

IMPACT OF AWARENESS AND ACCESSIBILITY OF ELECTRONIC INFORMATION RESOURCES IN UNIVERSITY LIBRARIES ON RESEARCH BY POSTGRADUATE STUDENTS OF FEDERAL UNIVERSITY OF AGRICULTURE MAKURDI AND FEDERAL UNIVERSITY OF TECHNOLOGY MINNA – NIGERIA

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ABSTRACT: *The study on the impact of awareness and accessibility of electronic information resources in university libraries on research by postgraduate students of Federal University of Agriculture Makurdi (FUAM) and Federal University of Technology Minna (FUTM) dwells on the kinds of electronic information resources accessible to the postgraduate students as well as their level of awareness of the resources. The study equally found out the extent to which accessibility of electronic resources contribute to the quality of research of the postgraduate students and investigated the challenges militating against effective use of the electronic resources by postgraduate students of the universities under study. Descriptive survey designed was used for the study. The population of the study was 206 and 172 for FUAM and FUTM respectively. The instrument for data collection was questionnaire. Percentages, mean scores and standard deviation were used in analyzing the data. Findings revealed that most of the electronic information resources identified by the researcher, that is online databases, e-journal, e-books, CD-ROMs, e-newspapers, e-magazines, e-theses and multimedia products were the kinds of electronic information resources accessible to the postgraduate students except OPAC (Online Public Access Catalogue) that was not accessible to the postgraduates' students of FUTM. In addition, the respondents were highly aware of all the nine (9) digital information resources listed therein. Findings further indicated that awareness and use of the electronic information resources have great impact on the quality of their research. However, challenges such as lack of formal training on Internet use, Server slowness among others were identified as inhibiting factors towards effective use of electronic resources. The study therefore recommended among others that the management of university libraries should improve on the provision of electronic resources such as OPAC and to create more awareness so as to enhance patronage of the library services.*

KEYWORDS: Academic Libraries, Electronic Information Resources, University Libraries, Postgraduate Students

INTRODUCTION

University libraries are complex institutions with multiple roles. They provide not only books and space for students to study, but also provide services for facilitating research activities, such as bibliographical, reference and information literacy services. Hence, Reitz (2004) sees the university library as a library or library system established, administered, and funded by a university to meet the information, research, and curriculum needs of its students, faculty, and staff. These libraries according to Popoola (2008) are expected to acquire, process into

retrievable form, and make accessible the much-needed information to the academic community and the public at large who may require them for teaching, learning and research activities. Ifidon in Egberongbe and Okiki (2006) outlined some major objectives of the university library to include: Provision of materials in support of learning and teaching, provision of materials to meet the requirements of faculty specialists and postgraduate students who are doing research, provision of materials to assist the library user in his own personal self-development, cooperation with other university libraries, with a view to developing a network of academic library resources which are at the disposal of all students and teaching faculties and meeting the specialized information needs of the regions within which the universities are situated. To achieve these goals, the library has to acquire different kinds of information resources.

Basically, library resources are materials that users consult in making decisions and also for problem-solving. These resources are described by Chimah and Nwokocha (2013) to include print and non-print materials. The print materials are materials in form of books; examples are reference materials, periodicals, pamphlets, government publications, textbooks among others. Non-print materials comprise of teaching and learning materials that make the experience worthwhile and interesting. These materials include: audio materials, visual materials, and audiovisual materials. This entails that, academic library, in order to satisfy the diverse information needs and interests of the academic community, should not just have adequate collections in terms of quantity, quality and currency. The collection should also be accessible to the community.

There are some indications that scholars' ways of accessing information for their work has changed in the electronic information environment. There are larger volumes of information than ever before, new ways of collecting information, new information containers and new tools for working for information (Haliso and Laja-Ademola, in Aina, 2014). According to Ubogu (2000), library users are expected to locate the resources they want in a digital form and accessible electronically and are beginning to demand a one-stop shopping in an integrated information environment. This demand by university library users calls for more decisive strides by Nigerian universities to equip their libraries with the necessary information communication technology (ICT) facilities that would enable the university libraries to provide the services expected of electronic libraries of the present times. As indicated by Foo (2002), academic libraries now take on the key role of providing multimedia services for the university and they are positioning themselves to be the learning and research centres of universities. Therefore, the traditional role of academic libraries to support teaching and learning only is being challenged.

