

AVAILABILITY AND USE OF DIGITAL INFORMATION RESOURCES BY UNDERGRADUATES OF UNIVERSITIES IN DELTA AND EDO STATES, NIGERIA

Dr. A.U. Nwabueze

Department of Library and Information and Science
Nnamdi Azikiwe University, Awka Anambra State, Nigeria
toniawabueze@yahoo.com

Lucky Oghenetega Urhiewhu(CLN)

Department of Library and Information and Science
Madonna University Nigeria-Okija Campus Anambra State
E-mail: tega4real06@gmail.com

Abstract

The paper was on availability and use of digital information resources by undergraduates of universities in Delta and Edo states, Nigeria. This study adopted descriptive survey research design. The study was conducted in Federal and State University Libraries in Delta and Edo states in the south-south geopolitical zone of Nigeria. The sample for the study comprised one thousand and eighty-eight hundred(1,088) users drawn from four universities. Purposive sampling technique was used to select two universities from Delta and Edo states respectively. Proportionate stratified sampling technique was used to select respondents from each of the federal and state university libraries used for the study. The instruments used for the collection of data were observation checklist and structured questionnaire. The data obtained were analyzed using Descriptive statistics. The major findings include that some Digital Information Resources were available in the university libraries Studied. More specifically, Ambrose Alli University Library have ten types of DIRs; John Harrison Library in University of Benin eight of DIRs are available either through inter-library loan, or online subscription. Federal University Petroleum Resources Library do not have any of the DIRs because the digital library was just newly established and under structuring; but they are using it as cybercafé for students to search academic information with the Internet facilities. The findings also revealed that students make use of DIRs to a low extent. The constraints encountered by students towards the accessibility of DIRs in the four libraries are epileptic power supply, none availability of online databases, lack of formal training in Internet skills among students, slow bandwidth, network problems and server slowness.

Keywords: Digital Information Resources, Availability, Use and Libraries.

Introduction

In recent times, universities in Africa have embarked on integration of technology in their operations. This serves as a tool for improvement and development, especially in a situation where attention is drawn to the academic contents and ways of digitizing and preserving them. University libraries are fully involved in this development as they are the heart of the university. This is because University libraries house the intellectual contents of the institutions. This effort to digitize the intellectual property of the institution is what is known as digitization (Adeyinka, Adedeji, Ayen, & Omoba, 2008).

The major function of libraries, irrespective of type, is to provide the right materials (resources in all formats) to meet the information needs of users. A university library aims at serving students and researchers at all levels, hence, librarians must be ready to acquire and make available necessary databases for teaching and research for the university communities (Devi & Singh, 2004). Devi and Singh further stated that information explosion and information technology revolution leading to the emergence of digital information era has made several library resources available for clientele.

In a digital library, resources are stored and made available in digital forms, and the services of the library are also made available electronically. Rosenberg (2005) noted that these services are made available frequently over the Internet so that users can access electronic materials remotely. This refers to e-services which most libraries are trying to embrace in the digital environment. Rosenberg further stated that as libraries embrace the digital environment, their most crucial role is not that of providing e-resources, but of establishing services that facilitate access to available information. According to Fabunmi, Paris and Fabunmi (2006), library digitization has become part of the work of librarians, and most libraries are involved in digitization. Libraries in Nigeria universities are not left out in this trend of digitization.

Digital Information Resources(DIRs) connotes those information resources which before now were in print form, but currently found in non- print form (soft copy) and are accessible through computer machines and other corresponding ICT tools(Obaseki, Umeji & Krubu, 2010). Similarly, Digital Information Resources(DIRs)includes music's, games, stories, articles from magazines, published journals and books, encyclopaedias, pamphlets, cartographic materials and other published resources that are in soft copies. They also often include sound animated graphics, pictures and movies.

The aim of digitizing library materials is for preservation and easy access by students, researchers and other users. Fabunmi, Paris and Fabunmi (2006:30) stated that Digitization improves access to library resources, by digitizing library collections, information will be accessible to all instead of a group of researchers. Digital projects allow users to search for collections rapidly and comprehensively from anywhere at any time. Digitization makes the invisible to be visible. Several users can access the same material the same time without hindrance. It also removes the problem of distance, as users do not have to travel to libraries

that possess the hard copies of library materials before they can access and use such materials.

