

Assessment of Use and Impact of Electronic Resources on Academic Performance of Students of Usmanu Danfodiyo University, Sokoto-Nigeria

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Abstract

Electronic resources have been defined as computer-based resources which are encoded and usually made accessible through a computer system or other electronic devices (LC, 2016). In view of the role played by the electronic resources in terms of academic achievement or excellence; it's obvious that no institution can record any academic success without effective library service delivery in which the provision of electronic resources is not an exemption. This study assessed the use electronic resources of the Abdullahi Fodiyo Library Complex (AFLC), and its impact on the academic performance of the students of Usmanu Danfodiyo University, Sokoto. The research design used for the study was survey (descriptive; a simple random sampling technique was used to collect data from the respondents. The instruments used for data collection was questionnaire and, the data collected were analyzed using the SPSS version 22. Findings revealed that students of Usmanu Danfodiyo University, Sokoto have access to electronic resources in particular database such as ProQuest ebooks, ebrary, Law Pavilion, Lexis Nexis, Elsevier Science Direct, HINARI, JSTOR, RefHelp Desk, OARE, AGORA but the utilization of the e-resources was not impressive. The study also revealed that Abdullahi Fodiyo Library Complex has basic infrastructure for effective electronic service delivery. The challenges faced in the use of electronic resources were technical know-how, inadequate ICT staff, lack of relevant search skills due to inadequate user training, sporadic power supply, low internet signal/ download time, no internet to access from home, inadequate facilities among others. The paper recommended that more advocacy, sensitization and publicity to be employed to promote the use of electronic resources in the University, lecturers to mandate their students to cite online resources in any given assignment, institution to boost the existing internet connectivity to ensure provision of effective internet services within the institution, libraries to organize more Information Literacy training for users to increase the awareness of e-resources and improve skills that will enable them to make best use of the available resources, more technical staff to be posted to the University eLibraries and the e-rooms to provide, necessary assistance to users when needed, Abdullahi Fodiyo library to subscribe to more electronic resources that will allow on-campus access via the IP as well as remote access for the off-campus users, alternative power back up such as inverter, industrial UPS or solar energy to be provided to ensure constant power supply for 24/7 access to library electronic resources.

Keywords: Electronic resources, academic libraries, university library, database, academic performance, Usmanu Danfodiyo University, e-resources, Abdullahi Fodiyo, library, libraries

Introduction

Academic libraries are established to support teaching, learning and research activities of their parent institutions through the provision of prints and non-print materials (electronic resources). According to International Federation of Library Associations and Institutions (2012) Electronic resources “refer to those materials that require computer access, whether through a personal computer, mainframe, or handheld mobile device”. IFLA further described electronic resources to include electronic texts, full text databases, repositories of institutional local contents, websites in and out links, e-books, e-journal collection, numeric and statistical databases, reference databases, still and moving e-images etc

Library of Congress (2016) described electronic resources as computer-based resources which are encoded and usually made accessible through a computer system or other electronic devices. Electronic resources consist of enormous and invaluable electronic journals, monographs, reports, articles, databases, digital collections, still and moving images, sounds, and interactive resources. These electronic resources can be available online, near-line or off-line and they may be accessed, searched, printed or saved to be repeated or consulted at a later date.

The unprecedented capabilities of the information technology to process, store, and disseminate data, information, and knowledge in a variety of ways across geographical boundaries has dramatically changed the ways in which governments, the public, the private sector, and libraries operate all over the world. Many people are now better equipped to use information technology from the onset to overcome obstacles in retrieving and managing the growing amount of online and offline information.

Going by the challenges posed by the emergent technology, one can easily deduce that the effective utilization of library e-resources rest directly on the ability of patrons to navigate and search for information electronically as well as the availability of relevant necessary infrastructures to support the resources.

In recent years, there has been a number of changes in the types and formats of information resources acquired by academic libraries in Nigeria. Okiki & Asiru (2011) stated that electronic information resources are no doubt the “products of information and communication technologies that have been found relevant to learning and research process in Universities”.

Examples of electronic information resources are e-journals, ebooks, databases, OPAC, e- theses and e-dissertations, e-documents, e-magazine, e-forms, e-transactions etc.

