

The Use of Electronic Information Resources in Tertiary Institutions Libraries in Kano Metropolis

¹Hafsat Muhammad Abubakar, ²Bappah Magaji Abubakar, (PhD)

^{1,2}Department of Library and Information Sciences,

Bayero University, Kano

¹hafsat20017@gmail.com, ²bmabubakar.lis@buk.edu.ng, magaji02@yahoo.com,
bmagaji02@gmail.com

Abstract

The study investigated the use of electronic information resources in tertiary institution libraries in the Kano metropolis. The objectives of the study were to; find out the types of electronic information resources (EIRs) that are used in tertiary institutions libraries in the Kano metropolis, determine the extent of use of the electronic information resources in the libraries and identify the challenges associated with the use of electronic information resources in the tertiary institutions' libraries. A quantitative research methodology with a cross-sectional survey design was employed for the study and questionnaire was used to collect data from the respondents. The Taro Yamane formula was used to select three hundred and fifty-eight (358) respondents to constitute the sample size for the study from a population of forty thousand nine hundred and forty-eight (40,948) spread across the eight tertiary institutions in Nigeria. Descriptive statistics was used in analyzing the data with tables to explain. The findings from the study revealed that most of the available e-resources in the libraries studied were not sufficiently used by the users. The users were also faced with the challenges such as very slow network, limited computer terminals, lack of awareness about the existence of EIRs, lack of technical skill by the users, erratic power supply, poor facilities, inaccessibility of EIRs, lack of cooperation from the library staff and lack of confidence in the use of EIRs among others. The study recommends that the libraries should endeavour to employ more professional and competent librarians, more computers with increased internet bandwidth should be provided to the library. Also, staff should be cooperating and assisting the users to search, find and access their needed information, the libraries should employ various strategies to create awareness about the existence of electronic information resources to improve their usage.

Keywords: *Electronic information resources, Use, Tertiary institution libraries, Kano metropolis.*

Introduction

Academic libraries refer to those libraries established in tertiary institutions to support and strengthen the academic activities of the tertiary institutions. They include libraries found in universities, colleges of education, polytechnics and other post-secondary education institutions. Ganguly and Bhar (2018), see the academic library as the type of library which is associated with every academic institution to help students, teachers and learners to solve their problems and upgrade their knowledge base by acquiring new concepts, information and thoughts. The main function of academic libraries according to Hussain, Vashistha and Jimah (2018), is to provide resources and information services to achieve the overall objectives of the parent institution's education and research programmes. The role of academic libraries is so important that Muhammad (2015), emphatically stated that academic library resources and services are the

pride of any academic community because without them there can never be high-quality research and graduates.

Abubakar (2011), noted that the global trend is now characterized by a fundamental shift from traditional information to an electronic environment where the emphasis is placed on the acquisition of electronic information resources such as e-books, e-journals, as well as online databases. Manjack, Dangani and Fari (2019), further amplified that this has created a major shift from the traditional set-up of the library which focuses on the physical collection of information resources, to a stage where information is predominantly stored in digital formats. Therefore, academic libraries are expected to provide information resources both in print and electronic formats to support students, staff and faculty in their research and pursuit of education to enable the institution to achieve its objectives.

Electronic information resources refer to sources that are available in electronic form, it may be full-text articles, journals, books, databases, photographs, images, music pictures and other multimedia. Iroaganachi and Izuagbe (2018), considered electronic information resources as resources in an electronic format that can only be accessed with the use of a computer/network technology while some must be accessed through the Internet. These include e-books, e-journals, online databases, CD-ROM, and Online Public Access Catalogue (OPAC) among others. Electronic information resources have many advantages over print materials such as easy access, access to multiple information resources, up-to-date information, long time preservation, easy and remote access to the users and several users can access the same material at the same time without hindrance (Abubakar and Yar'adua, 2021).

The use of electronic information resources refers to the utilisation of electronic information resources to the full extent of getting the required information through the Internet. It can also be seen as searching, browsing, examining and visiting electronic information resources and/or services. Kabara (2016), noted that the dramatic development in information and communication technology has significantly enhanced the use of electronic resources and services, by extension optimum use of information resources and services in a given library is an indication that the library is meeting its primary responsibility of supporting the objectives of its parent institution. It is against this backdrop that this study investigated the use of electronic information resources in tertiary institutions libraries in the Kano metropolis.