The availability and use of Digital Information Resources (DIRs) can facilitate increase and ease processing and access of information to library users. However, despite the advantages of Digital Information Resources (DIRs) usage in university libraries; several literatures have noted that there are a number of generally recognised problems that hinder the effective utilization of the DIRs among students. Cyprian (2009) opined that students lack skills (competency) to search information materials in digital environment of academic libraries. These have greatly affected creativity and innovation in libraries. Some of these libraries have adequate digital resources which are greatly being under- utilized largely due to lack of information technology (IT) skills by students. Furthermore, absence of related infrastructure facilities in some of the university libraries in Nigeria is part of the challenges facing students when they want to access and utilize Digital Information Resources (DIRs).

In the light of this, students must have a wide range of skills to access, use, and manage the changing environment of information resources in the digital age. It is in view of these that the researchers investigated whether digital information resources are sufficiently available and the extent to which undergraduates in Delta and Edo states universities make effective use of them.

Purpose of the Study

The specific objectives are to find out:

- i. the digital information resources (DIRs) available in university libraries in Delta and Edo States.
- ii. the extent to which students make use of Digital Information Resources (DIRs) available in their institutions?.
- iii. the constraints to effective use of Digital Information Resources (DIRs) by undergraduate students in university libraries.

Research Questions

The following research questions guided the study:

- i. What are the Digital Information Resources (DIRs) available in university libraries in Delta and Edo states?
- ii. To what extent do students make use of Digital Information Resources (DIRs) available in their institutions?
- iii. What are the constraints to effective use of Digital Information Resources (DIRs) in university libraries by undergraduate students?

Scope of the Study

The study was conducted in Federal and State University Libraries in Delta and Edo states in the south-south geopolitical zone of Nigeria. The Federal and State Universities in the zone are located in Abraka, Benin City, Ekpoma, and Ugbomro.

Literature Review

It is evident from literature that in this digital era that any students at the higher level who intends to better achieve and go further in academics should have the ability to explore the digital environment. Adeyinka, Adedeji, Ayen, and Omoba, (2008) stated that students' ability to find and retrieve information effectively is a transferable skill useful for their future life as well as enabling the positive and successful use of the digital resources while at school. Students' use of information systems can be in the form of communicating or posting of information or material by way of electronic mail, bulleting boards, world wide web or other such electronic tools (Mischnick, 2000).

Digital information resources serve as a motivating factor to students as it provides them opportunity to transmit, acquire or download, process and disseminate information on a subject of interest. Digital information resources offer today students greater opportunities that are quite different from their predecessors (Ray & Day, 2003). Other uses according to authors include the fact that "digital information resources are often faster than consulting print indexes, especially when searching retrospectively, and they are straight forward when wishing to use combination of keywords. They open up the possibility of searching multiple files at one time, a feat accomplished more easily than when using printed equivalents. It could be said that "improved data transmission facilities will go a long way to reduce the incessant hardship faced by students in the acquisition and generation of data which serves as the basis for research and academic performance improvement (Day & Bartle, 2003). This is because the use of digital information by students of today enhance their performance in academic activities. Furthermore, Day and Bartle, (2003) revealed that the academic community has accepted that electronic information resources have an impact on their work. However, services currently available to academic staff and students are not being used to their full potential and some are hardly being used at all.

Waldman (2003), when drawing inference from Bandura's position, asserted that "students with high self-efficacy regarding computers would also be more likely to explore new technologies, software or databases. Additionally, they would be more likely, for example, to explore a library's website and find that the library has specialized resources, and they might even try some searches on those resources without, or with less, prompting from professors or librarians and without necessary taking library workshops." General user opinion towards the use of electronic information resources, in particular, CD-ROM, has been positive, with students enjoying using these sources and finding relatively few problems while using them.

