

Availability and Utilization of Electronic Resources by Postgraduate Students in a Nigerian University Library: A Case Study of University of Calabar, Nigeria

Edem, Nkoyo B. (Ph.D)
University of Calabar Library

Egbe, Nsanta
George Federal University Lafia

ABSTRACT

This study examined the extent of availability and utilization of electronic resources by postgraduate (PG) students in the University of Calabar (UNICAL) Library. Five research questions and a single hypothesis were formulated to guide the study. Descriptive survey was adopted and the population of the study was two thousand, seven hundred and twenty six, while a sample of four hundred postgraduate library users were selected through stratified sampling; two hundred postgraduate student each from Faculty of Education and Faculty of Science. Questionnaire was the main instrument used for data collection. Pearson Correlation Coefficient (r) was the statistical analysis technique adopted to test the hypothesis under study at 0.05 level of significance. Three hundred and eighty two dully filled questionnaires were received, giving an overall response rate of 95.5 per cent. The result of the analysis revealed that electronic resources were available in Unical Library and P.G. students utilized them. However, online databases were underutilized. The University Library had e-journals, e-books and access to databases and Internet resources. E-journals were the most often used electronic resources. Lack of computer skills, slow network, inconsistent internet connectivity, power outage and irrelevant electronic information resources were the problems postgraduate students encountered while accessing and using electronic resources in Unical Library. Based on the findings, the following recommendations were made: adequate budgetary allocation should be given to the University Library for subscription to online databases and acquisition of electronic books, more relevant open access databases should be made accessible to users, creation of awareness on the available electronic resources in Unical Library, installation of inverter and battery system in the Electronic Library, and organising users education for better use of electronic resources in Unical Library.

Keywords: Availability, Utilization, Electronic Resources, University of Calabar library, Postgraduate Students.

INTRODUCTION

The 21st Century has experienced a remarkable proliferation of electronic resources (e-resources) which have tremendously change the information seeking attitude of students and researchers globally. In recent times, electronic resources have been identified as the major sources for information dissemination in the universities, especially for researchers.

Electronic resources, in most universities, are integral part of the electronic library and stand as vital academic resources that support teaching, learning and research activities (Zhang ye, and Liu, 2011). In a study carried out by Dadzie (2005) on Electronic Resources: Access and usage at Ashesi University College, Ghana, She noted that electronic resources were invaluable research tools.

In academia, electronic resources are dominating the research activities of researchers; researchers have realized the importance of such resources (Hadagali, Kumbar, Nelogal and Bachalapur, 2012). Electronic resources provides accurate and timely information, especially for students who depend greatly on the electronic resources for information to advance research and collaboration with other researchers around the world for intellectual growth (Ukpebor, 2012)

The goal of postgraduate study in any university is for further development of graduate students with the spirit of enquiring knowledge through training and research in an atmosphere of intellectual independence and individual creativity with a strong sense of group cooperation (Lateef, Omotoso and Owolabi, 2013). Ndubuisi and Udo (2013), in an empirical study of motivation, challenges and strategies in the use of electronic information resources by postgraduate library users in South-East Nigerian Federal Universities, revealed that postgraduate

students were motivated to use electronic resources in their university libraries because they found them to be more informative, easy to access and use, saves time, more useful and less expensive.

Assessment of electronic services by postgraduate students and research scholars, according to Ramana (2006), shows that a large majority of students use online journals for preparing project reports and for listing references. This shows that postgraduate students, irrespective of their field of work, have information needs in their various levels of studies and research.

In spite of perceived availability of electronic resources in universities and their benefits to university education, their effective utilization by postgraduate library users in Nigeria appears to be hampered by different factors (Ndubuisi and Udo, 2013). In a study conducted by Ojo and Akande (2005), they drew a conclusion from their research that the level of usage of electronic information resources among students was low.

Today, it is very common to find electronic resources in most university libraries. However, their availability does not necessarily equate their utilization. Availability and utilization of electronic resources is the totality of utilization when needed and their being able to meet the information need of who is using them. The above situation establishes some doubts, in spite of enormous literature review about the availability and utilization of electronic resources in academic libraries. This research would examine the availability of electronic resources in the University of Calabar Library and their utilization by postgraduate students.