Statement of the problem

Academic libraries have a primary obligation that is centred on meeting the information needs of the members of their institutions. The collections in academic libraries should include all types of information resources to satisfy the information needs of the users. Electronic information resources are becoming more and more important for the academic community. Thus, libraries, especially those in tertiary institutions are making serious efforts toward getting electronic information resources available for use. Uche and Imo (2017), considered electronic information resources as soft copies of available print information resources which are accessible electronically through computers and associated technologies. The format of these resources could be books, journals, magazines, music, films and newspapers to mention just a few.

Despite the several advantages of electronic information resources and their positive effects on research and indeed all scholarly activities, observations and experience have revealed that these resources are grossly underutilised by the users in many tertiary institutions in Nigeria and indeed in tertiary institutions in Kano metropolis due to various reasons such as inadequate facilities or lack of maintenance culture, and even where these facilities are in place, the potential users of these information resources are not making use of the valuable resources owing to inaccessibility, lack of adequate ICT literacy as well as slow or unreliable Internet connection, among others, which resulted in low-level use of the resources. Also, the literature review shows that even though many scholars have contributed to the area of electronic information resources through research, none of such research focuses on tertiary institutions' libraries in the Kano metropolis. It is in view of the above, that the researchers seek to examine the use of electronic information resources in tertiary institution libraries in the Kano metropolis.

Objectives of the study

The main objective of this study is to investigate the use of electronic information resources in tertiary institutions' libraries in the Kano metropolis. The specific objectives are to:

1. find out the types of electronic information resources that are frequently used in tertiary institutions libraries in the Kano metropolis.
2. determine the extent of use of electronic information resources in tertiary institutions libraries in the Kano metropolis
3. identify the challenges associated with the use of electronic information resources in tertiary institution libraries in the Kano metropolis.

Research hypothesis

There is no statistically significant relationship between gender and the use of electronic information resources in Kano metropolis.

Literature review

Technology has penetrated all areas of life and the use of Information and Communication Technology (ICTs) is commonplace in the 21st century. Libraries use ICTs for better services and satisfying diverse users' needs. With the advancements in ICTs, electronic information resources are now available for use in libraries. According to Sethi and Panda (2012), electronic information resources refers to that kind of document in digital formats which are made available to library users through a computer-based information retrieval system. Use can be seen as a process or act of application and integrating electronic information resources to accomplish a task or desire. Different types of electronic information resources are now in existence including, e-journals, e-books, CDs/DVDs, databases, e-theses, and e-newspapers among others (Abubakar and Yar'adua, 2021).

Kumari (2015), defined the use of electronic information resources as searching, browsing, examining and visiting an e-resource and/or service by a user while Ankrah and Achemampong (2017), asserted that the use of electronic information resources ensures easy retrieval of information and helps to expand students' knowledge base. Electronic information resources have become important sources of information in academic libraries such that it has broadened the information base of academic libraries and ensured the ready availability of electronic information to users (Ankrah and Atuese, 2018).

Many studies related to electronic information resources in academic libraries have been conducted by scholars both within and outside the country. For instance, Amidu, Jibril and Ayodele (2021), investigated electronic resources utilisation by postgraduate students of Nasarawa State University, Keffi, Nigeria through a survey research design. The study found among others; that CD-ROM, Internet, e-journals and e-books were available in the university. In terms of the challenges affecting the use of EIRs, the study found that lack of search skills, irregular subscription of subject databases, poor ICT facilities as well as erratic power supply were the major threats to the use of EIRs.

Leonard, Hamutumwa and Mnubi-Mchombu (2020), studied the use of e-resources by the Faculty of Law's academic staff at the University of Namibia through qualitative and quantitative research methods. The study established that most of the respondents were aware of the e-resources provided by the University of Namibia Library. Also, the respondents used e-resources mainly for research, publication and teaching functions. The challenges identified were irregular training, bandwidth issues and limited searching skills were the major obstacles affecting the use of electronic information resources. Similarly, Sejane (2017), in Lesotho found that budget cuts, low Internet bandwidth, lack of up-to-date ICT infrastructure, inadequate searching skills and high cost of subscription as some of the major threats to affecting the access and use of EIRs in academic libraries in Lesotho.

