



ACCESS AND USE OF ELECTRONIC DATABASES BY UNDERGRADUATE STUDENTS OF FEDERAL UNIVERSITY LIBRARIES IN NORTH-EAST ZONE, NIGERIA

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Abstract

This research examines the level of Access and Use of Electronic Database among Undergraduate Students of Federal University libraries in North-East, Zone, Nigeria. The main objective of this study is to explore the level of students' awareness and access to the e-database. The research design adopted in this study is a descriptive survey. Questionnaire was used as instruments for collecting primary data. The sample size of 410 undergraduate students were selected using stratified sampling technique, of which 391 copies of the questionnaires were returned representing (95.3%). Data collected, were analyzed using descriptive statistical techniques, of frequency counts and percentages while inferential statistics Pearson Moment Correlation was used to test the hypotheses. The result revealed that the independent variables Awareness and Access have statistically significant relationship with the dependent variable Use of Electronic Database, in which Awareness at Sig. (2-tailed) value is 0.002 Pearson's r 0.975, and Access at Sig. (2-tailed) value is 0.002 Pearson's r 0.753. Based on the findings of this study, the following recommendations were made: The University libraries should have a strategic plan for ICT infrastructural development, adopt an active awareness on the available electronic databases, procurement of more user-friendly software, sufficient networked computers, with fast Internet connectivity. Organize periodic training on access and use of electronic databases for the undergraduate students and digitization of student research projects and creation of various types of institutional repositories alongside the subscription of different electronic databases.

Key words: Access, Use, Electronic Databases, Undergraduate Students, University Libraries

Introduction

Access to information is regarded as a vital resource if any individual is to function

effectively in the society. With the proliferation of information technologies starting in the 1970s, the job of information management took on a new dimension. However, an understanding of the technology and the theory behind it becomes necessary, as information was evermore stored via electronic means. Therefore, the use of computer led to the infiltration of computer- based databases in the management of information. Advances in computer application during the past few decades have brought radical changes in the way information is gathered, stored, organized accessed, retrieved and consumed. Salaam (2008) attributed the popularity of the electronic information resources to flexibility in searching than their paper- based counterpart, and they can be accessed remotely at any time. However, The University libraries, through the support of the National University Commission (NUC), subscribed to a number of electronic databases that are expected to enhance teaching, learning and research activities of the University community.

These electronic databases could be accessed either from the Electronic library Centre or from any computer Centre connected to the Internet with the aid of User name and password already provided to members of the University community. Based on the above, the Federal Government of Nigeria through the National Universities Commission (NUC) initiated various programs designed to lurch Nigerian Universities into information global society. Among various activities include automation of university libraries using library management information systems software (TINLIB) and Nigeria Universities Network (NUNET). In other words, it was aimed at developing a viable local and wide area network in each institution. Another activity was Nigerian virtual library initiated to provide higher institutions access to relevant and current information. Although information gathering and use pattern in the traditional print environment have been researched into over the years, the electronic environment presents a new and relative unexplored area for study. The emergence of electronic resource has tremendously transformed information handling and management in Nigerian and University libraries in general (Isah, 2010).

Review of Related Literature

The term database originated from the computer industry. An electronic database is an organized collection of information of a particular subject or multidisciplinary subject areas where by information within an electronic database can be searched and retrieved electronically. Databases contain records informing the user about each item within those databases. Idowu, Doreem and Qudri, (2013) noted that electronic databases are large regularly updated file of digitized information (Bibliographic Records, Abstracts, Full Text, Document; Directory Entries, Images, Statistic etc, related to a specific subject or field, consisting of records of uniform format organized for ease and speed of search retrieved and manage with the aid of Database Management System (DBMS). Also, Idowu et al., (2013) describe Electronic Database as a structured collection of records and data which is stored in a computer so that programme can consult it to answer quarry.