An Overview of Electronic Resources

The term electronic resources is seen by Sharma (2009) as library's information materials that are in electronic form which include electronic books (e-books); electronic newspapers (e-newspapers); electronic journals (e-journals) as well as Internet resources. E-resources also consist of databases, magazines, archives, theses, conference papers, government papers, scripts and monographs in an electronic form (Deng, 2010). MEDLINE, ScienceDirect, AGORA (Access to Global Online Research in Agriculture), HINARI, OARE (Online Access to Research in the Environment), LexisNexis, Ebscohost were mentioned as examples of databases (Ani and Edem, 2012).

According to Graham (2003) the term "electronic resources" appear not to be used consistently; they may be referred to as electronic information resources (EIR), electronic information resources and electronic library resources. Digital resources, digital materials and soft library resources are other terminologies used for electronic information resources.

The importance of electronic resources to students and academic libraries cannot be over emphasized. They offer postgraduate students the chance to access relevant and current information from different subject areas. The emergence of electronic resources, according to Ani and Edem (2012), has tremendously transformed the handling and management of information in Nigerian academic environments and university libraries in particular.

Availability at any time of the day; hyperlinks to other resources; huge information reservoirs; quick information; various search options; easy citations; ease in uploading and updating; ease in storage and dissemination; flexibility; time, space and cost are not major hurdles; ease of archiving are also importance of information resources as noted by Tekale and Dalve (2012). Also, electronic resources reduce pressure on academic libraries for physical storage space for books and journals and provide unlimited access to users (Norris, 2004).

The National Universities Commission (NUC), a government agency in Nigeria, subscribed to a number of international and local journals and made them accessible in Nigerian Universities through its URL link (www.nigerianvirtuallibrary.com) on the internet. Also, NUC, NULIB (Nigerian University Libraries Consortium) and eifl.net (Electronic Information for Libraries Network) are partnering to provide electronic resources towards teaching, learning and research in Nigerian Universities (Okiki, 2012). National Information Technology Development Agency (NITDA), according to Egbe (2014), is developing ICT in Nigerian tertiary institutions through the National Virtual Library Project by setting up virtual libraries and donation of computers and/or internet facilities.

AN OVERVIEW OF THE ELECTRONIC LIBRARY, UNIVERSITY OF CALABAR

The e-library, University of Calabar is accessible at <http://library.unical.edu.ng/>. The e-library was donated to the University of Calabar by Deep Offshore Community Affairs Group (DOCAG), Nigeria. This was coordinated by Prof. O.O. Lawal, the University Librarian during his tenure. DOCAG is a conglomerate of oil companies/ oil

servicing companies in Nigeria (TOTAL, NNPC, SHELL, CHEVRON). The e-library was commissioned on 19th December 2012 by Mr. M.A. Fiddi, group general Manager, NNPC. The e-library provides access to a number of electronic resources such as electronic/ Online Data Bases, (Agora, JSTOR, Science Directive CD-ROM Databases) etc.

On the 5th of September, 2014, the University of Calabar Graduate School Digital Library was commissioned and opened to all University staff (Graduate Faculty and Non Academic Staff) and registered students of the Institution. The Graduate School Digital Library has a seating capacity of over 200 users and 24 hours, 7 days access via Intranet or Internet. As at the time of the commissioning, the Graduate School Digital Library had varied amount of digital materials and subscribed to other digital libraries such as Nigerian Virtual Library, AGORA, HINARI, JST, OARE, ARDI, ACM Digital Library and Ebscohost (University of Calabar Graduate School, 2014).

PREVIOUS RESEARCHES

A lot of researches have been carried out in the area of availability and utilization of electronic resources in Nigerian Universities. (Ozoemelem, 2009; Deng, 2010; Madhusudhan, 2010; Egberongbe, 2011; Komolafe – Opadeji, 2011 and Ndubisi and Udo, 2013).