In a study conducted by Bankole, Ajiboye and Otunla (2015), it was found that 92.4% of the respondents at the Federal University of Agriculture, Abeokuta, had used electronic information resources, with 51.8% of them being frequent users. Likewise, Konappa (2014) in India conducted an analytical study on the use of electronic resources and found out that the majority of 209 (32.86%) of the respondents at university libraries of Tirupati used electronic information resources everyday and have become familiar with electronic information resources. Meanwhile, Sambo, Ntogo and Eda (2022), investigated the challenges faced by undergraduates in the use of electronic information resources in universities in Southwest Nigeria through a descriptive survey design. The study found that high cost of access, power outage, lack of proper maintenance as well as poor funding of library services are the major challenges affecting the use of EIRs in universities. Babu and Sivaraman (2020), examined the utilisation of electronic information resources and services by the students of engineering colleges in Bangalore City, India through a quantitative approach. The study established among others: that majority of the respondents use e-resources to download data or files for social networking. Also, the majority of the respondents devote a substantial number of hours daily to accessing e-resources services.

Abubakar and Yar'adua (2021), conducted a study on the use of electronic information resources (EIRs) in academic libraries in Katsina State, Nigeria through a quantitative approach. The study revealed that inadequate computers, poor Internet services, erratic power supply as well as lack of searching skills as some of the major challenges affecting the use of EIRs in the academic libraries studied. In the same vein, Nkoye and Nsanta (2016); Urhiewhu and Omah (2016), found out in their various studies that the majority of the respondents use electronic information resources frequently. This indicated that electronic information resources have been widely used in academic libraries.

Research Methodology

To achieve the objectives of this research, a quantitative research methodology with a cross-sectional survey design was adopted for the study. The population of the study was forty thousand nine hundred and forty-eight (40,948) registered users of the eight (8) tertiary institutions that have available electronic information resources in their libraries in Kano metropolis, which include; Bayero University, Kano, Yusuf Maitama Sule University, Kano, Skyline University Nigeria, Kano, Federal College of Education, Kano, Sa'adatu Rimi College of Education, Kano, Federal College of Agricultural Produce Technology, Kano, College of Nursing and Midwifery, Kano and Aminu Kano College of Islamic and Legal Studies, Kano. The size of the respondents was calculated using a formula provided by Taro Yamane (1967) as follows:

$$n = \frac{N}{1 + Ne^2}$$

Where n = corrected sample size

N = population size

e = margin of error (moe) e = 0.05 based on the research condition.

$$\text{Therefore, } n = \frac{42454}{1 + 42454 \times (0.05)^2} = 396.3$$

However, to make up for non-response errors or attrition or likes, the sample size was rounded up to 400. The sample size was distributed proportionately according to the population of each of the institutions involved in the study. The proportionate sampling technique refers to the selection from each sampling unit of a sample that is proportionate to the size of the unit.

Therefore, the formula is:

$$\frac{N}{TP} \times S$$

Questionnaire developed by the researchers was used for the study and was administered to the respondents. Descriptive statistics using frequencies and percentages with tables to explain were used in reporting the data collected from the respondents. Overall, 400 copies of the questionnaire were distributed to the respondents out of which 358 were properly filled, returned and found usable for the analysis representing a 89.5% response rate, which was considered adequate for the study.

Findings of the study

This part presents the results of the study and discussions. Every section is based on the applicable research objective that guided the study.

Table 1: Distribution of Respondents by Tertiary Institutions in Kano metropolis

S/N	Name of Institution	Questionnaires Administered	Questionnaires Collected	Questionnaires Not Collected
1.	Bayero University, Kano	186	161	25
2.	Yusuf Maitama Sule University, Kano	42	38	4
3.	Skyline University, Nigeria	3	3	--
4	Federal College of Education, Kano	144	131	13
5	Federal College of Agricultural Produce Technology, Kano	3	3	--
6	Sa'adatu Rimi College of Education, Kano	5	5	--
7	Aminu Kano College of Islamic and Legal Studie, Kano	6	6	--
8	College of Nursing and Midwifery (School of Nursing)	11	11	--
Total		400	358	42

Table 1 shows the distribution of the respondents by institutions and their response rates. Bayero University, Kano had the highest number of respondents with 161 returned copies of the questionnaires; followed by Federal College of Education, Kano, Yusuf Maitama Sule University, Kano, College of Nursing and Midwifery, Kano, Aminu Kano College of Islamic and Legal Studies, Kano and Sa'adatu Rimi College of Education, Kano with 131, 38, 11, 6 and 5 respondents respectively, while Skyline University Nigeria, Kano and Federal College of Agricultural Produce Technology, Kano each had 3 respondents respectively.

