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Halima Sadia Egberongbe

University of Lagos, ehalimasadia@yahoo.com

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The Use and Impact of Electronic Resources at the University of Lagos

Halima Sadia Egberongbe

Readers Services Department
University of Lagos, Nigeria

Introduction

The twentieth century was shaped by sweeping changes in communication technologies. The emergence and use of information technology is the century's most significant development affecting scholarly communication. The application of computers to information processing has brought several products and services to the scenes. Consequently, the academic community has undergone tremendous changes during these years, assuming new dimensions influenced by technology-driven applications. Libraries have witnessed a great metamorphosis in recent years both in their collection development and in their service structures. Thus Libraries are using technology to improve the management of scholarly information to strengthen and speed access to scholarly information not held locally. Over the last several years a significant transformation has been noticed in collection development policies and practices. Print medium is increasingly giving way to the electronic form of materials (Sharma, 2009). Ani (2008) quoting Tsakonas and Papatheodorou (2006), states that "the transition from print to electronic medium apart from resulting in a growth of electronic information, has provided users with new tools and applications for information seeking and retrieval. Electronic resources are invaluable research tools that complement the print-based resources in a traditional library setting.

Commenting on the advantages of electronic resources, Dadzie (2007) writes that electronic resources are invaluable research tools that complement the print – based resources in a traditional library setting. Their advantages, according to her include: access to information that might be restricted to the user due to geographical location or finances, access to more current information, and provision of extensive links to additional resources related contents. This rapid emergence and development of electronic information technologies therefore makes it possible to envision radically different ways of organizing the collections and services the library has traditionally provided. While libraries approach a crisis point in financing collection development, these new technologies offer possible ways to mitigate costs and revolutionize ways to access information. Navjyoti (2007) also finds that speedy publication and availability on the desktop are the key advantages that attract research scholars.

Electronic Resources in Nigerian Academic Institutions

In recent years, there have been a number of changes in the higher education sector in Nigeria and in particular, academic institutions.

The emergence of electronic information resources has tremendously transformed

information – handling and management in Nigerian academic environments, and University libraries in particular (Ani and Ahiauzu, (2008). These dramatic changes include the way in which information is provided to the University Communities. A number of electronic resources initiatives have been put in place in Nigeria to assist in the development training and use of electronic resources in a number of academic institutions among who are the Morlenson Center for International Library Programs acting on behalf of MacArthur Foundation to support some selected grantee university libraries; The Electronic Information for libraries Network (eiFL.Net) and MTN Foundation. Their fundamental objective has been to create interfaces with the global knowledge systems.

These initiatives notwithstanding, some inadequacies in the development provision and utilization of electronic resources had been identified in a number of academic institutions. A number of studies have been made with a view to proffering solutions to problems encountered in the development of electronic information resources. However, little or no efforts have been recorded in the identification of influence and impact of electronic resources on productivity of lecturers and student in University of Lagos. This is the gap which this researcher intends to identify. The purpose of study is to investigate the impact of use of electronic resources on academic productivity of lecturers and research scholars. Research scholars in this study refer to students and research assistants in University of Lagos.

Objectives

The main purpose of this study was to investigate the awareness, level of use of electronic resources, the perceived impact of use of electronic resources on the academic productivity of teachers and problems faced by researchers while using electronic resources in the University of Lagos (Unilag) Library.

The other objectives of the study were to:

- Analyze the dependency of teachers and research scholars on e-resources
- Determine the perceived impact of the resources on their academic efficiency.
- Assess the benefits of e-resources over conventional sources of information.
- Study the purpose and frequency of using the electronic resources and services available in the library.
- Know the different types of electronic resources and services available in University of Lagos Library.
- Study the impact of electronic resources and services on the academic work of teachers and research scholars.
- Know the quality of information retrieved through electronic resources.

Review of Related Literature

The importance and wide ranging scope of electronic resources for general communication, information retrieval and instructional delivery to support teaching and research activities in tertiary educational institutions is acknowledged world wide. The literature also shows that a number of relevant studies have been carried out on the use of e-resources by lecturers, research scholars and students worldwide. General user opinion towards the use of electronic resources, in particular CD-ROM, has been positive, with students enjoying using these sources and finding relatively few problems while using them (Ray and Day, 1998). This is clearly confirmed in the case of a survey undertaken at Oakland University by (Schulz and Salomon, 1990) into students' satisfaction with CD-ROMs.