Digital information resources are library materials produced in digital formats, such as, e-journals, e-books, reference work published online and CD-ROM, bibliographic databases, and other web based resources(Okoro,2008). That means digital resources could be on PC, CD-ROM, DVD or on the Internet. But materials that appeared on the Internet are generally regarded as online information resources. The provision of DIRs in academic library is necessary for users especially, for the provision of better, faster, easier access to information. DIRS help to expand access, increase usability and effectiveness. They also help to establish new ways for individuals in using information for enhanced productivity in their endeavours. The application of the concept of Digital Information Resources (DIRs) into library functions and services have invariably changed the connotation of what an academic library stands for.

The current trends defined academic library by function rather than place which is the building. Digital Information Resources (DIRs) is the presence of printed information in a format only viewed and accessed through the use of ICT via electrical manipulations (Obaseki & Amune, 2009). This assertion indicated that a digital information resource connotes not only those information resources accessed only with the aid of computer, but also other forms of ICTs such as blackberry phones or Samsung galaxy phones and Ipad,

Shariful (2012), is of the view that Digital Information Resources (DIRs) are those resources that deal with both born electronic and digitized materials which can be either accessible from library's in house database or from the world-wide-web. The born electronic materials includes: e-books, e-journal, e-newspaper, e-magazine, e-projects, e-thesis, e-dissertations, e-reports, website, www-resources and other related materials which can be considered necessary by the users, researchers, information professionals or even by the library management itself. On the other hand, digitalized materials mean converting the materials from other formats into digital format.

Nkanu and Okon, (2010) referred to Digital Information Resources (DIRs) as the new wave of air blowing many libraries globally, simply because there is increasing amount of information now available in digital form and this is likely to have significant consequences for information retrieval. With digital libraries abstracts and indexes are available online and there is easy access to computer-held information, together with the possibility of including sound and video. Meaning that, for many other reference tools digital format has notable advantage over print.

Singh and Sharma (2002) stated that a majority of the digital scholarly publishers, trade publishers, information aggregators, vendors, and information disseminators, now-a-days, increasingly act globally to provide electronic information (e -information) on Internet. Singh and Sharma went further to say that Digital Information Resources (DIRs) include full text archives or databases of journals, books, patents, standards, or technical reports of a particular publisher or a group of publishers.

Methodology

A descriptive survey research design was adopted for the study. The study was conducted in Federal and State University Libraries in Delta and Edo states in the south- south geopolitical zone of Nigeria. The Federal and State Universities in the zone are located in Abraka, Benin City, Ekpoma, and Ugbomro. The sample for the study comprised one thousand and eighty-eight hundred(1,088) users drawn from four universities. The selection of the four universities was based on the fact that they are government owned institutions and are in the position to follow the trend of digital information age because they are better equipped than private universities. Purposive sampling technique was used to select two universities from Delta and Edo states respectively. Proportionate stratified sampling technique was used to select respondents from each of the federal and state university libraries used for the study.

The instruments used for the collection of data were observation checklist and structured questionnaire .The data obtained for this study were presented based on the research question that guided the study and descriptive statistics was used to analyze the data.

Results and Discussion

The findings of the study are presented under the following sub-sections in the same manner the research questions were phrased. The sub-sections are Availability of Digital information Resources in the four University libraries, extent of students use of digital information resources (DIRs) in the institutions and constraints militating against students effective use of digital information resources in university libraries.

Table 1 : Availability of Digital information Resources in the four University libraries.

S/N	DIRs	AAU	DELSU	FUPR	UNIBEN	TOTAL
1.	e- Project	-	-	-	4500	4,500
2.	e- Conference papers	-	-	-	-	-
3.	e- Journals	2,500	2380	-	14,000,000	16,502,380
4.	e-Technical report	6,651	-	-	10,400	17,057
5.	e-Reference materials	1,000,000	-	-	2,000,000	3,000,000
6.	e-seminar Papers	-	-	-	2,651	2651
7.	e- Conference proceedings	951	35	-	-	986
8.	e- Zines	196	-	-	-	196
9.	e-Books	2,000,000	14,000,000	-	11,000	17,011,000
10.	e-Newsletters	38	30	-	-	68

