THE AVAILABILITY AND UTILIZATION OF ELECTRONIC RESOURCES AMONG STUDENTS IN TERTIARY INSTITUTIONS IN NIGERIA: A STUDY OF NNAMDI AZIKIWE UNIVERSITY, AWKA

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Abstract

The study was carried out to examine the extent of the availability and utilization of electronic resources among students in tertiary institutions in Nigeria with special reference to Nnamdi Azikiwe University, Awka. With the aid of a structured and validated instrument, data were collected from a sample size of 358 respondents randomly selected from four academic programs carried out in the school using a multistage sampling procedure. The data were analyzed using Statistical tools such as weighted mean and one way analysis of variance (ANOVA). Results indicate that majority of the respondents agree that E-books (3.12), E-thesis (3.32) and E-research (3.25) reports are available to a high extent while E-Journals (2.80), E-audio or video resources (2.30), CD-ROMs (2.72), E-database (2.63) and E-Magazine (2.82) are available to a low extent. The extent of utilization of electronic resources shows that majority of the respondents agree that E-Journals (3.29), E-books(3.11), E-thesis (3.30) and E-research reports (3.24) are to a high extent utilized while E-audio or video resources (2.47), CD-ROMs (2.71), E-database (2.62) and E-Magazine (3.30) are to a low extent utilized. The obstacles to the availability and use of electronic resources included political will(3.25), lack of funds(3.12), low ICT skill among library users(3.20), unstable power supply(3.32), lack of ICT facilities(3.25), computer hardware failures (3.30) and internet connectivity problem(3.11)were major

impediments to the use of electronic resources in academic libraries Nnamdi Azikiwe University, Awka. There was a significant differences among respondents on the availability of electronic information to students considering their academic program (p<0.05) in the area. It was recommended that Universities should establish adequate computer laboratories facilities and cybercafés to provide access to electronic information sources at subsidized prices.

Keywords: Availability, Utilization, Electronic Resources, Tertiary Institutions, ANOVA

INTRODUCTION

Developing countries today depend increasingly on knowledge, ideas, skills that are produced in universities. In Nigeria, Universities been recognised as engine of growth and have a broader role in the social, economic, technological and manpower development (Osagie, 2009). In fact, Universities serve as the main source of supply of highly skilled manpower needed in the various sectors of the nation. The National Policy on Education (2015) acknowledged that university education make optimum contribution to national development by intensifying and diversifying its programme for the development of high level manpower within the context of the needs of the nation.

Considering the increasingly role of university education in capacity building and knowledge acquisition, universities in developing countries need to advance beyond the provision of printed library resources for student academic advancement to the provision of robust electronic resources that is easily accessible and affordable (Oduwole and Akpati, 2003). Alison, Cooper, Armstrong, Roger, Ray and Sian (2012) showed that use of electronic resources will to a large extent determine how effectively universities achieve their goal of teaching, learning, and research. This is because electronic resources make it easy for provision of online courses and modules, and art-training programmes electronically which are easily accessible, affordable and interactive (Reid, 2000). Simply defined Electronic resources are information resources that user's access electronically via a computing network from inside the library or remote to the library (Shim, 2001). They are also information retrieval system operating with a computer terminals, communication lines and links, models, disk drives, and databases in machine –readable form that are accessible in an online, interactive mode (Harper, 2006). Various kinds of resources that are available and accessed today are intranet (locally produced e-resources), internet also called online (remotely stored e-resources) and physical media (stored data on CD-ROM, audio, video cassettes etc) based. Barret (2005) highlighted electronic resources to include OPAC, CD-ROMs, Online- Databases, E-journals E-

books, Internet resources etc. Croom (2002) explain that multiple accesses speed, richer in content, reuse, timeliness, anywhere access is some of the features of e-resources. Universities community have benefit to derive from the use of electronic resources over traditional print based sources. Electronic resources are often faster to consult than print indexes especially when searching retrospectively, and they are straight forward when wishing to use combination of keywords (Montogemery and King, 2002). They open up the possibility of searching multiple files at a time. They can be printed, searched and saved to be repeated or consulted at a later date. They are updated more often than printed resources. They have the potential for enhancing student's learning, as the resources provide teachers and students with vast quantities of information in an easily accessible non-sequential format. They help holding huge volumes of information which allow students to retrieve as quality information to meet their needs (Bashorun, Isah and Adisa, 2011).No doubt, the use of electronic resources is now giving rise to new modes of organizing the educational environment in tertiary institutions. It is beginning to introduce a new concept of the teaching and learning process at real time. In universities, it will reduced pressure on academic libraries for physical space for storage of books and journals, gives librarian the assurance that electronic books or journals are complete, analyzed and in the right place and provides unlimited access to users (Dadzie, 2005). It will even add value to the academic libraries to offer better services to users.