Investigating the use of electronic resources by postgraduate students of the Department of Library and Information Science in Delta State University, Ozoemelem (2009) noted that there was a high level of usage of electronic resources by postgraduate students. In a study conducted in Australia by Deng (2010), the researcher revealed various purposes for the use of electronic resources which includes: gathering information on a specific topic, gaining general information, obtaining answers to specific questions, completing assignments, reviewing literature, writing essays and helping decision making. Such revelation reflects the facts that people are dependent on availability of e-resources to meet their academic task.

It was revealed in a study conducted by Madhusudhan (2010) that the most common problem facing use of electronic resources is slow access speed; it took too long to view or download a document. Another problem identified by the respondents was difficulty in getting relevant information due to information overload and lack of IT skills.

Egberongbe (2011) found out in a study of use and impact of electronic resources that the majority of scholars were not trained in the use of e-resources. The study also revealed that the level of IT skills among lecturers, scholars and library staff varied and was low. Informal methods of training; one on one consultations, was used to inform users

Komolafe-Opadeji (2011) investigated the use of Internet and electronic resources among postgraduate students of a Nigerian private university and discovered that postgraduate students regularly access the Internet and preferred using free online resources from Google and Wikipedia to subscribed online data bases like HINARI, EBSCO Host, JSTOR, Questia and High Beam.

A study carried out by Ndubisi and Udo, (2013) in the South-East Nigerian Universities, revealed that students were motivated to use electronic information resources in their libraries. In another development, the researchers revealed that insufficient computers with Internet facilities, incessant power outage, slow Internet connectivity, and lack of ICT skills, inadequate ICT infrastructure and difficulty in finding relevant information are challenges militating against the utilization of electronic resources by postgraduate students. In an empirical study of motivation, challenges and strategies in the use of electronic information resources by postgraduate students, it was revealed that postgraduate students were motivated to use electronic resources because they were more informative, easy to access and use, saves time and less expensive (Ndubisi and Udo, 2013). The pertinent issues are: Are electronic resources available in the University of Calabar Library? If they are available, are they suitable for use? If they are suitable for use, are they being used? And why are they not being used? These issues have necessitated this research.

Statement of the Problem

Significant investment have been made in electronic resources and accompanying computer-based technology to ensure access to electronic resources in the University of Calabar Library (Lawal, 2014). It is important to find out their extent of availability and utilization. If some electronic resources are not being used or underused, it may be important to know this in order to make recommendation regarding possibilities of improving usage of the resources or cancelling subscriptions.

It has been reported that Nigerian universities are lagging behind their counterparts in western countries in terms of research productivity (Adams, King and Hook, 2010). Part of the problems has been attributed to inadequate modern ICT infrastructural facilities in Nigerian universities leading to low levels of availability and utilization of electronic information resources by postgraduate students. In order to know the cause and make recommendations, the study investigated the extent of availability and utilization of electronic resources in University of Calabar Library.

Availability and utilization of electronic information resources is key to the success of postgraduate studies in any institution and the library plays the central role in making information available and accessible. It is therefore also necessary to find out if the University of Calabar Library is performing her primarily responsibility of providing e-resources to meet user's information needs, learning and research.

It is in the light of the above reasons, that the researchers examined the available electronic resources in University of Calabar Library and how they are used by the postgraduate students in learning and research.

Research Questions

The key research questions of this study are:

1. To what extent are electronic resources available at University of Calabar Library?
2. What types of electronic resources are available to postgraduate students in University of Calabar Library?
3. To what extent do postgraduate students utilize electronic resources in the University of Calabar Library for their research work?
4. Which type of electronic resources do postgraduate students use often in the University of Calabar Library?
5. What problems do postgraduate students encounter while accessing and using electronic resources in the University of Calabar Library?

Statement of Hypothesis

As a guide to the study, a single hypothesis was raised.

H₀: There is no significant correlation between availability and utilization of the electronic resources in the University of Calabar Library by postgraduate students.