Electronic databases, as defined by Egberongbe (2011), are information sources that are available and can be accessed electronically through such computer networked facilities as online library catalogues, the internet and the World Wide Web (WWW), CD-

ROM databases, etcetera. Literature have shown 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. Awareness is knowledge about particular information and manifested through a particular Behavior. Awareness is paramount if undergraduate students are to effectively and efficiently use electronic databases Also, Aina (2014) in his study Awareness, Accessibility and Use of Electronic Databases among Academic Staff of Babcock University Business School, reveals that, the library subscribes to Academic Journal, AJOL, BOOKBOOM, Dissertation and Theses, HINARI, EBSCOHOST, and SAGE among others. Corroborating the above, a study conducted by Uhegbu (2012) on Creating Universal Resources Locator (URL) links on Library Computer Desktop Page: A Solution for Students Under-utilization of Subscribed Electronic Databases in Academic Libraries in Nigeria using Michael Opara University of Agriculture Umudike (MOUUAU) as a case study, it was revealed that, the library subscribed to electronic databases which includes AGORA, EBSCO HOST, HINARI, OARE, NUC virtual library, Lan-Teel of 2005 CD and 2009 DVD versions.

Rexwhite (2013) 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 electronic databases while at school. Remphel and Davidson (2008) observed that, undergraduate comes from wide variety of education background, despite the vast amount of literature devoted to increasing the information literacy of student, much of the library literature about undergraduate indicates that, they primarily use journal articles rather than book, but with the advent of electronic databases subscribe by libraries, they prefer electronic access to information whenever possible desires cross-databases searching.

Alison (2012) studied factors affecting utilization of health information resources in university in Uganda the findings revealed that the electronic resource available to Institutions includes access medical aids line, center for disease control, Cochrane library, Electronic Medicine EBSCO HOST, Free Medical Journal, Google Scholars, HINARI, MD Consult, Medline, Pop line Up-to-Date, WHO library and Wiley Inter-science. However, most of the databases were common to all institutions, only few were Accessed by Individual Institutions (Idowu, et al, 2013). Electronic databases provide a number of benefits in terms of providing accurate information over the information from print sources. These benefits include the fact that electronic databases are often faster to consult than print indexes especially when searching retrospectively, and they are straight forward when wishing to use combination of keywords. Furthermore, they open up the possibility of searching multiple files at one time, a feat accomplished more easily than when using printed equivalents (Day & Bartle, 2003). Kwadzo, (2015) stressed that, In spite of the value of Electronic Databases and ensuring that it is available for use by Library Clients, studies have shown that usage is not up to level expected or is simply underutilized. Reasons most often advanced for not using the databases include lack of awareness, preference for other sources like general search engines such as Google, lack of search skill, lack of adequate ICT infrastructure, bad downloading time, and at times sheer attitude of users. . Awareness is paramount if Undergraduate Students are to effectively and efficiently Use Electronic Databases. Consequently, Singh and Nhung (2012) argued that

users' behaviour will influence the usage of electronic databases, and that factors that influence usage of databases are the purpose of usage, preferred types of materials, ways to learn the search, search techniques, and difficulties and expectations in using the databases. Similar finding was reported by Coombs (2005) that full-text databases were preferred to other databases. Even among the full-text databases some are preferred to others because of the information architecture of the sites.

Statement of the Problem

Electronic databases were very important to the Library users in general. Apart from providing accurate and current information; the databases are faster than print resources. In addition, they also open up the possibility of searching multiple files simultaneously. But despite this importance, lack of awareness about the existence or availability of the electronic resources is attributed with the low utilization due to the behavior of the students. Attitudes of the students have powerful impact on the use of electronic information resources (EIR). Hence this study on how undergraduate students access and use Electronic Database in Federal University libraries of North-East Zone Nigeria.

Research Questions

This Study is guided by the Following Research questions:

1. What is the level of undergraduate Students awareness of electronic databases in the federal University libraries in North-East, Zone Nigeria?
2. To what extent do undergraduate students have access to the electronic databases in the University libraries under study?
3. What are the attitudes of undergraduate students of federal University libraries in North-East zone Nigeria towards the access to the electronic database?
4. What are the challenges faced by undergraduate students of federal University libraries in North-East zone Nigeria towards the use of the electronic databases?

Hypotheses

The following hypotheses were tested at 0.05 level of significance.

- H₀₁:** There is no significant relationship between awareness and use of the electronic Databases by undergraduate students of federal University libraries in North-East, Zone, Nigeria.
- H₀₂:** There is no significant relationship between access and use of the electronic Databases by undergraduate students of federal University libraries in North-East, Zone, Nigeria.

