

Full Length Research

Availability of Electronic Databases and Accessibility by Undergraduate Students in the Study Centres of National Open University of Nigeria

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This study investigated the availability of electronic databases its awareness and accessibility by undergraduate students in study centres of the National Open University of Nigeria (NOUN). The study is guided by the following research objectives: identify the types of Electronic Database available to undergraduate students, to ascertain the awareness of the databases by undergraduate students of NOUN as well as access to Electronic Database; the study equally seeks to determine the relationship between availability and access to such databases exist. The study adopted a quantitative methodology using a survey research design. The population of the study comprised 16,902 undergraduate students of the National Open University of Nigeria of the North Central Study Centres. Stratified sampling techniques were used. A total of 390 undergraduate students were sampled using the Taro Yamane Formula and 7 staff was also involved in the study. A questionnaire as a data collection instrument was used. The data collected was analysed using descriptive statistics and frequencies and percentages. The hypotheses formulated were tested using chi-square at the 0.05 level of significance. The findings show that Ebschohost, Emerald, JSTOR, Science Direct Sciverse, Scopus, Sage Online Journal, AGORA, Elsevier, Khan Academy, and HINARI among others are the types of electronic databases available for general users as wall undergraduate students of NOUN and undergraduate students are aware of the existence of a majority of such databases. The finding also shows that undergraduate students had access to many of the electronic databases and there was a relationship between availability and access of electronic databases in the studied centres. The study recommended measures among others more databases should be provided as well as to promote students especially undergraduate have awareness and access to them for teaching and learning to prosper.

Key words: electronic databases, undergraduate, study centre, National Open university of Nigeria

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INTRODUCTION

Electronic databases (EDs) available in a library play a prominent role in facilitating access to and use of the required information to the users, who desire them in an expedient manner. An electronic database (EDs) is one of the emerging technologies in libraries and information communication in competitive service. The twenty-first (21st) century is characterised by the growth of research in all the fields of human endeavour and becoming increasingly detailed and sophisticated. The use of electronic information resources by students has become inevitable. Thus, the importance of

electronic information resources is vital. Electronic Databases are competing to replace the traditional library; it enables users to retrieve materials easily from remote sites. Students, especially those in universities, use electronic information resources for various academic purposes.

Electronic Databases play a significant role as information sources in today's libraries. Uzuegbu, Chukwu and Ibegwam (2012) defined electronic databases as specialized records of related published information documents, which are not available on Google or other common search engines, especially in a full text. Databases are collections of electronic information sources (e-journals or e-books) by publishers from various fields or disciplines and some of these databases are provided free of charge to libraries in developing countries by their publishers or vendors, while others require some subscription fees. Online databases enable users to retrieve data by specifying the data or information they desire, rather than how to retrieve them. Users of online database systems can search, upload and download files in Word documents, pdf and other file formats. Electronic database systems can be easily accessible to untrained users. For example, users are able to request data in a more natural language and natural database technology will anticipate their data needs based on past queries and relevant database changes. Electronic database systems maximize the value of a web-based environment by integrating the world's leading content into the workflow by surfacing the most important relevant data. The online database system responds to the ever-changing benchmark of sustainability and corporate social responsibility and constantly updates the contents to reflect current practices.

Awareness is important as the databases because without awareness users could not find such valuable resources important and neither access them nor above all utilise them.