Significance of the Study

1. This study will raise the level of awareness of postgraduate students on the availability and the need to utilize electronic resources
2. It will provide the basis towards proffering solution to the problem of non-utilization of electronic resources in the University of Calabar Library.
3. It will also be beneficial to academics, students and professionals who are interested in this area of study.
4. It will be a guide for the University Library to improve their services.

METHODOLOGY

The research design adopted for this study was descriptive survey. Descriptive survey was considered to be most appropriate for this study because of its flexibility which permits the use of variety of data collecting techniques such as questionnaire, interview and observation (Ndubuisi and Udo, 2013).

The area of study is the University of Calabar Library which is located in Calabar, Cross River State, Nigeria. With a vision of being a comprehensive ICT driven library system, the University of Calabar Library provides dynamic and innovative library and information services for effective teaching, learning and research. The library is rich with diverse information resources. The University Central Library building is a massive and purpose built four floor H-shaped structure with a useable floor area of 2,700m², seating capacity 3,000 readers and other physical facilities like computer systems, 200KVA generating set, ventilator, fire extinguishers, etc.

With a population of about two thousand, seven hundred and twenty six (2726) postgraduate study was calculated to be three hundred and forty nine (349) postgraduate students at $\pm 5\%$ precision level (sampling error). The sample size was calculated using Yamane (1967:886) formula below:

$$n = \frac{N}{1 + N(e)^2}$$

Where: n = Sample size
 N = Population size
 e = Level of precision

However, it was the opinion of the researchers to use a sample size of four hundred (400) postgraduate students; two hundred (200) postgraduate students from Faculty of Education and two hundred (200) postgraduate students from Faculty of Science. The larger the sample size, the better the accuracy/precision of the research result (Welman, Kruger and Mitchell, 2005).

Questionnaire was the research instrument used for gathering data from postgraduate library users in the University of Calabar. The researchers administered questionnaire to postgraduate students randomly at the Research Unit, Electronic Library and Postgraduate Digital Library seeking their consent to participate in the survey. Respondents were administered questionnaire one-on-one and collected immediately after completion but where necessary, respondents were allowed to complete the questionnaire at their own time. The researcher also visited the Electronic Library and Graduate School Digital Library where observations were made with regards to the availability and utilization of electronic resources by postgraduate students.

Data collected were analysed using descriptive statistics such as simple percentages and frequency counts. The Hypothesis was tested with Pearson Correlation Coefficient (r) at 0.05 level of significance with the help of SPSS.(Statistical Package for Social Sciences).

RESULT AND DISCUSSION

Distribution of Respondents

A total of four hundred (400) questionnaires were administered randomly to postgraduate library users to collect primary data, three hundred and eighty two (382) copies representing 95.5% were returned and found useable. Statistics of sampled faculties showed that Faculty of Science had the highest response rate.

Table 1 below shows the distribution of respondents according to their gender, age range, degree of study and sampled faculties. Majority of the respondents were male constituting (64.66%) while the remaining (35.34%) of the respondents were female.

From the age range of respondents, majority of them (52.62%) were within the age range of 30 – 39 years. Followed by age range of 20 – 29 years and the least were respondents that were above 39 years of age. There was no respondent below 20 years of age.

Distribution of respondents according to their degree of study showed that majority of them (63.09%) was M.Sc students followed by respondents (25.92%) who were PGD students respectively. Ph.D students (10.99%) were the least among the respondents.

Out of the two sampled faculties, Faculty of Science had majority of the respondents (50.79%) while Faculty of Education had (49.21%) respondents.

Table 1: Distribution of Respondents

Items	Variables	Frequency	Percentages
GENDER	Male	247	64.66
	Female	135	35.34
AGE RANGE	Less than 20	-	-
	20 – 29	160	41.88
	30 – 39	201	52.62
	Greater than 39	21	5.50
DEGREE OF STUDY	Ph.D	42	10.99
	M.Sc/M.Ed	241	63.09
	PGD	99	25.92
FACULTY	Education	188	49.21
	Science	194	50.79

Research Question 1: To what extent are electronic resources available at University of Calabar Library?