It is important to note here that electronic resources are not only accessed in the university library but also in other places such as cyber cafes. However, University libraries may provide the best form of electronic resources as they have links to suitable database and have well organized information according to disciplines/topics which reduces their searching time (Heterick (2002). The provision of electronic resources by university libraries will not only entail users visiting university libraries to access electronic resources but more so, the provision of internet services that enable library users to access the library resources anywhere and at any time (Dadzie, 2005).Nnamdi Azikiwe University is one of the renowned and fast growing universities in Southeast Nigeria. Recently, there has been increasing effort and investment by the university's management to improve quality of learning and general academic performance across various programmes of the university which include diploma, Continued Educational Program (CEP), Undergraduate and Postgraduate. It will worthwhile to know the extent the provision and utilization of electronic resources is considered relevant in the achievement of these goals across these different academic programmes. Hence, this study will examine the extent of availability and utilization of electronic resources in the universities in Nigeria: A study of Nnamdi Azikiwe University.

Statement of the Problem

In developing countries there is increasing need to enhance the quality of education and academic performance at the university level through the provision of some form of robust informative resources. Electronic resource is one of such robust informative resources whichare today a welcome innovation all over the world as they are easily available over the internet and electronic applications (Okello-Obura and Ikoja- Odongo, 2010). In Nigeria University libraries however, there is increasing practice of provision of just printed resources while the provision and utilization of electronic resources are undermined (Okiki, and Asiru, 2011). There are problem with provision of printed resources, it makes it difficult to provide real time studies, and even access to the resources by users is limited by time and space which limit opportunities for research advancement, poor reading culture and by extension poor academic performance (Barret, 2005)To promote the use of electronic resources in university libraries and enhance reading culture among student in the university community means that there is need to find out the extent of availability and use of electronic resources in university as well as the obstacle to their provision and utilization. In recent studies however, information on availability and extent of use of electronic resources in university library Nigeria is limited. This form the basis for undertaking this study

Objective of the Study

The main purpose of this study is to examine extent of the availability and utilization of electronic resources among students in tertiary institutions in Nigeria: A study of Nnamdi Azikiwe University, Awka. The specific objectives of the study include:

i To find out the extent of availability of electronic resources to students in Nnamdi Azikiwe University;

ii To determine the extent of use of electronic resources among students in Nnamdi Azikiwe University;

iii To find out the obstacles to the availability and use of electronic resources among students in Nnamdi Azikiwe University;

iv To find solutions to the problems of availability and use of electronic resources in Nnamdi Azikiwe University.

Research Hypotheses

$H0_1$: There is no significant difference in the availability of electronic resources to students considering their academic programs

$H0_2$: There is no significant difference in the utilization of electronic resources among students considering their academic programs