Access is a general term used to describe the degree to which resources, services, products and the environment are accessible by as many people as possible. It can be viewed as the ability to access information with little or no stress. Accessibility of Electronic database resources is an important recurring theme in the literature. According to Aina (2014), resources may be available in the library and even identified bibliographically as relevant to one's subject of interest, but the user may not be able to lay hands on them. One may identify citations in indexes, but may not have access to the resources containing the relevant articles. The more accessible information resources are, the more likely they are to be used. Readers tend to use information resources that require the least effort to access. Users of libraries are faced with the challenges of changing the information environment, thus the need to train users in accessing online information. Electronic database resources are growing exponentially. Thus, the preservation and continued access to these electronic resources is not only a necessity but should also be an obligation for libraries. Libraries should not only be committed, but also responsible for providing access to information in the desired format, so that patrons can access these electronic resources when and where they needed them. Awareness can be seen as the knowledge and perception of a situation, conscious recognition and familiarity with being or well-informed a on the subject matter. Awareness is knowledge about something that exists or understanding a situation or subject at the present time based on information or experiences. Basically, the awareness of undergraduate students about electronic databases will serve as the utilization of ED, because if you are not aware of the existence of something, you cannot access or use it. Prangya and Rabindra (2013) maintained that awareness is core to the usage of electronic information resources among students. Some studies showed that awareness about electronic information databases is high while others showed that it is moderate and low, respectively. Kwadzo (2015) observed that many studies have been undertaken on electronic databases in the areas of awareness, usage, relevance, access, preference, orientation and training and evaluation, among others. It is found in the literature a gap between awareness and the usage of digital resources. Either users are aware of the resources and use them, users are aware and do not use them or users are unaware of them and, therefore, do not use them. The present study seeks to find out the availability and accessibility of databases by undergraduates in the NOUN study center of north central Nigeria.

Statement of the problem

The use of electronic databases has granted educational institutions an extraordinary capability and eliminated the constraints of time and distance. Library users frequently prefer access to e-database information which provides information that is up to date, international in scope and at times not available elsewhere because they see these resources as easier to access and search. Electronic information database sources can be seen as the most recent development in information technology and they are available in various forms like e-books, digital libraries, online journal magazines, e-learning tutors and online text. According to Dukic (2013), electronic databases in libraries have made information available to scholars and students for study or research purposes.

However, it has been observed by the researchers that the development seems to pose serious challenges to the awareness, accessibility and utilization of electronic databases in a developing nation like Nigeria. Studies have shown that undergraduate students have not sure or had rear accessed and utilized electronic information databases optimally (Baro, Benake, Ebide&Ubogu, 2011; Aina, 2014 and Alhassan, 2015). The use of electronic databases in Nigerian

universities undermines the substantial efforts that have been made over two decades to ensure that electronic resources use penetrates all the aspects of higher education in our universities. In addition, observation by the researchers indicated that the subscribed electronic databases available to students are not efficiently utilized. Some of the students were not aware of the availability of such valuable resources or they may be aware but are not competent in the use of computers, let alone accessing them. Above all, inadequate infrastructural facilities like computers and bandwidth also hindered accessibility. The end result is, at best, to avoid the use of electronic databases. Based on this premise, this study intends to investigate the availability and accessibility of such databases in the designated study areas

OBJECTIVES

The main objective of the study is to investigate the availability and access to electronic databases by undergraduate students in the study centers of the National Open University of Nigeria (NOUN). The specific objectives are:

1. To identify types of Electronic Databases available to Undergraduate Students in the Study Centres of National Open University of Nigeria.
2. To find out if undergraduate students are aware of the available databases in the study area
3. To find out if Undergraduate Students in the Study Centres of National Open University of Nigeria have access to Electronic Databases.
4. To determine if there is statistical significant relationship between the availability and access of electronic databases by undergraduate students in study centers of NOUN.

Conceptual clarification

Electronic databases: A database is a collection of information that is organized so that it can easily be accessed, managed and updated. In one view, databases can be classified according to types of content: bibliographic, full-text, numeric and images. Khan and Haridasan (2015) defined electronic databases as the records of related digital information concerned with either general information or any specific subject field, which is arranged in a uniform format to retrieve information easily through the internet or online networks. Electronic databases can also be defined as “electronic collections of information accessible via the internet, often containing journal articles or references to such articles” (Guruprasad, Marimuthu and Khaiser, 2012). They are usually updated files of digitised information in which the content is revised usually on a regular basis to provide current information to users. It may contain indexes to and abstracts of articles and/or links to the full-text articles. Electronic databases are organised sets of scholarly and professional publications (ejournals/e-books) in an electronic form that provides a platform for the user to access scholarly information where it consists of several journals and e-books in different disciplines (Aina, 2014). Electronic databases play significant roles as information sources in today's libraries.

