov). The New York Public Library (http://digital.nypl.org),
6	*Virtual Libraries*	Databases, e-Journals, e-Newspapers, e-Books, reference resources in e-format, selected websites, online public access catalogues, e-mail and discussion forums, newsgroups, web-conferencing, Internet Relay Chat, IPhone, Internet Radio.
7	*Open Access Repository*	African Journals Online (AJOL): http://ajol.info; Directory of Open Access Journals: http://www.doaj.org Directory of Open Access Repositories (OpenDOAR): http://www.opendoar.org; Open Access Scholarly Information Sourcebook (OASIS): http://www.openoasis.org.

3.0 Research Design

Method employed in this study is descriptive survey. Data was collected via questionnaire and interview. Data was analyzed using percentages. Four (4) federal universities were selected which are: University of Nigeria Nsukka (UNN), Michael Okpara University of Agriculture Umudike (MOUAU), Federal University of Technology, Owerri (FUTO), Nnamdi Azikiwe University Awka (NAUA).

4.0 Data Presentation and Analysis

4.1 Electronic Information Resources Provided in the University Libraries

In his study on availability and use of electronic information resources by postgraduate library users in Nigerian universities, Chimah (2012) identified e-resources provided by some federal university libraries as presented in Table 3. He also observed that some of the library users especially the postgraduate students were not aware of the availability of the e-resources in the university libraries of their various institutions.

Table 2: Identified Available Electronic Information Resources in the university Libraries

S/N	Electronic Information Resources	Universities			
		UNN 28 (70%)	FUTO 13 (32%)	NAUA 11 (27%)	MOUAU 6 (15%)
1	Academic Library Online	X		X	X
2	Access to Global Online Resources in Agriculture (AGORA)				
3	Biomedical and Life Sciences		X	X	X
4	British Library of Development Studies (BLDS)		X	X	X
5	Database of African Theses and Dissertations (DATAD)	X		X	X
6	Datastar Databases		X	X	X
7	Dialog Databases		X	X	X
8	Digital Library for Earth System Education Online		X	X	X
9	Directory of Open Access Books	X	X		X
10	Directory of Open Access Journals (DOAJ)	X			X
11	E-books Online Library		X	X	X
12	EBSCOhost Integrated Search				
13	Encyclopedia of Life Support Systems (EOLSS)		X	X	X
14	E-prints in Physics, Mathematics, Computer Science and Quantitative Biology		X	X	X
15	Educational Resources Information Centre (ERIC)	X		X	X
16	FreeFullText.com	X		X	X
17	Gutenberg Library Online		X	X	X
18	Health Internet Network Access to Research Initiative (HINARI)				
19	International Network for the Availability of Scientific Publications (INASP)	X			X
20	JSTOR			X	X
21	Law Library Online		X	X	X

22	Linguistic Library Online		X	X	X
23	MIT Open Courseware (Online Course Materials)		X	X	X
24	National Academic Press Databases		X	X	X
25	Nigerian Virtual Library (NVL – NUC)				
26	Online Access to Research in the Environment (OARE)		X		
27	Online Encyclopedia Services		X	X	X
28	Online Library Service		X	X	X
29	Online Reference for Business Services		X	X	X
30	Oxford University Journals Online		X	X	X
31	Plant Resources of Tropical Africa (PROTA)	X	X		X
32	Reference Wiki Databases		X	X	X
33	Sabinet SA Databases		X	X	X
34	Scholarly Journals (World Wide Web)	X		X	X
35	Science Direct Library Online		X	X	X
36	Scirus for Scientific Information		X	X	X
37	Social Science Research Network (SSRN)	X	X	X	X
38	The Essential Electronic Agricultural Library (TEEAL)	X			
39	Virtual Libraries		X	X	X
40	World Digital Library	X	X		X

Table 3 above shows the availability and non-availability of electronic information resources in the four universities understudy. The University of Nigeria Nsukka library has twenty eight (28) types. Federal University of Technology Owerri library provided thirteen (13) types. Nnamdi Azikiwe University Awka library makes available eleven (11) types. And Michael Okpara University of Agriculture Umudike library subscribes to six (6) types of electronic information resources. The above data is summarized in the Table 3:

Table 3: Available EIRs in the university libraries

Heads of ICT Units	EIRs availability in the university libraries	Percentage
UNN	28	70%
FUTO	13	32%
NAUA	11	27%
MOUAU	6	15%

Conclusion and Recommendations

Electronic resources represent an increasingly important component of the collection-building activity of libraries. The term, 'electronic resources' refer to those materials that require computer access, whether through a personal computer, mainframe, or handheld mobile device. They may either be accessed remotely via the Internet or locally. Some of the most frequently encountered types are: e-journals, e-books, full-text (aggregated) databases, etc. Electronic Information Resources (EIRs) identified in the course of the study are grouped into the following categories: bibliographic databases, online researchable databases, online publications, virtual/digital libraries, open access resources and institutional repositories. But there are usage restrictions of electronic information resources except those in the public domain (open access). Licensed resources are commercial information resources paid by universities. These resources can be accessed only by employees and students of those universities and the use can be for academic purposes only.

The research investigated provision of electronic information resources for library users in four federal universities in South East Nigeria, namely University of Nigeria Nsukka (UNN), Federal University of Technology Owerri (FUTO), Nnamdi Azikiwe University Awka (NAUA) and Michael Okpara University of Agriculture Umudike (MOUAU). The findings show that all the four universities were involved in providing various e-resources services in their libraries. However the e-resources provided by each university vary in quantities. It is recommended that development of ICT infrastructures and subscription of EIRs by Universities' management as well as awareness programme for faculty and students on the available e-resources. This will improve e-resources utilization by the library patrons in Nigerian federal universities.

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