The study according to Ray and Day (1998) found out that 83% of students surveyed felt that using this source saved them time, and found it relatively easy to use. Two thirds of those surveyed stated that if the CD-ROM was busy, they would wait for it to become free rather than use the print tool. However, a study of online searching of scientific information in science and technology libraries of Delhi reveals a sizeable number of users (almost 60%) are facing numerous problems while browsing electronic information, such as lack of knowledge about the resources, lack of trained staff and inadequate terminals, (Ali 2005).

Studies have also been carried out on the use of electronic resources by teachers, students and research scholars of universities and research organizations. Seventy-eight percent (78%) of the respondents feel that the use of the UGC – Infonet e-journals has created high dependency value on their research work and they needed current article alert services and electronic document supply services (Madhusudhan, 2008).

In the context of developing countries, Okello-Obura and Magara (2008) investigated electronic information access and utilization at the East African School of Library and Information Science, Makerere University, Uganda. Out of the 250 targeted students, 190 responded, giving a response rate of 76%. The study revealed that users derived a lot of benefits from electronic resources gaining access to a wider range of information and improved academic performance as a result of access to quality information.

Chisenga (2004) carried out a survey of the use of ICTs in ten African Public Library Services. The survey found that, although most libraries had internet connectivity, very few were offering web-based information services to their users. The study however, identifies four barriers to the effective provision of electronic resources in those libraries, namely: lack of strategic planning; lack of adequate or reliable funding; lack of use of Internet to provide information services to users and a lack of consistent training for users in new ICT services.

In the Nigerian context, Oduwole and Akpati (2003) investigated the accessibility and retrieval of electronic information at the University of Agriculture Library, Abeokuta, Nigeria. The 425 participants responded out of a survey population of 1,000, giving a response rate of 53.87 percent. The study revealed that electronic information cuts across all members of the University community that it was to a greater extent easy to use and were satisfied with their search outputs. The constraints identified included insufficient number of terminals available for use despite high demand and inadequate electricity supply.

Ojo and Akande (2005) in a survey of 350 respondents examined students access, usage and awareness of electronic information resources at the University College Hospital (UCH) Ibadan, Nigeria. The study revealed that the level of usage of the electronic information resources is not high. A major problem however identified is lack of information retrieval skills for exploiting electronic resources, thus making the level of usage of resources by medical students very low.

Jagboro(2003) had also emphasized the emerging reliance and attitude of users to electronic resources. In a study she conducted in some Nigerian Universities, it was found that 45.2% of respondents accessed electronic resources from cybercafés. Though this attitude, according to her is due to the proximity of cybercafés to user facilities.

Ajuwon et al (2003) also carried out a study of uptake of ICTs by health science students at the University College Hospital, Ibadan. This study found that 57% of students sampled could not use a computer, that the use of the database was poor, due to lack of awareness, lack of access to computers, insufficient training and the high cost of provision.

In effect, all the studies reviewed above are implemented on the assumption that uptake of electronic resources is highly desirable in that it leads to increased productivity of work, learning, teaching and research.

Methodology

Population and Sample

Some of the data collection objectives of the study, was to analyze the dependence of teachers and research scholars on electronic resources, to determine the perceived impact of electronic resources on their academic efficiency; and to assess the benefits of the electronic resources over conventional sources of information. For this reason this research sought to conduct its investigation in an academic environment in Nigeria, where major developments in the use of electronic resources have taken place. The study used lecturers, research scholars and students of the University of Lagos, Nigeria as the local population of the study where the researcher was also based at the time of study.

The University of Lagos is the most populous of all the universities in Nigeria. It has a

total student population of 36,000 as at 2007. It also has staff strength of 3,365 made up of 1,386 Administrative staff, 1,164 junior staff and 813 Academic staff. There are nine faculties and a College of Medicine. The faculties offer a total of 117 programmes in Arts, Social Sciences Environmental Science, Pharmacy, Law, Engineering, Business Administration and Education. (Source: University of Lagos Handbook 2007). The study was limited to the teachers and student of University of Lagos, Nigeria, because of the subjects' apparent commitment to the use of electronic resources.

A questionnaire survey was conducted to collect the information regarding the use of electronic resources, frequency of use of electronic resources, purpose of using electronic resources, frequency of locating desired information, problems faced by users while using electronic resources.