The importance of electronic databases in an academic environment is vital as it provides immense opportunities for academicians and researchers as well as students to find and access current literature for academic purposes. Electronic databases contain more comprehensive and scholarly work compared to e-resources available on the web through search engines, such as Google (Teymourikhani, 2017).

Awareness in this study stand to mean state of being aware of the innovation, practice or idea. In this study awareness stand as electronic databases that are in existence and how it can allow by assisting faculties such as lecturers, researchers and students both graduate and undergraduate in their studies as well as in carrying out scholarly research.

Access: is a general term used to describe the degree to which a resources, services, product or environment is accessible by as many people as possible. It can be viewed as the ability to access information with little or no stress. Accessibility of information resources is an important recurring theme in the literature. When users of the library are informed of available materials, it is expected that those resources should be well organized for easy access. Some of the electronic resources required passwords and User ID for them to be accessible while some can be accessed without any restrictions. Aina (2011) stated that accessibility determines the speed at which an information output in any formats is obtained. Therefore, good information resources should be received and retrieved to meet the desired need. Electronic resources have the potential for enhancing student learning, as the resources provide teachers and students with vast quantities of information in an easily accessible non-sequential format.

Literature review

Tiemo (2016) in a study on the Availability of Electronic Information Resource Databases in University Libraries in South-South, Nigeria, two research questions and one hypothesis were formulated to guide the study. The survey design was employed. The population of the study was made up of 11 systems librarians. A sample of 7 system librarians in 4 federal and 3 state university libraries were randomly selected for the study. Data collection was done through the use of structured questionnaires in a checklist format. The questionnaire in a checklist format was titled: Availability of Electronic Information Resource Databases in University Libraries (AEIRDUL). The findings showed that AGORA, HINARI, EBSCO host resources, AJO, OARE, DATAD, TEEAL, INASP, MIT Open Course Ware, DOAJ, JSTOR, World Public Library, LexisNexis, Questia, Ebrary, The Observatory and Egranary. The state universities in South South, Nigeria had 12, namely: AGORA, HINARI, EBSCO host Resources, AJOL, OARE, TEEAL, DOAJ, JSTOR, Ebrary, Oxford online journal, Biomed Central and Aluka Publication. It could be seen that six of EIR database were available in both federal and state universities in South-South, Nigeria. These are AGORA, HINARI, EBSCO Host Resources and OARE, AJOL and TEEAL.

Idowu and Eiriemiokhale (2020) investigated the availability and awareness of electronic databases for teaching and research by lecturers in public universities in South-west, Nigeria. The objectives of the study were to: identify the types of databases available to lecturers in public universities in South-west, Nigeria; and examine the extent of the awareness of available databases for teaching and research by university lecturers in South-west, Nigeria. The study adopted the descriptive research design of a correlational type. The population comprised 10,452 lecturers in fifteen public universities in South-west, Nigeria from which a sample size of 836 was drawn using a multistage sampling procedure. A questionnaire was used as the instrument for data collection. Data were analysed using descriptive and inferential statistics at 0.05 level of significance. The findings of the study revealed that electronic databases, such as AJOL, DOAJ, Science Direct, International Research Journal, World Bank, National Virtual Library, JSTOR, Cambridge Journal, Chicago Journal, Emerald, Google Scholar, TEEAL, INASP, Academic Library Online, DATAD, Encyclopedia of Life Support System and ERIC were available in university libraries in southwest Nigeria.