It is against these backdrops that Rader (2001) observes that, depending on the state of technology readiness of libraries and their users, new forms of library services are now available. A 24-hour electronic library paradigm with reference, reserve and circulation services has emerged at various levels of sophistication. Online reservation and renewal of library materials is becoming part and parcel of library automation systems, especially in the new generation of Web-based systems that replaced the older traditional standalone proprietary library systems. Online document delivery service requests with credit card payments are potential new services to better serve the needs of academic users. These services no doubt is made possible with the introduction of electronic materials in library operations.

With these benefits of the digital services, there is no gain saying that technology has brought relief in the way teaching, learning and research activities are carried out in an academic environment. This has made electronic resources imperative tools for research.

Statement of the Problem

Research as the source of knowledge generation occupies a critical position in promoting the prosperity of a nation and its citizens' well-being particularly in this knowledge driven era. In conducting research, therefore, Electronic Information Resources (EIR) are found to be faster to consult than print resources. they can provide vast quantity of up to date information to researchers irrespective of their geographical location among other benefits.

In spite of the enormous benefits offered by the use of EIR at improving research work, the quality of research of the PG students still appears to be poor. This is presumed to be as a result of some challenges inhibiting the PG students from adequate access and use of the EIR.

This scenario if not urgently addressed may have far reaching negative effect on both the universities and the postgraduate students. Hence the need for the study on the impact of awareness and accessibility of electronic information resources in university libraries on research by Postgraduate (PG) students of Federal University of Agriculture Makurdi and Federal University of Technology Minna - Nigeria

Purpose of the Study

The study looked into the impact of awareness and accessibility of electronic information resources in university libraries on research by postgraduate students of Federal Universities of Agriculture Makurdi and Federal University of Technology Minna- Nigeria. Specifically, the study:

- Determined the kinds of electronic resources accessible to the postgraduate students of Federal University of Agriculture Markurdi (FUAM) and Federal University of Technology Minna (FUTM).
- Ascertained the level of awareness of the postgraduate students on the accessible electronic information resources.
- Found out the extent to which accessibility of electronic information resources contribute to the quality of research of the postgraduate students
- Investigated the challenges militating against the effective use of electronic information resources by postgraduate students of the universities under study.

METHODOLOGY

The study investigated the impact of awareness and accessibility of electronic information resources in university libraries on research by postgraduate students of Federal Universities of Agriculture Makurdi and Federal University of Technology Minna-Nigeria.

Descriptive survey designed was used for the study. The population of the study was 206 and 172 for FUAM and FUTM respectively. The instrument for data collection was questionnaire

developed by the researcher. The questionnaire was distributed, filled and returned. Percentages, mean scores and standard deviation were used in analyzing the data.

RESULTS AND DISCUSSION OF FINDINGS

Table 1: Kinds of Digital Information Resources Accessible to PG Students in University Libraries of FUAM and FUTM

	FUAM		FUTM	
	A	NA	A	NA
1 OPAC (Online Public Access Catalogue)	√			√
2 Online Databases	√		√	
3 E-Journals	√		√	
4 E-Books	√		√	
5 CD-ROMs	√		√	
6 E-Newspaper	√		√	
7 E-Magazines	√		√	
8 E-Thesis	√		√	
9 Multimedia Products	√		√	
	100%	0%	88.9%	11.1%

KEY: A=ACCESSIBLE; NA=NOT ACCESSIBLE

The result presented in Table 2 shows that all the electronic information resources identified by the researcher are accessible to the PG students of FUAM. On the other hand, online databases, e-journal, e-books, CD-ROMs, e-newspapers, e-magazines, e-theses and multimedia products were the kinds of electronic information resources accessible to PG students of FUTM while OPAC (Online Public Access Catalogue) was not accessible to the PG students.