Results from table 2 revealed that electronic resources were quite available in the University of Calabar Library as majority of the respondents from faculty of science (87.11%) indicated that electronic resources were available in the University of Calabar Library.

The result is in line with that of Ozoemelem (2009) who recorded that majority of the respondents (88%) were aware of e-resources and were also useful for research. Similarly, Deng (2010) recorded that majority of the respondents (62.8%) were aware about e-resources whereas only 37.2% were not aware of them. Awareness of electronic resources indicates user knowledge of the availability of the resources, their services and the extent of use (Egberongbe, 2011).

It was also observed that the University of Calabar Library has an Electronic Library that caters for the information needs of students and staff of the University and a Graduate School Digital Library for graduate faculty and all registered students of the Institution. The Graduate School Digital Library has subscribed to some database for use by postgraduate students of the university to non-members of the University Community. Both the Electronic Library and the Graduate School Digital Library were equipped with computers, Internet and electronic resources which could be accessed through Internet. The result is an indication that electronic resources are available in the University of Calabar Library to a great extent and postgraduate students in University of Calabar are aware of the availability of electronic resources in the University of Calabar Library.

Table 2: Availability of Electronic Resources in the University of Calabar Library

Items	Variables	Frequency	Percentages
Availability of electronic resources in the University of Calabar Library	Education	144	76.60
	Science	169	87.11
Respondents opinion of the types of electronic resources available in the University of Calabar Library	e-Journals	237	43.65
	e-Books	106	19.52
	Internet resources	161	29.65
	Databases	39	7.18

Research Question 2: What types of electronic resources are available for postgraduate students in University of Calabar Library?

Respondents opinion of the electronic resources available in the University of Calabar Library as shown in table 2 revealed that respondents were aware of the availability of e-journal (43.65%), followed by Internet resources (29.65%), e-books (19.52%) and lastly databases (7.18%). The popularity of e-journal among the respondents may have been influenced by the activities of postgraduate students which is dominated by research. With the presence of Internet and WIFI within and around the University of Calabar Library, registered students had access to Internet resources without entering the Electronic Library. More so, users find it more convenient using search engines which gave them access to Internet resources. It is possible that the convenience of access to Internet resources through search engines minimized the awareness and utilization of electronic books by postgraduate students in University of Calabar. The low awareness of databases (7.18%) is an indication that postgraduate students are not familiar with the databases available in the University of Calabar Library. This is in agreement with the findings of Komolafe-Opadeji (2011) who discovered that postgraduate students regularly access the Internet and preferred the use of free online resources from Google and Wikipedia to subscribed online databases like HINARI, EBSCOHOST, JSTORE, QUESTIA and HIGH BEAM. On-site visit to the Library record revealed that, the Library had access to the following databases: Ebscohost, Science Direct, Nigerian Virtual Library, Nexis Lexis, Dialog Database, Datastar Database, HINARI, AGORA, TEEAL, OARE, ACM, OAPEN, OAJSE, AJOL, SAGEOPEN, Springer Open and ARDI. The University of Calabar Library website had access link to HINARI, AGORA, EBSCOHOST, TEAL, Nigerian Virtual Library and Science Direct. However, as at the time of the visit, the Library had access only to Science Direct, Nigerian Virtual Library, HINARI, OARE, OAPEN, OAJSE, AJOL, SAGEOPEN, Springer Open and TEEAL. Others (i.e. Ebscohost, AGORA, Nexis Lexis, Dialog Database, ACM, ARDI and Datastar Database) could not be accessed because their subscription had expired.

Research Question 3: To what extent do postgraduate students utilize the electronic resources in the University of Calabar Library for their research work?

The study on the usage of electronic resources in the University of Calabar Library by postgraduate students revealed that majority of the respondents (86.39%) were aware of the existence of electronic resources in the University of Calabar made use of them while the remaining (13.61%) did not make use of the electronic resources. On the frequency of use of electronic resources, majority of the respondents (57.07%) indicated that they often made use of the electronic resources, followed by (28.01%) of the respondents who do not use electronic resources very often, only (8.90%) of the respondents use electronic resources in the University of Calabar Library very often, while (6.02%) rarely made use of them. The result conforms to Ozoemelem (2009) and Deng (2010) had similar results which indicated that electronic resources were heavily utilized. The findings showed that the postgraduate students frequently used electronic resources in the University Library.