Aina (2014) investigated the further factors of the awareness, accessibility and use of electronic resources among the academic Staff of Babcock University Business School. This study was carried out among one hundred and eighteen academic staff. The BBS happens to be the BU largest single school among a total of ten. They are also naturally the largest users of electronic resources. A questionnaire was the method used for data collection among academic staff while data was analyzed by the Statistical Package for the Social Sciences (SPSS). It was found that only 40 (47.1%) and above of the respondents had full access to Academic Journal, Ebscohost and JSTOR databases. AJOR, Electronic Resources for Research Methods and International Research Journal were averagely accessible respectively. It was also revealed that the following databases were not accessible to the respondents with Bookboon, Dissertation and Theses, DOAJ, HINARI, SAGE, World Bank Open Knowledge Repository and National Virtual Library databases. This implies that despite the fact that these resources were subscribed to and the respondents were aware of them, still they were not all fully accessible due to one challenge or the other, such as inadequate internet facility and electricity supply. Will this situation be applicable to the Open University of Nigeria? Thus, there is a gap in the context of the National Open University of Nigeria.

Tajafari (2014) conducted a study on the accessibility and use of electronic journals at Iranian University Libraries and revealed that Elsevier Science, Springer-Verlag and Wiley-Blackwell were among the major databases accepted and used by respondents for the study. Kwafoa, Osman and Afful-Arthur (2014) carried out a study on the assessment of the use of electronic resources among administrators and faculty at the University of Cape Coast. Among the objectives of the study was to investigate the faculty usage of EIR databases for their academic work. The study showed that the following databases were highly used Emerald, Ebsco host, Hinari, Sage Journals and Jstor. From the above, access to electronic databases was high. This situation may not be the same in Nigeria as the above settings are different and may not be applicable to the Open University of Nigeria.

METHODOLOGY

The researchers adopted a survey research design for the purpose of the study and specifically used a cross-sectional survey research design, which allows the researcher to collect data at one point in time. The population of the study comprised all the undergraduate students of the National Open University of Nigeria, North-central study centres which, include: Nasarawa study centre, Lafia, Benue study centre, Makurdi, Kogi study centre, Plateau study centre, Jos, and Kwara study centre. Taro Yamane formula (Yamane, 1973) was used to get a sample size of 390. A closed-ended questionnaire was used for data collection. Data was presented using Frequency and percentage, all these were done using Statistical Package for the Social Sciences (SPSS) 20.0 version.

Presentation and Analysis of Results and Discussion

This section presents the analysis of the results obtained from the study as well the discussion of the findings obtained variable by variable as presented in the research questions and objectives of the study for clarity

Types of Electronic Databases available to users

The respondents were asked to identify which types of electronic databases are available to them and their responses were presented in Table 1 below.

Table 1: Responses of staff on Types of Electronic Databases

Electronic Databases Available	YES		NO		Total
	Frequency	Percentage	Frequency	Percentage	
Ebscohost	7	100%	-	-	7(100%)
Emerald	7	100%	-	-	7(100%)
JSTOR	7	100%	-	-	7(100%)
Science Direct	7	100%	-	-	7(100%)
Sciverse Scopus	7	100%	-	--	7(100%)
Sage Online Journals	7	100%	-	-	7(100%)
AGORA	7	100%	-	-	7(100%)
Elsevier	7	100%	-	-	7(100%)
Khanacademy	7	100%	-	-	7(100%)
HINARI	7	100%	-	-	7(100%)
Lexis academic	7	100%	-	-	7(100%)
MEDLINE	7	100%	-	-	7(100%)
AGRIS	7	100%	-	-	7(100%)
OARE	7	100%	-	-	7(100%)
Taylor & Francis	7	100%	-	-	7(100%)
GOALI	7	100%	-	-	7(100%)
AFRICAN JOURNALS ONLINE (AJOL)	7	100%	-	-	7(100%)
Armed conflict database	7	100%	-	-	7(100%)
College open textbook	7	100%	-	-	7(100%)

Source: Generated by the researchers using SPSS 16.0 from questionnaire response, 2021