Table 2: Mean Ratings of PG Students of Federal Universities of Agriculture Makurdi and Technology Minna on the Extent of Awareness of the Availability of the Electronic Information Resources

SN	Electronic information resources	Institutions						Overall		R	D
		FUAM n=206			FUTM n=172			N= 378			
		Mean	SD	D	Mean	SD	D	Mean	SD		
1	E-Thesis	3.00	.94	HA	3.18	.78	HA	3.07	.88	1 ST	HA
2	E-journals	2.85	1.04	HA	3.17	.87	HA	2.99	.98	2 nd	HA
3	CD-ROMs	2.99	1.07	HA	2.98	1.00	HA	2.98	1.04	3 rd	HA
4	E-Newspaper	2.91	.95	HA	3.08	.89	HA	2.98	.93	3 rd	HA
5	E-Magazines	3.02	.95	HA	2.75	.95	HA	2.91	.95	5 th	HA
6	Multimedia products	2.90	.97	HA	2.89	.88	HA	2.90	.93	6 th	HA
7	E-books	2.78	1.07	HA	2.88	.96	HA	2.82	1.02	7 th	HA

8	Online Databases	2.69	1.20	HA	2.93	1.01	HA	2.79	1.13	8 th	HA
9	OPAC	2.40	1.13	HA	2.69	1.03	HA	2.52	1.09	9 th	HA
Grand mean		2.84	.76	HA	2.95	.76	HA	2.88	.65		HA

Key: n= Number of respondents, N = Total number of respondents, SD = Standard Deviation, R = Ranking, D = Decision, HA = Highly Aware

Table 2 above shows the mean rating of the respondents on the level of awareness of PG students of Federal Universities of Agriculture Makurdi and Technology Minna on the Extent of Awareness of the Availability of the Electronic Information Resources.

Using the principle of real limit of number, the table depicts that the respondents were highly aware of all the nine (9) digital information resources listed therein. The overall mean showed that e-thesis (mean = 3.07) was ranked highest, while OPAC (Mean = 2.52) was ranked lowest in terms of the level of awareness of the PG students. Furthermore, analysis of the two federal universities indicates that in FUAM, e-magazines (mean = 3.02) was ranked highest, while OPAC (Mean = 2.40) was ranked lowest, while in FUTM, e-thesis (mean = 3.17) was ranked highest, while OPAC (Mean = 2.69) was ranked lowest.

Table 3: Mean Ratings of PG Students of Federal University of Agriculture Makurdi and Federal Universities of Technology Minna on impact of Utilization of Electronic Information Resources on the quality of research.

SN		Institutions						Overall N =378	R	D	
		FUAM n= 206			FUTM n=172						
		Mean	SD	D	Mean	SD	D	Mean	SD		
1	Use of E-books	3.20	1.01	GE	3.26	.92	GE	3.23	.97	1 ST	GE
2	Use of E- Newspapers	3.20	1.03	GE	3.25	.91	GE	3.22	.98	2 nd	GE
3	Use of E-Theses	3.22	.79	GE	3.17	.77	GE	3.20	.78	3 rd	GE
4	Use of information stored in CD-ROMs	3.12	1.02	GE	3.28	.98	GE	3.19	1.01	4 th	GE
5	Use of E-Magazines	2.91	1.21	GE	2.90	1.06	GE	2.91	1.15	5 th	GE
6	Use of Electronic Reference services	2.76	1.20	GE	2.96	1.04	GE	2.84	1.14	6 th	GE
7	Accessing other libraries via OPAC	2.57	1.23	GE	2.94	1.17	GE	2.72	1.22	7 th	GE
8	Use of Online Databases	2.52	1.10	GE	2.96	1.06	GE	2.70	1.10	8 th	GE
9	Use of E-journals	2.36	1.13	LE	2.68	1.12	GE	2.52	1.14	9 th	GE
Grand Mean		2.87	.43	GE	3.04	.65	GE	2.95	.45		GE

Table 3 shows the mean ratings of the respondents on the extent to which utilization of digital information resources contributed to the quality of research of the PG students of the universities under study.