Table 2: Gender of the Respondents Tertiary Institutions in Kano metropolis

Gender	Frequency	Percentage
Male	248	69.3%
Female	110	30.7%
Total	358	100.0%

Table 2 shows that 248 (69.3%) of the respondents were male; while 110 (30.7%) were female. This shows that majority of the respondents were male. This represents the trend where most institutions in the country are normally dominated by males.

Use of Electronic Information Resources in Tertiary Institutions Libraries in Kano metropolis

The respondents were asked to indicate the frequency of the use of electronic information resources in their libraries. The summary of their responses is presented in Table 3.

Table 3: Use of Electronic Information Resources in Tertiary Institutions Libraries in Kano metropolis

SN	Electronic Information Resources	Daily	Weekly	Fortnightly	Monthly	Occasionally	Never
		<i>Freq%</i>	<i>Freq%</i>	<i>Freq%</i>	<i>Freq%</i>	<i>Freq%</i>	<i>Freq%</i>
1	E-books	133 (37.2%)	56 (15.6%)	9 (2.5%)	14 (3.9%)	52 (14.5%)	94 (26.3%)
2	E-journals	77 (21.5%)	52 (14.5%)	22 (6.1%)	28 (7.8%)	51(14.2%)	128 (35.8%)
3	E-newspapers	93 (26.0%)	50 (14.0%)	26 (7.3%)	13 (3.6%)	47 (13.1%)	129 (36.0%)
4	CD-ROM	55 (15.4%)	34 (9.5%)	21 (5.9%)	26 (7.3%)	48 (13.4%)	174 (48.6%)
5	Databases e.g. HINARI, AGORA, Jstore etc.	32 (8.9%)	33 (9.2%)	21 (5.9%)	21 (5.9%)	52 (14.5%)	199 (55.6%)
6	Wireless Internet	141 (39.4%)	45 (12.6%)	23 (6.4%)	21 (5.9%)	75 (20.9%)	53 (14.8%)
7	Dedicated Library Websites	67 (18.7%)	50 (14.0%)	21 (5.9%)	24 (6.7%)	63 (17.6%)	133 (37.2%)
8	Library Portal	84 (23.5%)	39 (10.9%)	32 (8.9%)	22 (6.1%)	60 (16.8%)	121 (33.8%)
9	Internet Access	123 (34.4%)	44 (12.3%)	28 (7.8%)	16 (4.5%)	63 (17.6%)	84 (23.5%)
10	OPAC	39 (10.9%)	30 (8.4%)	26 (7.3%)	31 (8.4%)	39 (10.9%)	119 (53.9%)
11	E-theses and Dissertation	39 (10.9%)	33 (9.2%)	27 (7.5%)	20 (5.6%)	35 (9.8%)	204 (57.0%)
12	E-magazines	62 (17.3%)	53 (14.8%)	22 (6.1%)	23(6.4%)	49 (13.7%)	149 (41.6%)
13	E-mail	103 (28.8%)	42 (11.7%)	29 (8.1%)	24 (6.7%)	50 (14.0%)	110 (30.7%)
14	E-abstracts	48 (13.4%)	34 (9.5%)	25 (7.0%)	23 (6.4%)	44 (12.3%)	184 (51.4%)
15	E-indexes	55 (15.4%)	25 (7.0%)	27 (7.5%)	22 (6.1%)	48 (13.4%)	181 (50.6%)
16	E-dictionary, Encyclopedia etc.	96 (26.8%)	47 (13.1%)	18 (5.0%)	24 (6.7%)	49 (13.7%)	124 (34.7%)
17	Search engines	96 (26.8%)	32 (8.9%)	25 (7.0%)	23 (6.4%)	50 (14.0%)	132 (36.9%)
18	DVD	51 (14.2%)	32 (8.9%)	22 (6.1%)	32 (8.9%)	57 (15.9%)	164 (45.8%)