METHODOLOGY

Research Design

The design adopted for this study was the descriptive survey. According to Nworgu (2006), descriptive survey research involves the gathering of data through questions and interviews from few people or items considered to be representative of the entire group. This design was selected for this study because the study seeks to sample the opinion of respondents and draw inferences based on their views. This study was conducted in Nnamdi Azikiwe University, Awka. The university is located in South-Eastern Nigeria, specifically in Awka South Local Government Area of Anambra State. The target population of this study consists of three thousand, three hundred and eighty nine (3,389) registered library users in Nnamdi Azikiwe University, Awka. The sample of the study consisted of three hundred and fifty eight (358) registered library users in Nnamdi Azikiwe University, Awka. The sample size was determined using the Taro Yamani sample size formula at 5% tolerable error. The proportionate sample size formula and stratified random sampling was then deployed in selection of 358 library users according to academic programmes as follows: 174 library users from regular programme, 48 library users from continued education programmes (CEP), 98 library users from postgraduate programme and 38 library users from sandwich program. In line with the research design, data used for this study were those that can help in answering questions on the issues on availability of electronic information system by users in Nnamdi Azikiwe University. The researchers used questionnaire to elicit information on the availability electronic resources to the user as well as extent of use of the electronic resources. The questionnaire was self designed by the researchers from available literature reviewed in this study. It has four sections (sections A to D). Section A elicited information about the demographic characteristics of the respondents while sections B to D elicited information with respect to the research question of the study. Items in sections B to D part of the questionnaire were rated in five likert scales. There were 16 items all together in the questionnaire. Three hundred and fifty eight (358) copies of the questionnaire were administered to selected library users immediately they finish using the academic library. Care was taken to ensure the administration of 174 copies to regular undergraduate students, 48 copies to CEP students, 98 copies to PG students and 38 copies to Sandwich students. Copies of the questionnaire were collected immediately they were completed. All copies of the questionnaire administered were retrieved and used for data analysis. Data generated from the study was analyzed using weighted mean statistics and one way analysis of variance (ANOVA). The weighed mean statistics was used to answer the research question of the study while the one way analysis of variance was used in testing the hypotheses. The decision rule for the weighed mean statistics was fixed at 3.0.

RESULTS AND DISCUSSION

Research Question 1: What is the extent of availability of electronic resources to students in Nnamdi Azikiwe University, Awka?

Table 1 shows the mean scores on the extent of availability of electronic resources to students in Nnamdi Azikiwe University, Awka. The table indicates that items 2, 6 and 8 have a mean score above the cut-off mean of 3.0 while the mean score on items 1, 3, 4, 5 and 7 are below the cut-off mean of 3.0. This shows that majority of the respondents agree that E-books, E-thesis and E-research reports are available to a high extent while E-Journals, E-audio or video resources, CD-ROMs, E-database and E-Magazine are available to a low extent. The findings of this study is consisted with the study of Adenkule *et al* (2007) who observed that the extent of availability of E-book, E-thesis and E-research reports in federal university libraries in South western Nigeria were high because students actively demanded them for information to do assignments, write up term papers and dissertations when compared to E-audio or video resources, CD-ROMs, E-database and E-Magazine. The study of Ezeji (2008) also found that the availability of E-audio or video resources, CD-ROMs, E-database and E-Magazine were low in state universities in South-southern Nigeria because the university management deem it less necessary for academic relevance

Table 1: Mean score on the extent of availability of electronic resources to students in Nnamdi Azikiwe University, Awka

Item	Electronic Resources	VHE	HE	US	LE	VLE	Mean	Std	Decision
1	E-Journal	47	70	91	66	84	2.80	1.03	Low Extent
2	E-books	50	112	67	89	40	3.12	0.09	High Extent
3	E-audio or video resources	27	20	99	99	113	2.30	0.94	Low Extent
4	CD-ROMs	46	75	56	92	89	2.72	0.76	Low Extent
5	E-database	57	36	82	83	100	2.63	1.34	Low Extent
6	E-thesis	96	79	73	63	47	3.32	0.22	High Extent
7	E-Magazine	50	67	91	67	83	2.82	0.43	Low Extent
8	E-research Reports	90	87	60	64	57	3.25	0.45	High Extent

Research Question 2: What is the extent of utilization of electronic resources to students in Nnamdi Azikiwe University, Awka?

Table 2 shows the mean scores on the extent of utilization of electronic resources among students in Nnamdi Azikiwe University, Awka. The table indicates that items 1, 2, 6 and 8 have a mean score above the cut-off mean of 3.0 while the mean score on items 3, 4, 5 and 7 are

below the cut-off mean of 3.0. This shows that majority of the respondents agree that E-Journals, E-books, E-thesis and E-research reports are to a high extent utilized while E-audio or video resources, CD-ROMs, E-database and E-Magazine are to a low extent utilized. This finding agree with those of Croom (2002) and Ogbonna (2003) who observed that most library users found it more convenient accessing E-audio or video resources, CD-ROMs, E-database and E-Magazine resources through their phones and laptops than visiting the library but preferred the university library for E-journals E-book, E-thesis and E-research reports because most university libraries have organized database that makes E-journals E-book, E-thesis and E-research reports very accessible. The study of Heterick (2002) also reported high utilization of E -journals E-book, E-thesis and E-research reports because most library users relied on them for information to do assignments, write up term papers and dissertations