11. e-Grey document	1,000,000	-	-	-	1,000,000
12. e-Thesis	3,621	-	-	1,000,000	100,3621
13. e- Dissertation	2,621	-	-	2,000,000	200, 2621

The observation checklist shows that none of the University libraries has e-Conference papers. At the Ambrose Ali University Library, ten types of digital information resources out of the thirteen types of digital information resources checked were available. The available digital information resources in the library are e-Journals; e-Technical report; e-Reference materials; e-Proceedings; e-Zines; e-Books; e-Newsletters; e-Grey document; e-Thesis; and e-Dissertation and all of them are six million, five hundred and fourteen thousand and seventy-eight (6, 5514078) in number.

At the Delta State University Library, four types of digital information resources are available. They are e- journals; e-proceedings; e- Books; and e-newsletters and the entire are fourteen million and two thousand four hundred and forty-five(14, 002445) in number. At the University of Benin Library eight types of digital information resources are available. They are e-projects; e- Journals; e- technical report; e-reference materials; e- Seminar; e-Books; e- Thesis; and e- Dissertation, and all of them are nineteen thousand and twenty –eight thousand, five hundred and fifty-one(19,028551) in number. At the federal University of Petroleum Resources Library, none of the digital information resources was available.

The findings show that digital information resources available in university libraries in Delta and Edo States are e- Projects e -Journals; e-Technical report; e-Reference materials; e-Conference proceedings; e-Zines; e-Books; e-Newsletters; e-Grey document; e-Thesis; and e-Dissertation; e-Seminar and their total in the whole University Libraries is forty million, five hundred and forty-five thousand, seventy –four(39, 545074). With the exception of e-Conference papers that were not available in the whole University Libraries, e- Books were found to be highest in number, while e- Newsletter was lowest in number when the digital information resources in the whole libraries are paved together according to types.

Table 2: Mean scores(x) of extent of students use of digital information resources (DIRs) in the institutions.

S/N	Digital Information Resources	Mean	Remarks
1.	e- Projects	2.68	High Extent
2.	e- Journals	2.60	High Extent
3.	e- Reference materials	2.70	High Extent
4.	e- Seminar Paper	2.67	High Extent
5.	e- Books	2.62	High Extent
6.	e- Newsletters	2.51	High Extent

7. e- Thesis	2.54	High Extent
8. e-Zines	2.06	Low extent
9. e- Conference papers	2.40	Low extent
10. e-Technical reports	2.49	Low extent
11.e- Grey_Document	2.17	Low extent
12.e- Conference proceedings	2.17	Low extent
13.e- Dissertation	2.36	Low extent

The result presented in table 2 shows that students use e- Projects; e- Journals; e-Reference materials; e- Seminar papers; e-Books; e- Newsletters; and e- Thesis to a high extent in the institutions, thus the mean scores of 2.68; 2.60; 2.70; 2.67; 2.62; 2.57; and 2.54 respectively. Undergraduates also use e-zines; e- Conference proceedings; e-Grey document; e-Dissertation; e-Conference papers; e-Technical to a low extent, in the institutions, thus the mean scores of 2.40, 2.49; 2.17; 2.06; 2.17 and 2.36 respectively. A grand mean of 2.46 shows that students use Digital Information Resources in the University libraries to a low extent.

Table 3: Mean scores(X) of students on the constraint face by students in use DIRs

S/N	Digital Information Resources	Mean	Remarks
1.	Epileptic power supply	2.96	Agree
2.	None availability of online databases	2.69	Agree
3.	Inadequate or slow band width	2.68	Agree.
4.	Inadequate number of computers to access digital information resources in my library	2.57	Agree
5.	Network problems	2.63	Agree
6.	Lack of skills to access digital information resources in the both local /foreign databases of my library	2.64	Agree
7.	Lack of formal training in Internet use	2.68	Agree
8.	Server slowness	2.62	Agree
9.	Frequent breakdown	2.52	Agree

The result presented in table 3 shows that the respondents agreed that epileptic power supply; non-availability of online databases; inadequate number of computers to access digital information resources; inadequate bandwidth; Network problems; lack of skill to access

digital information resources in local and foreign databases; Lack of formal training on internet use; Server slowness and frequent breakdown of digital resources are constraints to students effective use of digital information resources in University libraries, thus the mean scores of 2.96; 2.69; 2.68; 2.57; 2.63; 2.64; 2.68; 2.62; and 2.52 respectively.