A total of 20 questions and 120 choices were designed around seven subjects listed above. Each questions included multiple choices. The people investigated simply ticked inside the brackets.

Two Hundred (200) questionnaires were distributed to collect the primary data, One hundred and eighty two (182) were found useable. Questionnaires were distributed randomly to the users at the media resources rooms, at the OPAC at the Main Library and departmental offices, in case of Lecturers. Data collected were analyzed and presented in tabular form.

Table 1. Use of E-Resources

	Lecturers	Research Scholars
E-Journals	92(90.6%)	56(80.0%)
E- Books	32(28.6%)	19(20%)
E-Magazines	28(25%)	39(55.7%)
E-Thesis	10(9.29%)	.6(6.75%)
WWW	60(53.6%)	46(74.57%)
E-Newspapers	28(25%)	6(8.9%)
E-Mail	82(73.2%)	36(52%)
E-Research Report	32(28.6%)	30(42.9%)
Bibliographic Databases	20(17.86%)	6(8.6%)

Table 1 showed that the majority of lecturers 92 (90.6%) and research scholars 56(80.0%) prefer to use e-journals, second highest of users prefer e-mail and www with 82 (73.2%) and 60(53.6%) among lecturers, whereas 36(52%) and 46(65.6%) among scholars. 32(28.6%) of lecturers and 30(42.9%) of research scholars made use of e-research report. Table 1 thus indicated heavy usage of popular and well known resources by faculty members and research scholars. The rest of the electronic resources, bibliographic databases, e-newspapers, e-magazines were comparatively less used.

Table 2: Awareness of E-Resources

Respondent	Total	Yes	No
Lecturers	112	80(71.4%)	32(28.6%)
Research Scholars	70	55(78.6%)	15(21.4%)

In table 2, 80 (71.4%) Lecturers and 55(78.6%) research scholars were reported in the survey as being aware of e-resources. Awareness of e-resources indicated user knowledge of the availability of the resources, their services and the extent made use of them. Whereas 32 (28.6%) lecturers and 15(21.4%) scholars were not aware

Table 3: Training taken in the use of Electronic Resources

Respondent	Total	Yes	No
Lecturers	112	67 (69.8%)	33(38.4%)

Research Scholars	70	10 (14.3%)	60 (86%)
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Table 4 indicated that 67 (69.8%) and 10 (14.3%) lecturers and scholars respectively had taken training regarding access to electronic resources, while 33(38.4%) lecturers and 60(86%) scholars did not get training in the use of electronic resources. The study showed that majority of scholars did not receive training in the use of e-resources. The study revealed that the level of IT skills among lecturers, scholars and also library staff were variable and low. Most users used informal methods for training themselves. It was also observed that these groups of users were not getting proper encouragement from the University management to participate in training programmes.

Table 4: Frequency of Electronic Resources.

Respondent	Total	Usually	Sometimes	Rarely
Lecturers	112	73 (65.2%)	30 (26.8%)	9 (8.04%)
Research Scholars	70	46 (65.7%)	20(28.65%)	4(5.75%)

Table 4 revealed that 73 (65.2%) lecturers and 46(65.7%) scholars usually used e-resources, 30(26.8%) lecturers and 20(28.65%) scholars used e-resources sometimes, whereas 9(8.04%) lecturers and 4(5.75%) scholars used e-resources rarely. The study indicated that scholars used the library more frequently than lecturers.

Table 5: where do you mostly Access Required Information

E-Resources	Lecturers	Research Scholars
E-Books	-	-
E-Journals	40(39.6%)	33 (47%)
Online -Database	-	14(20%)
Search Engines	50 (45%)	23 (33%)

Table 5 revealed that most users accessed e-journals and search engines to get required information at Unilag library 40(39.6%) lecturers and 33(47%) research scholars preferred to use e-journals whereas 50(45%) Lecturers and 23(33%) scholars made use of search engines to get desired materials, online database were also very popular among research scholars as 14(20%) of them preferred to use them. E-books were used less by both lecturers and scholars in comparison to other online resources. This is in agreement with a survey conducted by sharma (2009), in which minimal use of e-books was recorded in comparison to other online resources. This gave an indication that users on e-resources use less of e-books. The investigator however, noted that maximum relevant materials were accessed from e-journals by research scholars.