Table 2: Mean score on the extent of utilization of electronic resources to students in Nnamdi Azikiwe University, Awka

Item	Electronic Resources	VHE	HE	US	LE	VLE	Mean	Std	Decision
1	E-Journal	77	99	79	55	48	3.29	1.05	High Extent
2	E-books	47	115	67	88	41	3.11	0.87	High Extent
3	E-audio or video resources	33	78	29	105	113	2.47	0.55	Low Extent
4	CD-ROMs	43	79	56	91	89	2.71	0.67	Low Extent
5	E-database	54	39	82	82	101	2.62	0.34	Low Extent
6	E-thesis	92	82	73	62	49	3.30	1.11	High Extent
7	E-Magazine	27	20	99	99	113	2.30	0.34	Low Extent
8	E-research Reports	87	91	60	62	58	3.24	1.12	High Extent

Research Question 3: What are the obstacles to the availability and use of electronic resources in Nnamdi Azikiwe University, Awka?

Table 3 shows the mean response on obstacles to the availability and use of electronic resources in Nnamdi Azikiwe University, Awka. The table indicates that items 9 to 15 have a mean score above the cut-off mean of 3.0 while the mean score on item 16 is below the cut-off mean of 3.0. This shows that majority of the respondents agree that lack of political will, lack of funds, low ICT skill among library users, unstable power supply, lack of ICT facilities, computer hardware failures and internet connectivity problem are the obstacles to the availability and use of electronic resources in Nnamdi Azikiwe University, Awka. This finding is supported by

Oduwole, and Akpati, (2003) who reported slow internet connectivity problems among most university libraries due to usual low signal strength, and excessive multiple demands by the subscribers above the capacity of the server. Ezeji (2008) study also showed that the major problem that affects students' use of electronic resources was erratic power supply. Ojo and Akande (2005) study equally agree with the findings of the study of Ezeji (2008) who observed that lack of ICT facilities, computer hardware failures were major impediments to the use of electronic resources in academic libraries.

Table 3: Obstacles to the availability and use of electronic resources
in Nnamdi Azikiwe University, Awka

Item	Obstacles	SA	A	UD	DA	SDA	Mean	Std	Decision
9	Lack of political will on the part of management	90	87	60	64	57	3.25	1.05	Agree
10	Lack of funds	50	112	67	89	40	3.12	0.98	Agree
11	Low ICT skill among library users	87	91	60	62	58	3.24	0.69	Agree
12	Unstable power supply	96	79	73	63	47	3.32	1.23	Agree
13	Lack of ICT facilities	90	87	60	64	57	3.25	0.73	Agree
14	Computer hardware failure	92	82	73	62	49	3.30	1.04	Agree
15	Internet connectivity problems	47	115	67	88	41	3.11	0.86	Agree
16	Lack of ICT/Technical staff on the part of library	57	36	82	83	100	2.63	0.58	Disagree

Hypothesis 1: There is no significant difference in the availability of electronic resources to students considering their academic programs

Table 4 shows the analysis of variance on availability of electronic resources to students in Nnamdi Azikiwe University, Awka with respect to their academic program. The table indicates that the mean score on availability of electronic resources is highest for postgraduate students (29.48) and lowest for CEP students (20.72).

There was a significant difference in the availability of electronic information to students considering their academic program (p<0.05). This finding totally agreed with the study of Ezeji (2008) who observed differences in the availability electronic resources between students' academic program.