Table 1 above shows that 7 (100%) of the respondents stated that Ebscohost, Emerald, JSTOR, Science Direct, Sciverse Scopus, Sage Online Journal, AGORA, Elsevier, Khanacademy, HINARI, Lexis academic, Medline, AGRIS, OARE, Taylor and France, GOALI, African Journals Online (AJOL), Armed conflict database and College open textbook are the types of electronic databases. The findings agreed with Tiemo (2016) found that AGORA, HINARI, EBSCO host resources, AJO, OARE, DATAD, TEEAL, INASP, MIT Open Course Ware, DOAJ, JSTOR, World Public Library, LexisNexis, Questia, and Ebrary are the types electronic databases provided to users by the libraries of the National Open University in the north central.

Availability of Electronic Databases

The respondents were asked in relation to which electronic databases are available in the study centres and their responses were indicated in Table 2 below.

Table 2: Response of Library staff on types of Electronic Databases Available

Electronic Databases Available	YES		NO		Total
	Frequency	Percentage	Frequency	Percentage	
EBSCOhost	7	100%	-	-	7(100%)
Emerald	7	100%	-	-	7(100%)
JSTOR	7	100%	-	-	7(100%)
Science Direct	7	100%	-	-	7(100%)
Sciverse	7	100%	-	--	7(100%)
Scopus					
Sage Online Journals	7	100%	-	-	7(100%)
AGORA	7	100%	-	-	7(100%)
Elsevier	7	100%	-	-	7(100%)
Khanacademy	7	100%	-	-	7(100%)
HINARI	7	100%	-	-	7(100%)
Lexis academic	7	100%	-	-	7(100%)
MEDLINE	7	100%	-	-	7(100%)
AGRIS	7	100%	-	-	7(100%)
OARE	7	100%	-	-	7(100%)
Taylor & Francis	7	100%	-	-	7(100%)
GOALI	7	100%	-	-	7(100%)
AFRICAN JOURNALS ONLINE (AJOL)	7	100%	-	-	7(100%)
Armed conflict database	7	100%	-	-	7(100%)
College open textbook	7	100%	-	-	7(100%)

Source: Generated by the researchers using SPSS 16.0 from questionnaire response, 2021

The Table above shows that all the respondents 7 (100%) stated that Ebschohost, Emerald, JSTOR, Science Direct Sciverse Scopus Sage Online Journal AGORA, Elsevier, Khanacademy, HINARI, Lexis academic, Medline, AGRIS, OARE, Taylor and France, GOALI, African Journals Online (AJOL), Armed conflict database, and College open textbook are available in the study centres. The findings agreed with Idowu and Eiriemiokhale (2020) who found AJOL, DOAJ, Science Direct, International Research Journal, World Bank, National Virtual Library, JSTOR, Cambridge Journal, Chicago Journal, Emerald, Google Scholar, TEEAL, INASP, Academic Library Online, DATAD, Encyclopedia of Life Support System and ERI to available.

Awareness of Electronic Databases

The respondents were asked about their awareness of electronic databases and their responses are indicated in Table 3 below.

Table 3: Students' Response to Awareness of Electric Databases

Awareness	Frequency	Percentage (%)
Yes	152	61.3%
No	96	38.7%
Total	248	100%

Source: Generated by the researchers using SPSS 16.0 from questionnaire response, 2021

Table 3 above shows that the majority 152 (61.3%) are aware of electronic databases while 96(38.7%) are not.

Access to Electronic Databases

The respondents were asked about the electronic databases they have access to and their responses are indicated in the Table below.