Table 6: Frequency of use of different Database

	Use Often		Use Sometimes		Never use		Unfamiliar with	
Databases	Lecturers	Research Scholars	Lecturers	Research Scholar	Lecturers	Research Scholar	Lecturers	Research Scholar
Science Direct	60 (53.57%)	48 (67%)	20 (17.86%)	12 (17.2%)	30 (26.8%)	12 (17.2%)	20 (18.57%)	8 (12.4%)
ACM	15 (12.14%)	7(10%)	30 (26.8%)	15 (21.45%)	24 (21.4%)	9 (13.6%)	8 (16.4%)	10 (14.3%)
AGORA	24 (21.43%)	20 (28.5%)	60 (53.57%)	10 (14.3%)	32 (28.6%)	12 (17.2%)	16 (14.3%)	10 (14.3%)
EBSCOHST	32 (28.6%)	12 (17.2%)	28 (25.0%)	13 (18.6%)	15 (13.49%)	18 (29.7%)	21 (18.2%)	10 (14.3%)
HINARI	5 (13.39%)	10 (14.39%)	32 (28.6%)	20 (28.8%)	22 (19.6%)	6 (8.6%)	12 (11.2%)	8 (12.4%)
IEE	20 (17.86%)	20 (28.5%)	23 (20.49%)	10 (14.3%)	35(29.7%)	18 (29.7%)	6 (8.9%)	5 (7.35%)

SCIENCE FINDER	22 (19.6%)	15 (21.4%)	12 (10.7%)	10 (14.3%)	16 (14.3%)	7 (10%)	14 (12.6%)	10 (14.3%)
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Table 6 showed that majority of lecturers used Science Direct 60(53.6%), EbscoHost 32(28.6%) or Agora, 24(21.4%) respectively, whilst 48(67%) use Science Direct quite often and 20(28.5%) used both AGORA and IEEE often. 32(28.6%) lecturers and 20(28.8%) research scholars sometimes used HINARI database, 30(26.8%) lecturers and 15(21.45%) scholars sometimes use ACM A good number of both lecturers and research scholars had never used and are unfamiliar with these e-resources, 32(28.6%) and 30(26.8%) lecturers had never used both AGORA and Science Direct respectively. At the same time 20(18%), 16(14.3%) and 6(8%) were unfamiliar with both Science Direct, AGORA and IEEE.

Table 7, Reasons for Using Electronic Resources

Reason for E-Resources	Lecturers	Research Scholars
Time Saving	77(66%)	53 (75%)
Time Consuming	8(7.2%)	-
Easy To Use	70(59.1%)	28 (40%)
Difficult to use	10(8.9%)	-
More Informative	(46.5%)	20(28.65%)
More expensive	12(10.7%)	15(21.20%)
Less Expensive	12	24(34.25%)
More useful	52(46.5%)	36(52.35%)
Less Useful	52(7.1%)	-

Table 7 revealed that majority of lecturers preferred to use e-resources in comparison to traditional resources 77(66%) of them consider e-resources as time-saving, 70(59.1%) considered it easy to use, whereas 52(46.5%) considered it more useful. 20(28.5%) research scholars preferred to use e-resources because they were more useful and time saving, 28(40%) of research scholars preferred to use e-resources because they are easy to use. 20(28.6%) use them because they are time saving and 20(28.65) use them because they are more informative. 36 (52.35%) use e-resources because they are more useful, 24(34.25%) scholars also use them because they are less expensive. The results from table 7 revealed that e-resources were preferred by respondents because they were more useful, time saving, easy to use, more informative and less expensive.

Table 8: Satisfaction with existing IT Infrastructures

Respondents	Total	Yes	No
Lecturers	112	50 (44.64%)	62 (55.4%)
Research Scholars	70	32 (45.7%)	38 (54.29%)

Table 8 indicated that 50(44.6%) of lecturers, and 32(45.7%) of researchers were satisfied with the existing IT infrastructure. This is against 62(55.4%) lecturers and 38(54.3%) research scholars who were not satisfied with the IT Infrastructures. Dissatisfaction by respondents is attributed to inadequate IT infrastructure in both the Library and the University at Large, to meet the information needs of users.