19	Webpage Resources	80 (22.3%)	38 (10.6%)	24 (8.1%)	21 (5.9%)	51 (14.2%)	139 (38.8%)
20	Institutional Repository	52 (14.5%)	32 (8.9%)	28 (7.8%)	25 (7.0%)	52 (14.5%)	169 (47.2%)
21	E-audio-visual Resources	63 (17.6%)	33 (9.2%)	26 (7.3%)	32 (8.9%)	49 (13.9%)	155 (43.3%)
22	Any other (please specify)						

Table 3 shows the results of the data collected and analyzed on the frequency of use of electronic information resources. The findings revealed that the use of wireless Internet and e-books had the highest frequency with 141 (39.4%) and 133 (37.2%) respectively. Similarly, the majority of the respondents 204 (57.0%) had never used e-theses and dissertations, followed by 199 (55.6%) who had never used databases. In addition, the respondents were asked to specify how often they used any other available electronic information resources not mentioned and none of the respondents indicated using any other available electronic information resources apart from the ones provided.

The extent of Use of Electronic Information Resources in Tertiary Institutions Libraries in Kano metropolis

The respondents were asked to indicate the extent to which they use electronic information resources in their libraries. The summary of their responses is presented in Table 4.

Table 4: Extent of Use of Electronic Information Resources in Tertiary Institutions Libraries

SN	Electronic Information Resources	Highly Use -HU	Moderately Use -MU	Rarely Use -RU	Undecided	No Idea
		<i>Freq%</i>	<i>Freq%</i>	<i>Freq%</i>	<i>Freq%</i>	<i>Freq%</i>
1	E-books	118(33.0%)	79 (22.1%)	80 (22.3%)	40 (11.2%)	41 (11.5%)
2	E-journals	64 (17.9%)	87 (27.3%)	(21.3%)	50 (14.0%)	45 (12.6%)
3	E-newspapers	70 (19.6%)	71 (19.8%)	106 (29.6%)	63 (17.6%)	48 (13.4%)
4	CD-ROM	55 (15.4%)	57 (15.9%)	84 (23.5%)	78 (21.8%)	84 (23.5%)
5	Databases e.g. HINARI, AGORA, Jstore etc.	45 (12.6%)	72 (20.1%)	78 (21.8%)	71 (19.8%)	92 (25.7%)
6	Wireless Internet	115 (32.1%)	104 (29.1%)	68 (19.0%)	34 (9.5%)	37 (10.3%)
7	Dedicated Library Websites	74 (20.7%)	80 (22.3%)	87 (24.3%)	73 (20.4%)	44 (12.3%)
8	Library Portal	93 (26.0%)	68 (19.0%)	81 (22.6%)	62 (17.3%)	54 (15.1%)
9	Internet Access	126 (35.1%)	89 (24.9%)	67 (18.7%)	39 (10.9%)	37 (10.3%)
10	OPAC	40 (11.2%)	74 (20.7%)	78(21.8%)	71 (19.8%)	95 (26.5%)
11	E-theses and Dissertation	45 (12.6%)	58(16.2%)	79 (22.1%)	77 (21.5%)	99 (27.7%)
12	E-magazines	74 (20.7%)	65 (18.2%)	73 (20.4%)	74 (20.7%)	72 (20.1%)
13	E-mail	96 (26.8%)	63 (17.6%)	77 (21.5%)	65 (18.2%)	57 (15.9%)
14	E-abstracts	49 (13.7%)	65 (18.2%)	68 (19.0%)	85 (23.7%)	91 (25.4%)
15	E-indexes	54 (15.1%)	48 (13.4%)	77 (21.5%)	91 (25.4%)	88 (24.6%)
16	E-dictionary, Encyclopedia etc.	96 (26.8%)	57 (15.9%)	70 (19.6%)	75 (20.9%)	60 (16.8%)
17	Search engines	91 (25.4%)	54 (15.1%)	70 (19.6%)	75 (20.9%)	68 (19.0%)
18	DVD	58 (16.2%)	58 (16.2%)	64 (17.9%)	95 (26.5%)	82 (22.9%)
19	Webpage Resources	78 (21.8%)	55 (15.4%)	83 (23.2%)	71 (19.8%)	71 (19.8%)
20	Institutional Repository	59 (16.5%)	41 (11.5%)	73 (20.4%)	79 (22.1%)	106 (29.6%)
21	E-audio-visual Resources	94 (26.3%)	54 (15.1%)	39 (10.9%)	72 (20.1%)	99 (27.7%)
22	Any other (please specify)					