Responding to the purpose for using electronic resources in the University Library, the result revealed that majority of the respondents (32.86%) indicated that, they made use of e- resources for research work, followed by 23.71% of the respondents who made use of them for reviewing literature, 8.57% of the respondents use them for getting general information, while 6.97% of the respondents made use of them for exams preparation.

Table 3: Utilization of Electronic Resources by Postgraduate Students in the University of Calabar Library

Items	Variables	Frequency	Percentages
Usage of electronic resources	Yes, I use electronic resources	330	86.39
	No, I don't use electronic resources	52	13.61
Purpose for using the electronic resources	Research work	165	32.86
	Completing assignment	119	23.71
	Exams	35	6.97
	Reviewing literature	51	10.16
	General information	43	8.57
	Obtaining answers to specific questions	89	17.73
Frequency of using electronic resource	Very often	34	8.90
	Often	218	57.07
	Not very often	107	28.01
	Rarely	23	6.02
Electronic resources often used	e-Books	33	12.65
	e-Journals	158	60.53
	Internet resources	61	23.37
	Databases	9	3.45

Research Question 4: Which type of electronic resource do postgraduate students use often in the University of Calabar Library?

The result from table 3 on the electronic resources often used by postgraduate students in the University of Calabar Library showed that majority of the respondents (60.53%) indicated they often made use of e-journals. The result is assumed to be influenced by the academic activities of postgraduate students which are mostly research. This is in line with the findings of Egberongbe (2011) who noted that majority of research scholars prefer to use electronic journals amongst other electronic resources.

Research Question 5: What problems do postgraduate students encounter while accessing and using electronic resources in the University of Calabar Library?

Even with the enormous reasons for using electronic resources, postgraduate students still face some challenges in the use of electronic resources. The challenges range from lack of computer skills (31.54%), slow network (29.05%), inconsistent Internet service (17.28%), power outage (11.20%) to irrelevant electronic information resources (10.37%). No respondent identified insufficient computer as a challenge. This proves that the

University Library had enough computer to cater for their users. However,(63.09%) of the respondents had no computer skills training which may have been responsible for identifying lack of computer skills as a challenge by majority of the respondents. The major challenges of not accessing e- resources for research work in the university of Calabar library as a result of lack of computer skills(31.54%)and slow network(29.05%) is in conformity with the work of Egberongbe(2011) and Kommolafe-Opadeji (2011).

Table 5: Challenges Faced while Using Electronic Resources

Variables	Percentages
Power outage	11.20
Slow network	29.05
Lack of computer skills	31.54
irrelevant e- information resources	10.37
Inconsistent presence of Internet	17.28
Insufficient computers	0.00

Hypothesis 1: There is no significant correlation between availability and utilization of electronic resources in the University of Calabar Library by postgraduate students.

The analysis of hypothesis 1 revealed a Correlation Coefficient (r) of 0.998 and a P-Value of 0.043. The result indicates that there was a strong positive correlation (or relationship) between the availability of electronic resources and utilization of the electronic resources in the University of Calabar Library i.e. the strength of association between the variables was very high. The implication was that an increase in the availability of electronic resources in the Library would lead to an increase in their utilization.

The correlation between the availability and utilization of electronic resources in the University of Calabar Library was significant at 0.05 level. Because of sufficient evidence in the sample (i.e. $P \leq 0.05$) in favour of H1, Ho was rejected. It was therefore concluded that there was a significant correlation between availability and utilization of electronic resources in the University of Calabar Library by postgraduate students.