Ani and Ahiauzu, (2008) viewed 'emergence of electronic information resources as being tremendously transforming information – handling and management in Nigerian academic institutions'. Nowadays, libraries do not wait for a long time before developing their collection due to the fact that the acquisition process is now being handled electronically right from the selection stage up to circulation stage.

Brief History of Abdullahi Fodiyo Library Electronic Services

Usmanu Danfodiyo University Library which was established in October 1977. As a service unit of the University, Usmanu Danfodiyo University, Sokoto has Abdullahi Fodiyo Library Complex (AFLC) as the Main Library which caters for other branch libraries in terms of the acquisition, staffing and other administrative responsibilities. Branches of the University Library include; the Law Library, the Management Sciences Library, the Social Sciences Library, Faculty of Arts & Islamic Studies Library, Department of Modern European Language and Linguistics Library, Medical/Veterinary Library, Pharmaceutical Library, Radiography, Medical Laboratory Science Library, School of Matriculation Library, American Corner Library, Department of Nursing Library and Department of Urology Library, respectively.

In terms of electronic/digital/ resources, the Library has numerous open access books and journals that were compiled for use within and outside the University Community. In addition, the University subscribed to the Elsevier ScienceDirect, ProQuest e-book central, ebrary academic complete, Oakleaf Global Book-in-Print, Lexis Nexis, Law Pavilion and EBSCOhost to provide access to wide range of scholarly publications; RefInforDesk, EduDonor&HEPSEU Index, CABDirect, LibraryThings and numerous other e-resources recommended by faculties and departments etc.

Another important database of immense research value available in the Library is the Essential Electronic Agricultural Library (TEEAL). In 2014, Bill and Melinda Gates Foundation, in collaboration with TEEAL Project of Cornell University in the United States of America, donated to the University a base-set of the TEEAL database worth \$75,000. TEEAL is a full-text

digital library which provides access to over 200 international and peer-reviewed journals spanning a wide variety of subjects related to sustainable agricultural development.

In addition, the Library has also registered with Health InterNetwork Access to Research Initiative (HINARI) for full-text access to over 15,000 journals and 47,000 e-books covering Medicine, Nursing and other related health sciences and social sciences. It also includes many databases, indexes, and reference books, as well as journals in several languages (HINARI, 2016). Similarly, the Library registered with Journal Storage (JSTOR) so as to facilitate access to millions of full-text peer-reviewed journal titles. JSTOR is a fast growing digital library of peer-reviewed academic journals, books, and primary sources covering a wide range of subject areas (JSTOR, 2016). Moreover, there are other numerous open access electronic resources available in the Library for the enhancement of teaching, learning, and research in the University. To further enrich the digital collection of the Library, efforts are being made to subscribe to Oxford Online, HeinOnline and to automate the entire library collection fully.

Statement of the Problem

It is obvious that academic libraries spend so much on the deployment of information and communication technology facilities and the electronic contents but mostly the use of e-resources is much less compared with the investments made in acquiring those resources; this unsatisfactory scenario is no doubt worrisome. This research will investigate the issues related to the use of the available electronic resources in the Abdullahi Fodiyo Library Complex, and how it has impacted or affected the academic performance of the students of Usmanu Danfodiyo University, Sokoto.

Aim and Objectives of the Study

The study aimed to investigate the availability, level of utilization and the impact of e-resources on the academic performance and problems faced by the students while using the e-resources.

Other objectives are to:

Research Questions

Based on the objectives of this study, an attempt will be made to provide answers to the following;

- To what extent are the students aware of the availability of e-resources in the library?
- How often do the students use the e-resources in Abdullahi Fodiyo Library Complex?
- What do the students use the e-resources for?
- What impact has the electronic resources made on the academic performance?
- What are the challenges militating against the use of e-resources by the students?

Significance

The Justification for this study is based on the fact that the findings from the survey will show the available electronic information resources in Abdullahi Fodiyo Library Complex, as well as unveiling the level of awareness and utilization by the library users as the case may be. It will also encourage library stakeholders to know their level of resourcefulness and be challenged to upgrade in case their facilities are found inadequate to meet the information needs of the users who usually depend on them for knowledge resources as they carry out their learning and research activities. The recommendations from the researcher will also contribute to the existing knowledge in the field of Librarianship.