Table 4 shows the result on the extent of use of electronic information resources. It revealed that e-resources such as Internet access 126 (35.1%), e-books 118 (33.0%), wireless Internet 115 (32.1%), e-audio-visual resources 99 (27.7%), e-mail 96 (26.8%), e-dictionary/encyclopedia 96 (26.8%), library portal 93 (26.0%), search engines 91 (25.4%) and e-magazines 74 (20.7%) were highly used; while DVD 58 (16.2%) was moderately used. The rest of e-resources listed were rarely used in tertiary institutions libraries in Kano metropolis. In addition, the respondents were asked to specify the extent to which they used any other available electronic information resources not mentioned and none of the respondents indicated the extent of using any other available electronic information resources apart from the ones provided.

Challenges Affecting the Use of Electronic Information Resources in Tertiary Institution Libraries in Kano metropolis

The respondents were asked to indicate the challenges affecting the use of electronic information resources in their libraries. The summary of their responses is presented in Table 5.

Table 5: Challenges Affecting the Use of Electronic Information Resources in Tertiary Institution Libraries

SN	Challenges	Tick
		Freq%
1	Very slow network	273 (76.3%)
2	The library has limited computer terminals	255 (71.2%)
3	Lack of awareness about the existence of electronic information resources	243 (67.9%)
4	Lack of technical skills by the users	227 (63.4%)
5	Erratic power supply	226 (63.1%)
6	Poor facilities	226 (63.1%)
7	Inaccessibility of electronic information resources	220 (61.5%)
8	Lack of cooperation from the library staff	208 (58.1%)
9	Lack of confidence in the use of electronic information resources	208 (58.1%)
10	Lack of conducive environment	182 (50.8%)
11	Irrelevant information resources	170 (47.5%)

From Table 5, the majority of the respondents 273 (76.3%) were of the view that a very slow network was the major challenge associated with the use of EIRs, another 255 (71.2%) affirmed that the library has limited computer terminals, 243 (67.9%) claimed that lack of awareness about the existence of EIRs was the problem associated with the use of EIRs. Similarly, 227 (63.4%) indicated that lack of technical skill by the user hindered their ability to use EIRs, 226 (63.1%) confirmed that erratic power supply was the problem; another 226 (63.1%) said that poor facilities were the major challenge. The findings further indicated that 220 (61.5%) revealed that inaccessibility of EIRs was the problem; while 208 (58.1%) were of the view that lack of cooperation from the library staff and lack of confidence in the use of EIRs were the problems respectively. In addition, 182 (50.8%) of the respondents opined that lack of a conducive

environment was the challenge; and 170 (47.5%) noted that irrelevant information resources were the challenge associated with the use of EIRs in their libraries.

Testing the Null Hypothesis

Hypothesis: There is no significant relationship between gender and the use of electronic information resources

Table 6: Relationship between Gender and Use of Electronic Information Resources

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	106.622a	98	.259
Likelihood Ratio	131.515	98	.013
Linear-by-Linear Association	.086	1	.770
N of Valid Cases	358		

Table 6 indicates the Chi-Square on the relationship between gender and the use of electronic information resources. $\chi^2 = (98)106.622a$, $p = 0.259 < 0.5$. Hence, the null hypothesis is accepted, as such, there is no statistically significant relationship between gender and the use of electronic information resources.

Discussion of the Findings

The findings revealed that most of the available e-resources in the libraries under study were not sufficiently used by the users. Wireless Internet and e-books were recorded as the frequently used e-resources which are being used for different purposes in the libraries. This goes in line with Tunji, Abdulmumin and Adisa (2011), who reported the use of e-books at a frequency of 86 (38.2%) with less use reported for the bibliographic database with a frequency of 57(25.3%) at the University of Ilorin. The implication of the finding of the present study is that the use of wireless Internet and e-books by the majority of the respondents could be because they are more popular and easily accessible than any other e-resources in the libraries, while lack of awareness about the existence of databases in the libraries might have led to none use by the majority of the respondents. Hence, user orientation needs to be improved upon to create awareness about the resources available among the library users.