Table 4: Students' Responses on Access to Electronic Databases

Electronic Databases utilized	YES		NO		Total
	Frequency	Percentage	Frequency	Percentage	
EBSCOhost	127	83.5%	25	16.4%	152(100%)
Emerald	100	65.7%	52	34.2%	152(100%)
JSTOR	130	85.5%	22	14.4%	152(100%)
Science Direct	125	82.2%	27	17.7%	152(100%)
Sciverse Scopus	51	33.5%	101	66.4%	152(100%)
Sage Online Journals	133	87.5%	19	12.5%	152(100%)
AGORA	128	84.2%	24	15.7%	152(100%)
Elsevier	67	44%	85	55.9%	152(100%)
Khanacademy	49	32.2%	103	67.7%	152(100%)
HINARI	45	29.6%	107	70.3%	152(100%)
Lexis academic	50	32.8%	102	67.1%	152(100%)
MEDLINE	41	26.9%	111	73.0%	152(100%)
AGRIS	62	40.7%	90	59.2%	152(100%)
OARE	54	35.5%	98	64.4%	152(100%)
Taylor & Francis	131	86.1%	21	13.8%	152(100%)
GOALI	49	32.2%	103	67.7%	152(100%)
African Journals Online (AJOL)	123	80.9%	29	19.1%	152(100%)
Armed conflict database	52	34.2%	100	65.7%	152(100%)
College open textbook	47	30%	105	69.0%	152(100%)

Source: Generated by the researchers using SPSS 16.0 from questionnaire response, 2021

Table 4 above shows that 127 (83.5%) of the respondents have access to EBSCOhost, 100 (65.7%) have access to Emerald, 130(85.5%) JSTOR, 125 (82.2%) Science Direct, 51 (33.5%) Sciverse Scopus, 133 (87.5%) Sage Online Journal, 128 (84.2%) AGORA, 67 (44.0%) Elsevier, 49 (32.2%) Khanacademy, 45 (29.6%) HINARI, 50 (32.8%) Lexis academic, 41 (26.9%) Medline, 62 (40.7%) AGRIS, 54 (35.5%) OARE, 131 (86.1%) Taylor and France, 49 (32.2%) GOALI, 123 (80.9%) African Journals Online (AJOL), 52 (34.2%) Armed conflict database and 47 (30.0%) College open textbook. The above shows that the majority have access to Ebscohost, JSTOR, Science Direct, Sage Online Journals, AGORA, Taylor & Francis and African Journals Online (AJOL).

Hypothesis

H₀₁: There is no statistically significant relationship between the availability and access of electronic databases by undergraduate students in the study centres of NOUN.

Table 5: Chi-Square result for the relationship between availability and accessibility of electronic databases

Chi-Square Test

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.258E2 ^a	72	.000
Likelihood Ratio	564.293	72	.000
Linear-by-Linear Association	197.430	1	.000
N of Valid Cases	152		

From Table 5, Chi-Square statistics of access $\chi^2 = 9.258E2^a$. The calculated p-value of 0.000 is less than 0.05. This means that the null hypothesis is rejected and the alternative hypothesis accepted. This shows a statistical relationship between the availability of electronic databases and their accessibility.

Findings of the Study

From the data and discussion presented so far the following summarises the findings obtained from the study

1. The following are the available databases for users in the study Centres of Nation Open University Centres Studied: EBSCOhost, Emerald, JSTOR, Science Direct Sciverse Scopus Sage Online Journal AGORA, Elsevier, Khanacademy, HINARI, Lexis academic, Medline, AGRIS, OARE, Taylor and France, GOALI, African Journals Online (AJOL), Armed conflict database, and College open textbook are available in the study centres.
2. Undergraduate students of NOUN have access to the majority of the electronic databases for academic purposes
3. There is a relationship between the availability and accessibility of electronic databases in the studied centres.

Conclusion and Recommendations

The study concludes that electronic databases are very important to every library user for supporting teaching and learning activities to library users especially undergraduate students in the study centres of National Open University of Nigeria and were found available and accessible by the users studied. However, although some of the electronic databases are not available and a handful of the students in the studied centres perhaps were as a result of lack of knowledge resulting to not aware of some of the electronic databases.

The study recommends that more electronic databases should be made available in the study centres, more awareness on electronic databases should be created by the library and steps should be taken to make sure that students have more access to the available electronic databases for improving teaching and learning.

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