Methodology

Survey research was used in gathering the data using cross-sectional type of survey

design. Three (3) Federal University libraries out of the six (6) Federal University libraries in the North-East zone Nigeria were selected through stratified sampling, the population of undergraduates from the three selected Federal University libraries in North-East zone Nigeria was 53,694. The sample size of the study was 397 based on values from Israel (2012) table. From the table, for a population of 50,000, a confidence level of 95% and level of precision of $\pm 5\%$ or 0.05%, a sample size of 397 is sufficient. 400 questionnaires were distributed to the target respondents but 391 were returned, indicating 97.7% response rate. A number of statistical techniques were used by the researcher to analyze the data collected. Each research question was analyzed by a suitable technique with the aid of SPSS Software Version 20.

Data presentation and findings

This section presents both the descriptive and inferential results used in answering the five research questions.

Question 1: What is the level of undergraduate Students awareness of electronic databases in the federal University libraries in North-East, Zone Nigeria?

Respondents were asked about their awareness of the available e-databases in university libraries of their institutions to indicate their answers by way of saying “Yes”, “No. It has shown that, majority of the respondents that responded to the questionnaire 384(98.2%) were aware of the electronic databases. Only 7(1.8%) of the respondents were not aware.

S/N	Electronic databases	Frequency	Percentage	Mean
1	SCIENCE DIRECT	133	34.0%	3.1918
2	EBSCOHOST	44	11.3%	
3	GOOGLE DATABASE	56	14.3%	
4	E-GRANERY	24	6.1%	
5	DOAJ	56	14.3%	
6	JSTOR	63	16.1%	
7	Others	15	3.8%	
Total		391	100.0	

Table 1. Signifies that 133(34.0%) of the respondents are aware about the existence of SCIENCE DIRECT, 44(11.3%) EBSCOHOST, 56(14.3%) GOOGLE DATABASE, 24(6.1%) E-GRANARY, 56(14.3%) DOAJ, 63(16.1%) JSTOR and other electronic databases were represented by 15(3.8%). Since the mean value of 3.1918 indicates high rate of awareness on electronic databases. This has answered the first research question

raised

Question 2. To what extent do undergraduate students have access to the electronic databases in the University libraries under study?

Respondents were asked whether they have access to the available e-databases in their institutions to indicate their answers by way of saying “Yes”, “No. The finding reveals that, majority of the respondents that responded to the questionnaire 379(96.9%) access to the electronic databases. Only 12(3.1%) of the respondents were not access to the electronic databases.

S/N	Electronic Databases	Frequency	Percentage	Mean
1	SCIENCE DIRECT	130	33.2	3.2558
2	EBSCOHOST	44	11.3	
3	GOOGLE DATABASE	54	13.8	
4	E-GRANERY	25	6.4	
5	DOAJ	54	13.8	
6	JSTOR	65	16.6	
7	Others	19	4.9	
Total		391	100	

Table 2. Indicated that, majority of the respondents130(33.2%) access to SCIENCE DIRECT where as, 54(13.8%) access to GOOGLE DATABASES, 65(16.6%) access to JSTOR, 44(11.3%) access to EBSCOHOST, 54(13.8%) access to DOAJ, 25(6.4%) access to E-GRANARY. Only 19(4.9%) respondents have access to other electronic databases. This has answered the second research question raised.

Question 3. What are the attitudes of undergraduate students of federal University libraries in north- zone Nigeria towards the access to the electronic database?

Table 1: Attitude of Students towards access to e-database

SN	Statement	SD	D	UD	A	SA	±	Str De
1	I can have access to electronic databases independently to search and retrieve information	48 (12.3%)	66 (9.2%)	53 (13.6%)	128 (32.7%)	96 (24.6%)	4.4 06	.51
2	I find it easy with electronic databases to have access to information about my academic activities	20 (5.1%)	49 (12.5%)	58 (14.9%)	163 (41.7%)	101 (21.8%)	4.3 27	.52
3	Access to information from electronic databases is for locating relevant materials	—	—	44 (11.3%)	182 (46.5%)	165 (42.2%)	3.9 15	.54
4	Access to electronic databases to search for information is frustrating	—	—	48 (12.3%)	195 (49.9%)	148 (37.8%)	4.1 43	.52
5	I hesitate when accessing the electronic databases because of fear or lack of necessary skills.	125 (32.0%)	126 (32.2%)	39 (10.0%)	62 (15.8%)	39 (10.0%)	4.3 14	.57