Brief Review of Related Literature

According to Ekwelem, Okafor and Ukwoma (2009) electronic information resources was defined as information resources that are available and can be accessed electronically through computer networked facilities such as online library catalogues, the Internet or the World Wide Web, digital library, internet archives, government portals or websites, CD-ROM databases, online academic databases, such as Medline or Commercial databases such as LexisNexis”, EduDonor, ProQuest, ScienceDirect etc. According to Ajayi, S., Shorunke, O. and Aboyade, M. (2014), Electronic resources can also be referred to as e-resources and they can be accessed electronically on different subjects which may be a bibliography of full text database that allows you to search for relevant articles in your subject area.

In addition, Veenapani, S., Singh, K. & Devi, R. (2008) that the e-resources are highly useful to the research and academic community in the present digital environment. This is in line with the report of Ajegbomogun (2014) that students used electronic resources for research and

communication purposes. Similarly, Ansari & Zuberi (2010) examined the use of electronic resources and services at University of Karachi and reported that ‘65.7% of the academic studied population indicated a high level of satisfaction with the emergence and use of electronic resources’.

Academic performance is the outcome or the extent to which a student, teacher or institution has achieved their educational goals (Wiki, 2016). In view of the roles played by the emerging technology and its products, it is obvious that no great academic achievement or excellence can be recorded without effective library service delivery in which the provision of electronic resources is not an exemption. This is in line with the report of Okello-Obura & Magara (2008) users of electronic information at the Makerere University derived lot of benefits from gaining access to wider range of information and improved academic performance as a result of access to quality information. Adeniran (2013) reported low level of utilization of the electronic information resources at the Redeemers University, Mowe in which the author attributed to large mass of irrelevant information, download delay, failure to find information, inadequate or lack of search skills, high cost of access, and inaccessibility of some electronic resources.

Methodology

Survey research method was adopted to investigate the availability, usage, and impact of electronic resources among the students of the Usmanu Danfodiyo University, Sokoto. The population of the study consists of the undergraduate students of the Usmanu Danfodiyo University, Sokoto. Questionnaire was used to gather data for the study. Random sampling technique was used to select 2,000 out of the 9,479 registered library café users of which only 1,500 students responded. Copies of the questionnaire were administered to the respondents with the assistance of two ICT staff.

Completed questionnaires were collected within the Library during a period of two weeks. The respondents comprised of registered library café users among undergraduate students of the Usmanu Danfodiyo University, Sokoto.

Data Analysis, Discussions and Findings

The data gathered through the questionnaires provided an in depth interpretation for fulfilling the research objectives.

Demographic characteristics of the respondents

Table 1: Gender

Gender	Frequency	Percent
Male	1274	84.9
Female	226	15.1
Total	1500	100.0

The table 1 shows that 84.9% of the respondents are male while 15.1% are female. This is not different from what is in the cafe statistical records found at the café during the period of study. There is no doubt; male students of the Usmanu Danfodiyo University make use of library café than the female students.

Table 2: Frequency of Use of AFLC Library

Variables	Frequency	Percent
Everyday	900	59.9
Weekly	300	20.0
Forth-nightly	100	6.7
Once in a while	200	13.3
Total	1500	99.8

Table 2 shows that 79.95 of the respondents used the University library on either daily basis or weekly basis. 13.3 indicated that they use library once in a while.

Table 3: Purpose of Using the Library

Purpose	Frequency	Percent
Obtain general information	112	7.5
Choosing a project topic	83	5.5
Accessing the Internet	200	13.3
Entertainment	125	8.3
Reading for test/examination	500	33.3
Writing Assignment	180	12.0
Submitting Project work	300	20.0
Total	1500	99.9

Table 3 above indicates that a large number of respondents used library mostly for personal reading for test/examination (33.3%), submission of final copy of their project works (20%), accessing the free internet services within and outside the library (13.3%) as well as getting relevant sources for their assignments. Some respondents said that it was their first time of coming to the library meaning that they did not register with the library not to talk of registering with the e-library.