Using the principle of real limit of number, the table shows that the respondents were of the opinion that all the listed electronic information resources contributed to a great extent on the quality of research of the PG students. The overall mean showed that, use of e-books (mean = 3.23) was ranked highest, while use of e-journals (Mean = 2.52) was ranked lowest as contributory factors to the quality of research of the PG students of the two federal universities. Furthermore, among the two universities under study, the analysis showed that, the use of e-theses (mean = 3.22) and the use of e-journals (Mean = 2.36) ranked highest and lowest respectively in FUAM, while the use of information stored in CD-ROMs (mean = 3.28) was ranked highest, and the use of e-journals (Mean = 2.68) was ranked lowest in FUTM.

Table 4: Mean Ratings of PG Students of Federal University of Agriculture Makurdi and Federal University of Technology Minna on the Challenges that Inhibit the Utilization of Electronic Information Resources.

SN	Challenges	Institution						Overall		R	D
		FUAM n= 206			FUTM n=172			N=378			
		Mean	SD	D	Mean	SD	D	Mean	SD		
1	Lack of formal training on Internet use	3.26	.91	A	3.55	.73	A	3.38	.85	1 ST	A
2	Server slowness	3.34	.80	A	3.43	.75	A	3.38	.78	1 st	A
3	High cost of 'air time' for browsing	3.25	.95	A	3.35	.88	A	3.29	.92	3 rd	A
4	Lack of skill to access digital information resources in local and foreign databases	3.25	.92	A	3.29	.83	A	3.27	.88	4 th	A
5	Epileptic power supply	3.10	.85	A	3.27	.69	A	3.17	.79	5 th	A
6	Non-availability of online database	2.59	1.13	A	3.02	.94	A	2.77	1.08	6 th	A
7	Inadequate Bandwidth	2.67	1.13	A	2.54	1.09	A	2.58	1.12	7 th	A
8	Network problems	2.61	1.15	A	2.53	1.11	A	2.58	1.13	8 th	A
9	Inadequate number of computers to access digital information resources	2.59	1.15	A	2.48	1.05	A	2.55	1.11	9 th	A
Grand Mean		2.96	.65	A	3.05	.34	A	3.00	.54		

Table 4 shows the mean ratings of the respondents on challenges that inhibited the utilization of electronic information resources and services. Using the criterion mean of 2.50, the results of the data analysis revealed that the respondents accepted that the entire nine (9) items listed were linked to factors which inhibited the utilization of electronic information resources. This is so because the mean values were all above the cut off mean of 2.50 on a four-point scale. However, the overall mean showed that lack of formal training on internet use (mean = 3.38) was ranked highest, while inadequate number of computers to access digital information

resources (Mean = 2.55) was ranked lowest among the challenges associated with the access and use of electronic information resources by the PG students.

Nevertheless, the table indicated that in federal university of Agriculture Makurdi, server slowness (mean = 3.34) was ranked highest, while Inadequate number of computers to access digital information resources (Mean = 2.40) was ranked lowest, while in federal university of technology Minna, lack of formal training on Internet use (mean = 3.55) was ranked highest, while inadequate number of computers to access digital information resources (Mean = 2.48) was ranked lowest as challenges that inhibited the utilization of digital information resources.

DISCUSSION OF FINDINGS

The discussion of findings is presented under the following sub headings in line with the purpose of the study:

Extent of Awareness of Availability of Digital Information Resources and Services.