Table 3. Presents the descriptive results of the attitude of students towards access to the electronic databases. The result for 'I can have access to electronic databases independently to search and retrieve information' shows that (32.7%) of the respondent agreed that they can have Access to Electronic Databases Independently whereas (24.6%) Strongly Agreed, but (16.8%) and (12.3%) Disagreed and Strongly Disagreed respectively, while (13.6%) of the respondent were undecided. Similarly, (41.7%) of the respondents Agreed that they Access Information in Electronic Databases for their Academic Activities. While (25.8%) Strongly Agreed, but (12.5%) and (5.1%) Disagreed and strongly disagreed respectively, whereas only (14.9%) were undecided. Furthermore, (46.5%) of the respondents agreed that Access to Information in Electronic Databases is for Locating Relevant Information, whereas (42.2%) Strongly Agreed only (11.3%) were undecided. Likewise, (49.9%) of the respondents agreed that Access to Electronic Database to Search for Information is Frustrating, while (37.8%) Strongly agreed, while (12.3%) were undecided. Finally, (32.0%) and (32.2%) of the respondents Strongly Disagreed and

Disagreed respectively with the statement that 'I hesitate when accessing the electronic databases because of fear or lack of necessary skills', whereas (15.8%) and (10.0%) Strongly agreed and agreed respectively with it, with mean values ranging from 3.915 to 4.406 and Standard Deviation above 5. These are the responses of the respondents which proved that the students have a positive attitude towards accessing the electronic databases in their institutions, which answered the third research question raised.

Question 4. What are the challenges faced by undergraduate students of federal University libraries in North-East zone Nigeria towards the use of the electronic databases?

Table3: Challenges associated with the use of e-database

S N	Statement	SD	D	UD	A	SA	Me an	Stc De
1	Slow speed of the internet connectivity	11 (2.8%)	14 (3.6%)	41 (10.5%)	172 (44.0%)	153 (39.1%)	3.9 02	.49
2	Difficulties in accessing and retrieving information from the Electronic Databases.	8 (2.0%)	11 (2.8%)	47 (12.0%)	147 (37.7%)	178 (45.5%)	4.2 17	.52
3	It takes too long to view and download pages	6 (1.5%)	9 (2.3%)	52 (13.3%)	148 (47.9%)	176 (45.0%)	4.6 24	.53
4	Lack of adequate navigation skills.	8 (2.0%)	8 (2.0%)	42 (10.7%)	181 (46.3%)	152 (39.0%)	4.1 79	.50
5	Lack of adequate power supply	-	-	34 (8.7%)	205 (52.4%)	152 (38.9%)	4.3 01	.52
6	Problem of username and password of the databases	4 (1.0%)	7 (1.8%)	74 (18.9%)	157 (40.2%)	149 (38.1%)	4.1 25	.51
7	Lack of specialized Database relevant to my area of study.	17 (4.3%)	46 (11.8%)	66 (16.9%)	141 (36.1%)	121 (30.9%)	3.7 74	.41

Table 4. (44.0%) of the respondents Agreed that they experience slow speed of the Internet Connectivity while Accessing and Using Electronic Databases, whereas (39.1%) Strongly Agreed, but (3.6%) and (2.8%) of the respondents Disagreed and Strongly Disagreed respectively. Only (10.5%) respondents were undecided. Also, (45.5%) of the respondents faced with difficulties in finding relevant Information, (37.7%) Agreed, but (2.8%) and (2.0%) Disagreed and strongly disagreed respectively. Only (12.0%) of the respondents were undecided.