Table 6: Correlation Analysis between Availability and Utilization of Electronic Resources

		Availability	Utilization
Availability	Pearson Correlation	1	.998*
	Sig. (2-tailed)		.043
	N	3	3
Utilization	Pearson Correlation	.998*	1
	Sig. (2-tailed)	.043	
	N	3	3

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

SUMMARY, CONCLUSION AND RECOMMENDATION

Summary

The study was undertaken to examine the availability and utilization of electronic resources by postgraduate students in the University of Calabar Library with the aim of determining availability, identifying types, ascertaining usage and the problems associated with the usage of the electronic resources. Four hundred postgraduate students from the Faculty of Education and Faculty of Science; two hundred each, were sampled for the study, out of which 382 dully filled questionnaire were retrieved and used for data analysis.

Five research questions were raised and descriptive survey was adopted for the study. A single hypothesis was formulated and tested using Pearson Correlation Coefficient at 0.05 level of significance. The analysis of the null hypothesis revealed a Correlation Coefficient (r) of 0.998 and a P-Value of 0.043 which indicated that there was a significant correlation (or relationship) between the availability of electronic resources and utilization of the electronic resources in the University of Calabar Library. Questionnaire was the main instrument used for data collection. The instrument was subjected to validation by the supervisor and expert in measurement and evaluation.

Data analysis yielded the following findings:

1. To a great extent, electronic resources were available in the University of Calabar Library.
2. The University Library had e-journals, e-books and access to databases and Internet resources.
3. Databases that were accessible as at the time of this research were: Science Direct, Nigerian Virtual Library, HINARI, OARE, AJOL, SAGEOPEN, and TEEAL.
4. Majority of postgraduate students in the University of Calabar often made use of the electronic resources in the University Library. However, online databases were underutilized.
5. Electronic journals were the most often used electronic resources by postgraduate students.
6. The problems postgraduate students encountered while accessing and using electronic resources were: lack of computer skills, slow network, inconsistent internet connectivity, power outage and mass of irrelevant information.

Conclusion

It is the researchers' view that the study has succeeded in answering its research questions. Several electronic resources were available in the University of Calabar Library; postgraduate students were aware and utilized them. The use of electronic resources was slow compared to the investment made in electronic resources. However, the awareness and utilization of online databases was significantly very low among postgraduate students in University of Calabar. Lack of computer skills and slow network were the major reasons that discourage some postgraduate students from effective utilization of electronic resources in the University of Calabar Library.

Recommendations

In view of the findings of the study, the following recommendations were made to improve on the availability of electronic resources and their utilization in the University Library:

1. Adequate budgetary allocation should be given to the University Library for subscription to online databases and acquisition of electronic books.
2. More relevant open access databases such as Academic Journals ([Http://academicjournals.org/journals.html](http://academicjournals.org/journals.html)) and ArXiv ([Http://arxiv.org](http://arxiv.org)) should be made accessible to postgraduate students.
3. The Library Management should create awareness on the electronic resources available in the University Library and its importance to postgraduate studies. Users should be made to understand that even if they cannot use a computer system, staff would assist them to meet their information needs.
4. Inverter and battery system should be installed in the Electronic Library to ensure regular power supply.
5. Train/ retrain librarians and appropriate user education should be organised for postgraduate students for better use of electronic resources in the University Library.

REFERENCE

- Adams, J., King, C. & Hook, D. 2010. Global Research Report: Africa. Leeds: Evidence.
- Ani, Okon and Edem, Nkoyo(2012) Access and usage of Online Databases in Nigerian Universities in Teaching/ Research. *Library and information Practitioner* 5(1x2): 475-486.
- Dadzie, P. S. (2005). Electronic resources: Access and usage at Ashesi University College. *Campus – wide Information Systems*, 22(5), 290-297. Retrieved February 9, 2015, from <http://www.emeraldinsight.com>.
- Deng, H. (2010). Emerging patterns and trends in utilizing electronic resources in a higher education environment: an empirical analysis. *New library world*, 111(3-4) 87-103.
- Egbe, N. G. (2014). An Exploration of Sources of Funding ICT in Nigerian Academic Libraries. Retrieved December 19, 2014, from www.negbe.blogspot.com.