The findings of the study indicate that, the PG students of the universities under study were highly aware of all the nine (9) digital information resources listed in the table. These resources included e-theses, e-journals, CD-ROMs, e-newspapers, e-magazines, multimedia products, e-books, online databases, and OPAC. The overall mean showed that e-thesis ranked highest, while OPAC ranked lowest in terms of the level of awareness of the PG students. Furthermore, analysis of the individual universities under study revealed that in FUAM, e-magazines ranked highest, while OPAC ranked lowest, while in FUTM, e-thesis is ranked highest while OPAC still ranked lowest. The findings agree with those of Pauline (2013) who discovered that majority of the students in Redeemers' University, Ede were aware of the available electronic resources in their library such as CD ROMs, e- books, online databases, e-journals among others. Similarly, Sunil (2011), Baljinder and Rama (2009) in their separate works observed that, users are aware of the availability of digital resources in their libraries particularly, electronic journals.

Kinds of Electronic Information Resources Accessible to PG Students.

Availability of information sources does not necessarily imply its accessibility, because the source may be available but access to them may be prevented for one reason or the other. The findings on the kinds of electronic information resources accessible to PG students shows that eight out of the nine identified digital resources that is, online databases, e-journal, e-books, CD-ROMs, e-newspaper, e-magazine, e-thesis and multimedia products were accessible to PG students in the university libraries under study while OPAC (Online Public Access Catalogue) was the only digital resource that was not accessible to the PG students of FUTM. This supports the study of Sani, and Tihamiyu, (2005) who observed non-availability and use of OPACs in most universities in Nigeria. The researcher equally shares these views because a visit to most university libraries showed a near absence of OPAC. Even where the OPAC existed, it was usually not functional.

The Extent to which Access and Use of Digital Information Resources and Services Contribute to the Quality of Research

Access and use of electronic information resources have impact on the competence level of an individual and improves the intellectual activity necessary for research. electronic information resources allow researchers to directly access and use the materials which cannot be found otherwise. The findings of this study regarding the impact of access and use of digital information resources such as the use of e-books, e-newspapers, e-theses, e-journals, information stored on CD-ROMs, e-magazines, electronic reference services, accessing other libraries via OPAC, and use of Online databases revealed that, these resources contributed to a great extent on the quality of research of the PG students of the universities under study. This is in line with the findings of Imhonopi & Urim (2011) that the use of Internet services had aided the respondents to publish their works and that most of the respondents depended on Internet services to enhance their research efforts. Brice (2000) also reported that the availability of e-journals and university websites have high positive influence on students' academic research. In the same vein, Olalekan, Saturday & Saheed (2013) discovered a very high positive influence of ICT on research outputs of students.

Challenges Associated with the PG Students' Access and Use of Digital Information Resources and Services

Despite the fact that PG students were aware and used digital information resources for research, some problems were still discovered from the study to be militating against the effective use of these resources among the PG students. The findings of the study revealed lack of formal training on internet use, server slowness, high cost of air time for browsing, inadequate skills to access digital information resources in local and foreign data bases, epileptic power supply, slow bandwidth, inadequate online databases, network problems and inadequate numbers of computers. These findings are in line with those of Lucky (2015) who discovered that, epileptic power supply, non-availability of online databases, inadequate number of computers to access digital information resources, inadequate bandwidth; network problems, lack of skill to access digital information resources in local and foreign databases, lack of formal training on Internet use, server slowness and frequent breakdown of digital resources are constraints to students effective use of digital information resources in university libraries.. Similarly, a study carried out by Ndubisi and Udo (2013) 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. These conform to the views of the researcher that in spite of the numerous potentials of digital resources, the benefits are yet to be fully harnessed particularly by PG students for research and other academic work.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. The management of university libraries should improve on the provision of electronic resources such as OPAC and to create more awareness so as to enhance patronage of the library services.

2. The universities should also meet the ICT training needs of the students and library staff through organising workshops, seminars, conferences, orientations; and attendance should be made compulsory for all the students and staff.
3. Government should support and provide more stable power supply and university authorities to supplement this power supply by providing stand-by generating sets to all departments in the universities.
4. University authorities should launch free internet services with high speed bandwidth on the campuses and should make it available to the libraries and other staff in their offices.

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