Likewise, (45.0%) strongly agreed that it takes too long to View and Download Pages, (37.9%) Agreed, (13.3%) were undecided, while (2.3%) and (1.5%) of the respondents Disagreed and Strongly Disagreed respectively. Similarly, (46.3%) of the respondents Agreed that they faced with a challenge of Lack of Adequate Navigation Skills, while (39.0%) Strongly Agreed, (10.7%) were undecided, but (2.0%) and (2.0%) of the respondents Disagreed and Strongly Disagreed respectively. Furthermore, (52.4%) more than half of the respondents Agreed that there is Lack of Adequate Power Supply in the Libraries of Federal Universities of the Region, while (38.9%) strongly agreed, only (8.7%) respondents were undecided. No responses were made on whether the respondents disagreed or strongly disagreed. Also, (40.2%) of the respondents Agreed on the Problem of Username and Password of the Databases, (38.1%) Strongly Agreed, but (18.9%) of the respondents were undecided, while (1.8%) and (1.0%) Disagreed and Strongly Disagreed Respectively. Lastly, (36.1%) of the respondents Agreed that they faced with lack of Specialized Database Relevant to their Area of Studies, while (30.9%) Strongly Agreed, but (16.9%) were undecided, only (1.8%) and (4.5%) Disagreed and strongly disagreed respectively, with mean values ranging from 3.774 to 4.624 and Standard Deviation between 4 and 5. Indicating that, students encountered one form of challenge or the other while trying to use the electronic database in their institutions. This has answered the fourth research question raised.

Inferential Statistics

This section presents the inferential statistics (Correlation Analysis).

H₀: There is no significant relationship between awareness and use of the electronic Databases by undergraduate students of federal University libraries in North-East, Zone, Nigeria.

Correlation coefficient provides the basis of association between two variables which further permits the specification of unique variance shared between variables (Shukla & Mishra 2011). Accordingly, a Pearson moment correlation was computed in order to examine the bivariate relationships between the two variables Awareness of Electronic Database and Use of Electronic Database as shown in table 5.

Table 5: Pearson's Correlation Analysis of the Variables

Correlations			
		Use of Electronic Database	Awareness
Use of Electronic Database	Pearson Correlation	1	.975**
	Sig. (2-tailed)		.002
	N	391	391
Awareness	Pearson Correlation	.975**	1
	Sig. (2-tailed)	.002	
*	N	391	391

Correlation is significant at the 0.05 level (2-tailed).

The results of the correlation coefficients among the variables revealed that Pearson's r for the correlation between the Awareness of Electronic Database and Use of Electronic Database is 0.975 as shown in table 5. This means that there is a strong relationship between the two variables, since Pearson's r is very close to 1. This means that changes in one variable are strongly correlated with changes in the second variable. For this reason, it can be concluded that there is a strong relationship between Awareness of Electronic Database and Use of Electronic Database variables. Similarly, since the Pearson's r is positive (0.975). This means that as one variable increases in value, the second variable also increase in value. It implies that when awareness activities increase (the first variable), use of Electronic Database (the second variable) also increases. In other words, the more awareness is created the more users are encouraged to use the electronic database. This study is in line with the findings of (Okoampha, Asante & Martin, 2015) who found that there is a strong correlation between awareness and use of electronic journals. This has answered the first hypothesis raised.

H₀: There is no significant relationship between access and use of the electronic Databases by undergraduate students of federal University libraries in North-East, Zone, Nigeria.

A Pearson moment correlation was computed in order to examine the bivariate relationships between the two variables Access to Electronic Database and Use of Electronic Database as shown in table 6

Table 6: Pearson's Correlation Analysis of the Variables

Correlations			
		Use of Electronic Database	Awareness
Use of Electronic Database	Pearson Correlation	1	.975**
	Sig. (2-tailed)		.002
	N	391	391
Awareness	Pearson Correlation	.975**	1
	Sig. (2-tailed)	.002	
	N	391	391

*. Correlation is significant at the 0.05 level (2-tailed).

The results of the correlation coefficients among the variables revealed that Pearson's r for the correlation between the Access to Electronic Database and Use of Electronic Database is 0.753 as shown in table 6. This means that there is a strong relationship between the two variables, since Pearson's r is very close to 1. This means that changes in one variable are strongly correlated with changes in the second variable. For this reason, it can be concluded that there is a strong relationship between Access to Electronic Database and Use of Electronic Database variables.