Table 4: Analysis of Variance on Extent of Availability of Electronic resources to students in Nnamdi Azikiwe University, Awka with respect to academic programs

Programs	N	Mean	Std. Deviation	F-Stat
PG	98	29.48	7.23	138.389**
Regular	174	22.44	4.07	
CEP	48	20.72	3.05	
Sandwich	38	25.28	6.30	
Total	358	24.81	6.32	

$p < 0.01$

Hypotheses 2: There is no significant difference in the use of electronic resources among students considering their academic programs

Table 5 shows the analysis of variance on the utilization of electronic resources among students in Nnamdi Azikiwe University with respect to their academic program. The table indicates that the mean score on the utilization of electronic information system is highest for PG students (28.66) and lowest for regular undergraduate students (20.48). There was a significant difference in the use of electronic resources among students in Nnamdi Azikiwe University with respect to their academic program ($p < 0.05$). This finding totally agreed with the study of Heterick (2002) observed differences in the use electronic resources between students due to the fact that some academic programs make it mandatory through course work and research for student to consult the university library when compared with other programs.

Table 5: Analysis of Variance onExtent of Utilization of Electronic resources by students in Nnamdi Azikiwe University, Awka with respect to academic programs

Programs	N	Mean	Std. Deviation	F-Stat
PG	98	28.66	7.08	107.314**
Regular	174	20.49	4.26	
CEP	48	23.10	4.36	
Sandwich	38	22.09	6.72	
Total	358	23.88	6.54	

$p < 0.01$

CONCLUSION

The following conclusion is reached based on the findings of this study-

1. The study showed that the availability of E-book, E-thesis and E-research reports were high in Nnamdi Azikiwe University, Awka while the availability of E-Journals, E-audio or video resources, CD-ROMs, E-database and E-Magazine were low.

2. The study also showed that the use of E-Journals, E-book, E-thesis and E-research reports were high in Nnamdi Azikiwe University, Awka while the use of E-audio or video resources, CD-ROMs, E-database and E-Magazine were low.

3. The study showed that lack of political will on the part of university management, lack of funds, low ICT skill among library users, unstable power supply, lack of ICT facilities, computer hardware failures and internet connectivity problem are the obstacles to the availability and use of electronic resources in the university library.

4. The study showed a significant difference in the availability and use of electronic resources considering students academic programs.

IMPLICATIONS OF THE STUDY

The findings of this have implications for university management. Since, lack of ICT facilities was found to limit the use of electronic resources; the findings of this study will engender university management to establish university cybercafés and computer laboratory facilities to improve the access to EIR. Similarly, the finding of the study showed that although E-journals were highly utilized they were rarely available. The implication of this finding is that university libraries should restructure library centered services to user centered services. This means the libraries should not focus on the library holdings but on the needs of the users. Libraries may also need to intensify their awareness campaigns concerning the available electronic resources in the libraries and motivate the users to use them for their academic work.

The findings equally has implications for students because improvement in the provision of electronic resources by universities libraries will go a long way in improving the students' use and access to electronic resources for their academic work and help them keep up with what is happening in the academic world. When students have access to electronic resources in the university, there will be increase in its use; and regular use of electronic resources will help them develop more interest and a more positive attitude towards electronic resources. This will go a long way in helping the students improve themselves academically.

RECOMMENDATIONS

Base on the findings of this study, the following recommendations are proffered

1. Universities should establish adequate computer laboratories facilities and cybercafés to provide access to electronic information sources at subsidized prices.

2. Information and communication training programme should be given to students as a course of study as this will help to educate the students in the use of electronic resources for academic purposes.

3. More networked computers and laptops with easy internet connectivity should be provided by the universities libraries.

4. Alternative sources of power should be provided for web-based equipment/ facilities to checkmate erratic power supply to facilities

5. Libraries should intensify their awareness campaigns concerning available electronic resources in the libraries and motivate the library users to greater use of EIR for their academic work.

6. Improved funding of university libraries is necessary for web-based information resources and services to be effective. Libraries should be provided with enough accurate and adequate current hard and software for web-based information services.

7. Government needs to improve funding in the universities to enable the library users have access to latest information on electronic resources.

8. There is a need for the universities to subscribe to internet service provider with a very high bandwidth to checkmate problem with slow connectivity.

LIMITATIONS OF THE CURRENT STUDY

The present research effort was not without some constraints. Some of the problems encountered include sample size limitation. This is because not all the students in the South-East Universities were sampled in the study. The study was also limited to Nnamdi Azikiwe University because of the re-engineering and expansion of the library facility from the conventional to digital library. Other challenges include difficulty in accessing and eliciting the needed information from the students that were sampled in the study. In spite of the identified limitations, the researcher finally obtained the information that aided the completion of the study.

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