This shows that the students agree that all the listed nine constraints for accessing digital information resources were encountered by them as they tried to access the digital information resources.

Discussion

The findings from the study are quite revealing. Digital Information Resources(DIRs) available in University Libraries in Delta and Edo states are e-Project; e-Journals; e-Technical report; e-Reference materials; e- Conference proceedings; e-Zines; e-Books; e-Newsletters; e-Grey document; e-Thesis; and e-Dissertation. They are thirty-nine –million, , five hundred and forty-five thousand, seventy –four(39, 545074). With the exception of e-Conference papers that was not available in the whole University Libraries, e- Books was found to be highest in number, while e- Newsletter was lowest in number when the digital information resources in the whole libraries are paved together according to type.

The number of available digital information resources in the University libraries studied shows that the three University authorities of Delta State University, Abraka,(DELSU) University of Benin, Benin(UNIBEN) and Ambrose Ali University, Ekpoma(AUU) are well on -course in terms of provision of the digital information resources in the libraries, although there is need for attention concerning provision of e- Conference papers and provision of the digital information resources that are in small number in the libraries. Finding shows that DIRs are use to low extent in all the university libraries. The finding also shows negligence on the part of university management of Federal University of Petroleum Resources Library that have no digital information resources at all.

Constraints to students effective use of Digital Information Resources in the University Libraries are epileptic power supply; non-availability of online databases; inadequate number of computers to access digital information resources; inadequate bandwidth; Network problems; lack of skill to access digital information resources in local and foreign databases; Lack of formal training on internet use; Server slowness and frequent breakdown of digital resources.

Conclusion and Recommendations

Based on the analysis and discussion of the results of this study, the below conclusion are drawn with reference to the research questions.

Digital Information Resources (DIRs) are available in Ambrose Alli University Library (AAU) and John Harrison Library in University of Benin(UNIBEN) in Benin City. Delta

State University Library (DELSU) has only four types of DIRs which include e-journals, e-proceedings, e-books and e-newsletters. Furthermore, DIRs are used to a moderate extent in AAU and UNIBEN libraries. In Delta State University Library the students make use of DIRs to low extents. Federal University Petroleum Resources Library (FUPR) do not have any of the DIRs available for their students and that is why their students use cybercafé for academic information.

The numerous factors that hinder the students from accessing DIRs include epileptic power supply, none availability of online databases, inadequate or slow bandwidth; lack of formal training in the Internet use, network problems, and lack of skills to access DIRs in both local and foreign databases in their library as well as server slowness. Based on the conclusion the researchers recommended that the university management of Federal University of Petroleum Resources Library (FUPR) and Delta State University Library (DELSU) should look into the development and growth of the digital library as a matter of urgency through the process of free downloading and subscription of online databases. Some of the free databases include UNESCO libraries portal, HIGHWIRE (<http://highwire.stanford.edu/lists/devecom.dtl>), ALUKA, JSTOR, HINARI, Database of African Thesis and Dissertations (DATAD), World Digital e-Library (<http://elibrary.worldbank.org>), British library of development studies(BLDS) , and EBSCOHOST.

It was argued that lack of skills to access DIRs hinder undergraduate students to make use of e-resources therefore, the researcher suggests that management of the four university libraries in the study should try to train their students in up- to-date 21st century skills of Information Communication technologies (ICTs). This will help to solve the problems of ICTs skills among undergraduates.

Finally, effort should be made by the University and library management of both federal and state universities to minimize the challenges faced by undergraduates to access digital information resources.