On the extent of the use of electronic information resources, the findings revealed that e-resources such as e-books, wireless Internet, library portal, Internet access, e-magazines, e-mail, e-dictionary/encyclopedia, search engines and e-audio-visual resources were highly used, DVD was moderately used while the rest of e-resources listed were rarely used in the tertiary institutions' libraries in Kano metropolis. This goes in line with the findings of Abubakar, Gupiyem and Banwar (2017), who found that postgraduate students in Nigerian universities' libraries frequently used only five of the 16 e-resources listed which include, e-journals, e-mail, e-newspapers, e-magazines and research reports. They do not use all the 11 other e-resources to any appreciable extent.

The findings on the challenges associated with the use of electronic information resources in the libraries under study revealed that the majority of the respondents indicated that a very slow network was the major challenge associated with the use of EIRs, followed by limited computer terminals, lack of awareness about the existence of EIRs, lack of technical skill by the users, erratic power supply, poor facilities, inaccessibility of EIRs, lack of cooperation from the library

staff and lack of confidence in the use of EIRs were the major problems respectively. This aligns with the findings of Onwueme and Lulu-Pokubo (2017), who identified poor Internet connection and inadequate or non-availability of the facilities to access the EIRs as the main challenges in faced by users in Port-Harcourt polytechnic. Amidu, Jibril and Ayodele (2021), found that lack of search skills, irregular subscription to subject databases, poor ICT facilities as well as erratic power supply were the major threats to the use of EIRs by postgraduate students in Nasarawa State University, Keffi. Also, Abubakar and Yar'adua (2021), found that inadequate computers, poor Internet services, erratic power supply as well as lack of searching skills are some of the major challenges affecting the use of EIRs in academic libraries in Katsina State, Nigeria. Similarly, Muhammad (2015), also confirmed that the most critical challenges when using EIRs in university libraries in Niger State include Internet connectivity, lack of awareness of the availability of EIRs, very slow network and lack of constant power failure.

Conclusion and Recommendations

The present study has explored the use of electronic information resources in tertiary institutions' libraries in the Kano metropolis. The study has established that although most of the available e-resources in the libraries studied were not sufficiently used by the users, which is attributed to challenges such as a very slow network, limited computer terminals, and lack of awareness about the existence of EIRs to mention just a few. It is apparent from the findings that the situation of electronic information resources in the tertiary institutions in the Kano metropolis is far from been easy as a result of the aforementioned. Therefore, there is an urgent need for these libraries to urgently address the situation immediately.

Based on the findings from the study, the following recommendations are offered:

1. The libraries should endeavour to employ more professional and competent librarians who would encourage and assist users in using electronic information resources.
2. More computers with increased Internet bandwidth should be provided for efficient and effective use of the resources.
3. The library staff should be more proactive to provide better service to the users by cooperating and assisting the users in searching, finding and accessing their needed information.
4. The libraries should also strive to ensure that various strategies are employed to create awareness about the existence of electronic information resources in the libraries which is vital.

References

- Abubakar, B.M. (2011) Academic Libraries in Nigeria in the 21st Century. *Library Philosophy and Practice*. Available at: <http://www.researchgate.net/publication/277262052> accessed 12/12/2021
- Abubakar, B.M. & Yar'adua, K.I. (2021). The use of electronic information resources in academic libraries in Katsina State, Nigeria. *University of Ibadan Journal of Library and Information Science*, 4(1), 27-44.
- Abubakar, D., Gupiyem G. G. & Banwar M. (2017). Information Communication Technology accessibility as a correlate of e-resources usage among postgraduate students in Nigerian university libraries. *Journal of Applied Information Science and Technology*, Available at: <https://www.jaistonline.org> accessed 04 February 2022