- Egberongbe, H. S. (2011). The use and impact of electronic resources at the University of Lagos. Library philosophy and practice (e-journal), paper 472. Retrieved February 28, 2015, from <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1490&context=libphilprac>
- Hadagali, G. S., Kumbar, B. D., Nelogal, S. B. & Bachalapur, M. M. (2012). Use of electronic resources by post-graduate students in different universities of Karnataka State. *International Journal of Information Dissemination and Technology*, 2(3), 189-195.
- Komolafe-Opadeji, H. O. (2011). Use of internet and electronic resources amongst postgraduate students of a Nigerian private university. Retrieved March 16, 2015, from <http://ir.library.ui.edu.ng/handle/123456789/457> [05/12/2014]
- Lateef, E. B., Omotoso, A. O & Owolabi, K. A. (2013). A Survey of postgraduate students perception of university library resources in selected Nigerian universities. *International Research: Journal of Library & Information Science* Vol.3 No.1, Apr. 2013.
- Lawal, O. O. (2014). The tree of knowledge: Dynamics of academic libraries in information management. University of Calabar 58th Inaugural Lecture. Calabar: University of Calabar Press.
- Madhusudhan, M. (2010). Use of UGC infonet journals by the Research Scholars of University of Delhi. *Library hi tech*. 26(3.): 369-386.
- Ndubuisi, C.J. & Udo, N. (2013). Empirical study of Motivation, challenges and strategies in the use of electronic information resources by postgraduate library users in south-east Nigerian Federal Universities, *international Journal of Library and Information Science*. Vol. 5(11), pp.468-473, December, 2013.
- Norris, L. (2004). World library and information congress: 70th IFLA general conference and council. Buenos Aires, Argentina, 22-27 August. Retrieved February 8, 2015, from <http://www.ifla.org/ir/ifla70/prig04.html>.
- Ojo, R. A. & Akande, S. O. (2005). Students access, usage and awareness of electronic information resources at the University College Hospital, University of Ibadan, Nigeria. *J. Libr. Inform. Sci.* 3(1):16-24.
- Okiki, O. C. (2012). Electronic information resources awareness, attitude and use by academic staff members of University of Lagos, Nigeria. Retrieved May 23, 2015, from <http://digitalcommons.unl.edu/liphiprac/828>
- Ozoemelem, O. A. (2009). Use of electronic resources by postgraduate students of the Department of Library and Information Science of Delta State University, Abraka, Nigeria. *Library Philosophy and Practice (e-journal)*, Paper 301. Retrieved April 9, 2015, from <http://digitalcommons.unl.edu/libphilprac/301>
- Ramana, Y. V. (2006). Assessment of electronic services by postgraduate students and research scholars of Vellore Institute of Technology. In T.A.V. Murthy (Ed.), *Dynamic interoperable web based information systems*. Proceedings of the 4th International Convention CALIBER, Gulbarga, India, February 2-4, 2006, 316-326. Retrieved March 18, 2015 from <http://ir.inflibnet.ac.in/bitstream/1944/1182/1/34.pdf>
- Sharma, C. (2009). Use and impact of e-resources at Guru Gobind Singh Indraprastha University (India): A case study. *Electronic Journal of Academic and Special Librarianship* v.10 no.1 (Spring 2009).
- Tekale, R. B. & Dalve, D. B. (2012). E-resources review of research. Retrieved December 12, 2014, from <http://www.reviewofresearch.net/PublishArticles/45.pdf>
- Ukpebor, C.O. (2012). Availability and use of electronic resources in African universities: The Nigerian perspective. *PNLA Quarterly*, 76(3) (Spring 2012) 190-199. Retrieved March 1, 2015, from www.pnla.org
- University of Calabar Graduate School (2014). *The New Graduate School Digital Library*. (Flyer). Calabar: University of Calabar Graduate School.
- Welman, C., Kruger, F. & Mitchell, B. (2005). *Research Methodology* (3rd ed.). London: Oxford University Press.
- Zhang, L., Ye, P. & Liu, Q. (2011). A survey of the use of e-resources at seven universities in Wuhan, China. *Electronic Library and Information Systems*, 45(1), 67-87.