References

- Adeyinka, T, Adedeji, T. , Ayen, C.O. & Omoba, R.O. (2008). Self-Efficacy and Use of Electronic Information as Predictors of Academic Performance. *Online Electronic Journal of Academic and Special Librarianship*, 8(2), 1-17.
- Day, J.& Bartle, C. (2003). The Internet as an electronic information service: its impact on academic staff in higher education. Retrieved from <http://www.sosig.ac.uk/iriss/papcrs/paperO6.htm>.
- Devi, T.S. and Singh, S.T. (2004). Problems and prospects of digital library in Manipur: a conceptual study. *Online publication 2nd convention planner Manipur University*.

- Fabunmi, B.A., Paris, M. & Fabunmi, M (2006). Digitization of library resources: Challenges & and implications for policy and planning. *International Journal of African & African American Studies*. 5(2), 23-36.
- Fatoki, O. C. (2007). Digitalization of library materials in Nigeria: Issues and heritage of University of Nigeria, Nsukka: Issues and current status. *A paper presented at the Nigeria library Association (NLA) 4th Annual National Conference and AGM 26-31 July 2009 Ibadan*.
- Gbaji, E. S. & Ukachi, N.B. (2011) An assessment of technological skills competency of academic libraries in Nigeria. *A paper presented at the 49th NLA national conference/ AGM 10th- 15th July. Awka*.
- Imo, N. T. & Igbo H.U. (2011). Challenge of digitalizing information resources in Nigeria university libraries. *A paper presented at the 49th NLA National Conference/ AGM 10th- 15th July. Awka*.
- Obasike T.I, Umeji, C.E & Kurbu, D. (2010). Electronic resources: affording Nigerian academic libraries a competitive edge. *Madonna Journal of Research in Library and Information Science*, 1 (1) , 35-47.
- Obaseki T. I & Amune, J.B.(2009). Electronic resources: avenue for information resources acquisition in the 21st century Nigeria tertiary institutions. *A paper presented at the AGM of NLA Cross River State Chapter conference. At UNICAL conference hotel Calabar 9th- 11th November*.
- Okoro, H.C (2008). *Virtual library for students research and study*. In Achebe, N. (ed) *Library information literacy for higher education*. Enugu: Nigeria Library Association.
- Omekwu, C.O. (2002). *The challenges of information systems in modern libraries*. In Madu, E.C. and Dirisu, M.B. (eds) (2002) *Information science & technology for library schools in Africa*. Ibadan: Evi- coleman publications.
- Otubelu, N.J. (2010). Access to digital information in Nigeria academic libraries: the role of education trust fund. *Journal of information and knowledge management*, (1), 41-46
- Lee, Sul .N. (2008). Digital information and knowledge management: New opportunities for research libraries. *Online database*.
- Ray, K. & Day, J. (2003). Student attitudes towards electronic information resources. Retrieved from <http://informationr.netlir/4-2/papers54.html>
- Rosenberg, . D. (2005). Towards the digital library: Findings of an investigation to establish the current status of university libraries in Africa. UK: INASP. Accessed from <http://www.inasp.info/uploaded/documents/digital-libr-final-format-web.pdf>.
- Shariful .I. (2012). Definition of Digital Information Resources. Accessed from http://univdhaka.academia.edu/sharifulislam/papers/203831/definition_of_digitalinformationresources.
- Singh S. P. & Krishan .K. (2005). *Special libraries in electronic environment*. New Delhi: Boswell.

- Singh, S. P.& Sharma, A. K. (2002). Electronic information resources in academic libraries: some key issues. *Journal of Library Progress International*, 22 (1), 43-52.
- Ukachi, N.B. (2011) Electronic information resources and undergraduate users' patronage in university of Lagos library: A survey. *Madonna Journal of Research in Library and Information Science*, 1 (2) 21-34
- Waldman, M. (2003). Freshmen's use of library electronic resources and self-efficacy. information research. Accessed from <http://www.informationr.net/ir/8-2/paper150.html>.
- Ya'u, Z.Y. (2003). Towards a virtual library for Nigeria. Accessed from <http://www.portal.unesco.org/en/ev.php>