Table 9: Do E-Resources Diminish the importance of Traditional Resources

Respondents	Total	Yes	No
Lecturers	112	42 (37.5%)	60 (53.47%)
Scholars	70	33 (47.14%)	37 (53.29%)

Table 9 revealed that majority of lecturers 60(53.6%) and research scholars (53.29%) believed that e-resources will never diminish the light of traditional resources. Whereas 42(37.5%) and 33(47.1%), research scholars believe that e-resources may replace traditional sources of

information. This is an indication that academics are still very much in use of traditional sources of information in spite of the proliferation of Information Technology.

Discussion

The study had sought to investigate the use and impact of electronic resources on productivity of lecturers researchers and students of university of Lagos. The study revealed that majority of the respondents used electronic resources, were aware and have become familiar with electronic resources.

The study also revealed that both faculty and students used e-resources to access information available world wide for teaching, learning and research. The study revealed the extent of training in both access to and usage of electronic resources. There was a general indication that scholars (i.e, students and researchers) did not receive training in the use of electronic resources. They rather resorted to the trial and error techniques of usage.

A high level of Internet and e-mail usage was recorded, giving an indication of user preference to these services. This finding supported those of Naidu, Rajput and Motiyani

(2007) who found that of the academics who were current users of national and international computer networks, over 90 percent used them for e-mail. The study revealed that both lecturers and scholars acknowledged the usefulness and importance of e-resources to research and productivity.

Although students and research assistants use electronic resources more than Lecturers, the former do not get adequate encouragement from the University Management to participate in training programmes.

On the basis of the above analysis and observations, it was found that unfamiliarity with electronic information were the major reasons that would discourage users from accessing electronic resources in the University of Lagos library. A large number of users were using electronic resources for research and study and for keeping abreast with new developments in their areas of interest. Most of the users had become acquainted with their favourite electronic resources through discussions with colleagues and from the internet.

A large number of e-resources users were however not satisfied with the infrastructure available in the Library. Most lecturers and students indicated their dissatisfaction with IT infrastructure. This was attributed to inadequate provision of infrastructure occasioned by lack of adequate financial support for both hardware and software infrastructure. This could also be the reason why most lecturers still attached importance to print materials.

These findings though obtained from a university library in a developing country are generally similar to those obtained by Ray and Day (1998), Madhusudhan (2008) where user opinion towards electronic resources were positive though finding relatively few problems while using them. The findings also reveal similar situations in developing countries outside Africa where libraries in Delhi reveal that almost 60 percent users are facing numerous problems while browsing electronic information such as lack of knowledge, lack of trained staff and inadequate terminals (Ali 2005).

Conclusion and Recommendations

This study showed that the uses of e-resources are very common among the Lecturers and research scholars of University of Lagos. It also showed that majority of teachers and research scholars are dependent on e-resources to get desired and relevant information. It was however, revealed that practical uses of e-resources are not up to the worth in comparison to investments made in acquiring these resources.

Moreover, infrastructure and training, programmes are essential for better use of electronic resources campus-wide. It is evident from the analysis that the availability of e-resources on the campus is almost sufficient for all the existing disciplines but that the infrastructure to use the resources is not adequate and is actually hindering the ability to meet the requirements of users.

This observation is common to libraries and universities in developing countries as is observed by Ali (2005).

In order to improve the facilities and services for effective use of electronic resources, in the University of Lagos, a number of suggestions can be made.

- User training is essential for the better use of electronic resources in the library since a good number of users are searching electronic literature on their own.
- Electronic resources users should be taught about advanced search strategies and the use of controlled vocabulary to make electronic search process much easier.
- The university management should provide funds for subscription to more electronic primary and secondary sources.
- The library should also identify the non-users of electronic resources and proper steps should be taken to convert them into potential users of the resources.
- Furthermore, since users are experiencing problems in gathering information, the most suitable measures should be taken to overcome this, such as increasing the number of terminals and printers.
- An electronic document delivery should also be introduced into the library at the earliest opportunity. Moreover, instead of expecting users to accept whatever exists in the market, the right perspective is to know and provide whatever electronic resources suits users under their respective circumstances (Kebede 2002). The library management therefore needs to conduct user study programs to know more about electronic resource needs of users.
- There is, finally, the need for the institutional governing body to integrate adequate information (technology) literacy content into the curriculum for lecturers and students in the University.

If such actions as outlined above are taken, then the situation regarding electronic resources information in University of Lagos and other academic institutions would improve substantially.

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