Table 4: Computer Experience

Level	Frequency	Percent
No experience at all	401	26.7
Novice (basic skill)	290	19.3
Intermediate	570	38.0
Expert	239	15.9
Total	1500	99.9

In order to know the level of computer literacy of the respondents, the researcher asked the respondents to indicate their levels of literacy. It is evident from table 4, above that only 15.9% of the respondents are experts meaning and 38% can be semi illiterate. This shows that there is the need for more regular user's training programme for students to ensure that all students have required skills to effectively use the e-resources.

Table 5: Level of Awareness of E-Resources

Level	Frequency	Percent
Aware	757	50.4
Somewhat Aware	545	36.3
Unaware	198	13.2
Total	1500	99.9

Table 5 shows that 50.4% of the respondents were aware of the availability of the e-resources in the library while only 13.2 said that they were not aware.

Table 6: Frequency of Accessing e-Resources

	Frequency	Percent (%)
Always	50	3.3
Sometimes	1000	66.5
Never	450	29.9
Total	1500	99.8

Table 6 above indicates that the respondents do not utilize the e-resources on regular basis; this is a clear indication of low level of utilization of the electronic resources in the university library. Similarly, Adeniran 2013 reported low level of use the electronic resources at the Redeemers University, Mowe.

Table 7: Frequently Used E-Resources

Response	Frequency	Percent
Open Access Journals	386	25.7
Research4Life	121	8.1
Ebscohost	400	26.6
ProQuest	12	0.8
Law Pavilion	26	1.7
UDUSOERs	69	4.6
OPAC	78	5.2
CABDirect	32	2.1
JSTOR	333	22.2
TEEAL	35	2.3
Elsevier ScienceDirect	8	0.5
Total	1500	99.9

Table 7 above shows that the Ebscohost (26.6%), Open access (25.7%) and JSTOR (22.2%) were the frequently used online resources among the available electronic resources in the Abdullahi Fodiyo Library Complex.

Table 8: Reasons for Using e-Resources

Purpose	Frequency	Percent (%)
Personal Learning	709	47.2
Developing a research work	200	13.3
Finding secondary sources	101	6.7
Reading for test/examination	40	2.7
Writing assignment	300	20.0
Searching for current information	150	10.0
Total	1500	99.8

Table 8 shows that a significant number of respondents uses e-resources for their personal learning (47.2%), 20% responded that they used the internet for writing their assignment, 13.3% used the e-resources for research work and only 2.7% utilizes e-resources in preparation for their continuous assessment tests or examinations.

Table 9: Impact of Using e-Resources

Impact	Frequency	Percent
Helped Improving my ICT Skills	483	32.1
Helped in extensive literature search	532	35.4
Broadened my horizon for research	207	13.8
Helped in keeping abreast of the current trends in my field	151	10.0
Helped in facilitating personal development	127	8.4
Total	1500	99.8

Table 9 indicates 35.4% as respondents who agreed that e-resources has improved the way the conduct their literature search , 32.1% has gained more ICT skills through the use of e-resources while only 8.4% has used it for personal development.

Table 10: General Statements: Provision of e-resources changed my approach to research

Response	Frequency	Percent
Strongly disagree	125	8.3
Disagree	250	16.6
Agree	1025	68.2
Strongly agree	100	6.7
Total	1500	99.8

Table 10 indicates that 24.9% of the respondents disagreed with the general statement of e-resources being changed their ways of conducting research while the majority of the respondents agreed with the statement.

Table 11: Provision of e-resources has helped my course work

Helped to support coursework	Frequency	Percent
Strongly disagree	200	13.3
Disagree	300	20.0
Agree	900	59.9
Strongly agree	100	6.7
Total	1500	99.8

Table 11, shows that over 66% respondents has agreed that e-resources have supported their coursework while 33.3 disagreed with the researcher that it has no impact on their course work.

Table 12: Provision of e-resources gave me the ability to save/ print/email the information retrieved

Response	Frequency	Percent
Strongly disagree	200	13.3
Disagree	400	26.6
Agree	800	53.2
Strongly agree	100	6.7
Total	1500	99.8

Table 12 showed that 59.9% of the respondent has agreed that they have learnt how to save, print and send the information retrieved as email attachments, while 40.1% disagreed with the researcher that they cannot do it alone without assistance from the café operators.