Similarly, since the Pearson's r is positive (0.753). This means that as one variable increases in value, the second variable also increase in value. It implies that as accessibility to the electronic database increases (the first variable), use of Electronic Database (the second variable) also increases. In other words, the more users have access to electronic database the more they tend to use the electronic database. *Manda and Mukangara (2007)* examine the relationship between accesses to electronic databases with actual use. The findings

revealed that there was significant relationship between access to and use of electronic databases at $\alpha = 0.05$ ($P = 0.34$). **This has answered the second hypothesis raised**

Discussion of Findings

This section provides a comprehensive discussion of the findings of this study in line with the stated objectives on the Access and Use of Electronic Databases by Undergraduate Students of Federal University libraries in North-east, Zone, Nigeria.

Regarding the awareness to electronic databases however, shows that undergraduate students of federal University libraries in North-east, zone, Nigeria are aware of different electronic databases in their institution. It has shown that, majority of the respondents that responded to the questionnaire 384(98.2%) were aware of the electronic databases. Only 7(1.8%) of the respondents were not aware. This supported by sadiat and Gama (2015) survey on access and use of electronic library services in universities respondents were asked about their awareness of the available e-library services to indicate their answers by way of saying "Yes", "No" and "To some extent". Majority of the respondents responded "To some extent" to indicate that they have only limited awareness about the existence of electronic libraries sources and didn't know well and in detail. They also found in the same study that there is no significant difference in awareness of e-library services that existed between universities, academic staffs and postgraduate students, and among streams (faculties/colleges/institutions). This signifies that awareness has a great impact on the use of library sources particularly the electronic database.

Regarding the access to electronic databases however, the findings reveals that undergraduate students of federal University libraries in northeast, zone, Nigeria access to different electronic databases. The finding reveals that, majority of the respondents that responded to the questionnaire 379(96.9%) access to the electronic databases. Only 12(3.1%) of the respondents were not access to the electronic databases. However, the finding is contrary to a study by Kwaofoa *et al.* (2014) on database usage in the University of Cape Coast but this was on faculty and administrators. They reported that even though faculty members was aware of the existence of online academic databases they did not know that these databases were being subscribed to by the university library on behalf of the university. In addition, even those that were aware of the existence of these databases did not accessed to it. But In a study carried out by Uzuegbu *et al.* (2012) it was revealed that library users have access to electronic databases subscribed by MOUAU Library which includes AGORA, EBSCO Host, HINARI, OARE, NUC Virtual Library and LANTEAL of 2005 CD and 2009 DVD versions.

Regarding the respondent's attitudes toward the use of electronic databases in the universities however, the findings that undergraduate students of federal University libraries in North-East, zone, Nigeria have a positive attitudes on the use of electronic databases with mean values ranging from 3.915 to 4.406 and Standard Deviation above 5. These are the responses of the respondents which proved that the students have a positive attitude towards accessing the electronic databases in their institutions. **Corroborated by Wu and Chen (2012) study how graduate students perceive, use, and manage electronic resources in the National University of Taiwan found that usage varied**

according to the subject background of the student. He found that humanities students perceived the electronic information resources less important compared to students of other disciplines.

Regarding challenges *associated with the use of electronic database* however, the findings revealed findings that undergraduate students of federal University libraries in northeast, zone, Nigeria faced some challenges with the use of electronic databases in their institutions. , Nisha and Ali (2013) reported in their study that several inherent problems especially with the use of electronic databases such as slow downloading and other mechanical deficits were present while using electronic Databases.

Conclusions

In conclusion, it is revealed that e-database awareness in the university libraries is on the increase. Also, awareness, and access were considered useful factors determining the use of Electronic Database among the undergraduate students in university libraries in North-Eastern Nigeria. Generally, this study should provide a great management insight and information to all the stakeholders in the federal university libraries concerning policy formulation with regards to the use of electronic databases.

Recommendations

Based on the findings of this study the researchers recommended that;

1. The University libraries should have a policy as well as strategic plan for ICT infrastructural development and adopt an active awareness and student-centered approach for improving students' skills such as Information literacy programmes,
2. The University libraries should procure more user friendly software and create different channels through which electronic information could be accessed by the students both online and offline.
3. The University libraries should ensure that there are sufficient networked computers with fast Internet connectivity in the library and organize periodic training on access and use of electronic databases for the undergraduate student
4. University library should develop a digital projects which includes digitization of student research projects and creation of various types of institutional repositories (IRS) alongside the subscription to different electronic databases.

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