- Amidu, G., Jibril, D.U. & Ayodele, R.O. (2021). Electronic resources utilization as a correlate of research output of postgraduate students in Nasarawa State University, Keffi, Nigeria. *University of Ibadan Journal of Library and Information Science*, 4(1), 67-86.
- Ankrah, E. & Acheampong, E.K. (2017) Students' use of electronic resources in University of Professional Studies, Accra, Ghana. *Journal of Information Science, System and Technology*, 1(2), 11-26
- Ankrah, E. & Atuese, D. (2018). The use of electronic resources by postgraduate students of the University of Cape Coast, Ghana. *Library Philosophy and Practice* (e-journal) Available at: <https://digitalcommons.unl.edu/libphilprac/1632> accessed 12/09/2021.
- Babu, K.M. & Sivaraman, P. (2020). Utilization of electronic information resources and services by students of engineering colleges, Bangalore City: A study. *Journal of Interdisciplinary Cycle Research*, 12(8), 1076-1091.
- Bankole, O.M., Ajiboye, B.A. & Otunla, A.O. (2015) Use of electronic information resources by undergraduates of Federal University of Agriculture, Abeokuta, Ogun State, Nigeria. *International Journal of Digital Library Services*, 5, 1-14
- Ganguly, A. & Bhar, D. (2018) Paradigm shift of libraries in the twenty-first century. *Research Gate*. Available at: https://www.researchgate.net/publication/325594875_F Retrieved 21/02/2021
- Hussaini, S., Vashistha R. & Jimah, H. (2018) Awareness and utilization of library resources by library users' of Nims University Central Library, Jaipur, India. *International Journal of Movement and Social Science*, 7(2), 1067-1078 Available at: www.ijmess.org accessed 02/03/2022
- Iroaganachi M. A. & Izuagbe, R. (2018). Comparative analysis of the impact of electronic information resources uses on research productivity of academic staff in Nigerian universities. *Library Philosophy and Practice* (e-journal).
- Kabara, A.U. (2016). Management and use of electronic information resources in Nigerian Air Force Institute of Information Technology (AFIT) Library, Kaduna. Masters' Dissertation: Department of Library and Information Sciences. Bayero University, Kano
- Konappa, K. (2014). Use of electronic information resources in university libraries of Tirupati (A.P): An analytical study. *International Journal of Library and Information Science*, 6(1), 5-13.
- Kumari, P. (2015). Procurement, management and use of e-resources in current library trends: Common issues. *International Journal of Digital Library Services*, 5(2), 150-159
- Leonard, A., Hamutumwa, M.N. & Mnubi-Mchombu, C. (2020). Use of electronic resources by law academics: A case study from the University of Namibia. *Collection and Curation*, 39(3), 57-68.
- Manjack, F.U., Dangani, B.U. & Fari, S.A. (2019) Utilization of electronic information resources by undergraduate students in university libraries in Gombe State, Nigeria. Available at <https://www.researchgate.net/publication/33152293> accessed 12 March 2022.
- Onwueme, G.A & Lulu-Pokubo (2017) Awareness and use of electronic resources among academic staff of Port-Harcourt Polytechnic. *Journal of Information Engineering and Application*, 7(3), 1-15.
- Sambo, A.S., Ntogo, G.G. & Eda, R. (2022). Challenges facing undergraduates in the use of electronic information resources in universities in Southwest Nigeria. *Handbook of Research on Emerging Trends and Technologies in Librarianship*. DOI: 10.4018/978-1-7998-9094-2.ch021. Available at: <https://www.igi-global.com/chapter/challenges-facing->

- undergraduates-in-the-use-of-electronic-information-resources-in-universities-in-southwest-nigeria/295205 accessed 09 March 2022.
- Sejane, L. (2017). Access to and use of electronic information resources in the academic libraries of the Lesotho library consortium. PhD dissertation. Department of Information Studies: University of KwaZulu-Natal, Pietermaritzburg, South Africa. Available at: https://ukzn-dspace.ukzn.ac.za/bitstream/handle/10413/14345/Sejane_Lefuma_2017.pdf?sequence=1&isAllowed=y accessed 10 March 2022.
- Sethi, B.B & Panda K.C. (2012) Use of e-resources by life scientists: A case study of Sambalpur University, India. *Library Philosophy and Practice*. Available at <http://digitalcommons.unl.edu/liphilprac> accessed 12 December 2021
- Tunji, B.M., Abdulmumin, I. & Adisa, M.Y. (2011). User Perception of electronic resources in the University of Ilorin, Nigeria (UNILORIN). *Journal of Emerging Trends in Computing and Information Science*, Vol. 2(11), 554-562. Available at: <http://www.cisjournal.org> <http://www.cisjournal.org> accessed 11/01/2021.
- Uche, I.H. & Imo, N.T. (2017). Electronic information resource sharing among university libraries in Southern Nigeria: Opportunities and challenges. *African Journal of Library, Archives and Information Science*, 27(1), 77-91.
- Urhiewhu, L.O. & Omaah, J.E. (2016) Levels of electronic information resources usage among undergraduate students in Taraba State University Library, Jalingo, Taraba State. *International Journal of Information and Technology (ASPL Journal Series)*, 2(1), 1-12.