Table 13: Challenges facing the use of e-Resources

Challenges	Frequency	Percent
Epileptic Power Supply	128	8.5
Lack of Digital Literacy Skill	83	5.5
Inadequate Facilities	327	21.8
Shortage of ICT staff	92	6.1
Lack of regular training or workshop	112	7.5
Only limited no. of titles available	145	9.7
Difficulty in finding relevant information	201	13.4
No access from home	193	12.9
I don't know	55	3.7
Total	1500	99.9

Table 13 revealed the challenges faced by users of electronic resources in Abdullahi Fodiyo library complex. All respondents have one problem or the other making them not to effectively utilize the e-resources except 3.7% that could not specify any problem. The major problem facing the use of the café user was that of inadequate facilities (21.8%) such as computers, café chairs and table and laptops. The researcher according to her interaction with the students found out that many students were interested in using the e-resources but lack of free systems whenever they come to the library café made them not to be coming frequently particularly during the peak academic period. This shows that inadequate café system is one of the factors responsible for low usage of library electronic information resources in the Abdullahi Fodiyo Library complex (main library).

Summary of the findings

Based on the statements of the objectives of the study, the researcher designed a questionnaire to collect data from the respondents with brief interaction to extract more information from the students; from data analysis the following were discovered;

- Number of male students using the library café outweighed that of female students meaning that female undergraduate students are not judiciously utilizing the library.
- Inadequate café systems is one of the factors responsible for low patronage of the electronic resources in the library.

- There is a low level of computer literacy among the undergraduate students of the Usmanu Danfodiyo University, Sokoto.
- The level of electronics resources usage by the undergraduate students of the Usmanu Danfodiyo University, Sokoto was low.
- Majority of the respondents used Ebscohost, JSTOR and Open Access resources more than other e-resources in the University.
- Issues such as retrieval of irrelevant information, inadequate facilities, slow download time, availability of limited titles, lack of digital literacy skills, high cost of subscription, epileptic power supply, inaccessibility of some electronic resources off-campus, shortage of ICT staff to assist users in the café, and some other problems were the reasons while undergraduate students don't make judicious use of the electronic resources

Conclusion

The findings of the study show that some students could exploit the opportunities of electronic resources for their personal learning and readings for the examinations while some could use it for their academic works. The findings of the study shows that the students have basic understanding of using computer and a good awareness of the available resources, however, the level and application of the digital skills and the usage of resources varied greatly among the respondents depending on their length of experiences and frequency of use of the electronic machine to surf the Internet. However, the level of utilization of some electronic resources and the impact of it on their academic performance is remarkable while the library needs to intensify more efforts to promote a large number of the available resources to increase their level of utilization.

Recommendations

Based on the findings of this study, the researcher has recommended the following;

- The University should create more awareness on the availability of the electronic resources. More advocacy, sensitization and publicity should be employed to promote the use of electronic resources.
- Lecturers should ensure that students that are not conversant with the use of e-resources are encouraged to use it. By giving students some assignments from different databases or mandate them to cite online resources in any given assignment. This will increase their use of electronic resources.
- The institutions should boost the existing internet connectivity to ensure effective provision of internet access within the institution.
- Library should organize more Information Literacy training for users to increase the awareness of e-resources and improve skills that will enable them to make best use of available electronic resources.
- More technical staff should be posted to the University e-libraries and e-rooms to provide necessary assistance to users.
- Regular orientation should be organized by the Library for café users in order to guide them properly on the right choice of database or search engine to access; to avoid downloading of irrelevant information from the internet.
- University library should subscribe to more electronic resources that will allow on-campus access via the IP as well as remote access for the off-campus users.

- Alternative power back up for 24/7 access to library contents is a necessity, so the University should intensify efforts to provide either inverter, industrial UPS or solar energy to ensure constant power supply in the library and the University data centre.
- University should purchase more computer systems and other ICT facilities to augment the available facilities to address the issue of inadequate facilities for accessing the e-resources.

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