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Availability of Electronic Libraries in Universities in Rivers State, Nigeria

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Abstract:

This study examined the availability of electronic library among students in universities in Rivers State. Three research questions were raised and three null hypotheses tested at 0.05 level of significance. Descriptive survey design was adopted in the study. A sample size of 400 male and 350 female students were purposely selected from the population of 6,419 registered students of the e-libraries in the three public universities. The instrument used for the generation of data was an 18-item questionnaire designed by the researcher titled Availability of Electronic Library in Universities Questionnaire (AELUQ). The instrument was validated with its reliability coefficient established at 0.89 using Cronbach alpha. Arithmetic mean ($\bar{X}$) and standard deviation were used to answer the research questions while z-test was used to test the null hypotheses. The study revealed that students can gain access to the e-library without difficult although the e-library cannot be accessed in all the departments and faculties. There is skilled Information and Communication Technology (ICT) personnel and librarians guide students to obtain good search results in different subject areas. E-libraries in Universities in Rivers State are generally found to be functional. There is no significant difference in the opinion of male and female students on the level of functionality of e-libraries in the universities. The study concluded that there is need to ensure its sustainability and upgrade from time to time to meet users need. It was recommended that e-libraries be distributed in departments and faculties, so that students can be encouraged to use them more often.

Keywords: Availability, electronic library, university

1. Introduction

Traditionally the library was a place where individuals visit to obtain information which is usually on hard copies; this means that information can only be gotten from books, journals, projects, newspaper publications and magazines. The only way to access information was by physically getting in touch with the library, this sometimes could be faced with challenges such as not having a library card or permit to access the library, lack of materials on the subject matter, insecurity, and many others. As a result of these challenges the researcher may be discouraged to continue in his/her quest for knowledge on a subject matter. Due to these problems the introduction of electronic library (e-library) now becomes relevant in reducing these difficulties. The E-library consist of electronic materials which are in digital form and analogue format such as video tapes, audio materials, CD and DVD, with the aim of making sure that information can be accessed sitting down in the comfort of our homes, offices, during lectures or study time. Because of its importance, every library needs to be upgraded to meet users' needs. Upgrading libraries have been of great concern, until the last two decades when digitalization shrunk the world into a manageable size. The use of Information and Communication Technologies (ICTs), the internet, electronic and telecommunication has made it increasingly easier to interact with people all over the world on a real time basis (Asodike 2017 & Nwokoro, 2017).

Libraries are valued as study grounds where students can work independently and undisturbed. It is a place made up of organized collection of items of various formats which could be in form of textbooks, journals, newspapers, reference materials, videos, compact disk (CD), digital video disk (DVD), and removable disks. Libraries also provide services required to assist people access information. Basheer and Razzag (2012) define the library as a central place where students can extract information in a peaceful and easiest way. If a library is well stocked with information it attracts students and researchers to increase their knowledge on a subject matter. Libraries provide room for interactions among

people of diverse population and age for study purposes, thereby motivating and supporting students in their academic quest. Due to the increase of interactions in libraries, there arises the need for a shift from the traditional ways where individuals visit the library for just reading and making references. The library system needs to embrace digitalization; digitalization employs Information and Communication Technologies (ICTs) as an important instrument in information analysis, information recovery, research as well as learning and teaching. Jacobs in Bassey and Odu (2015) stated that ICTs have brought about a rapid growth in the availability of electronic/digital information, and as a reservoir for topical issues in various fields of study among other things. Currently, ICT has been adopted in library systems and it is seen as the electronic library (e-library).

Electronic library can also be called Virtual library or digital library; it is a type of library where all materials are in electronic form. These digital materials may be in analogue formats and video tapes and it requires electronic equipment to access. Digital resources such as electronic books, journals, online database, conference papers and proceedings, electronic newspapers, magazines and technical reports are used in varied digital formats like Adobe Acrobat documents (.pdf), Webpages (Hypertext Mark-up Language (htm, html) and Active Server Page (asp). Due to its usefulness in teaching and learning, the electronic library should be efficient and effectively utilized. Thus, it requires computers, a high-speed internet access and network connectivity, very skilled personnel and efficient power supply. Modern libraries contain both electronic and print based resources; they help users to access information without the constraint that may arise due to finances or geographical location. They also provide more up-to-date information and widespread links to additional resources of interrelated subjects or content. The rapid growth of new technologies has changed the communication process and reduced the cost of communication for individuals. Electronic resources though seen as recent tools in libraries, have encouraged the use of information technologies. It has helped to solve academic problems, in other words, it has made academic work easier. Also, it has brought about a paradigm shift in teaching and learning from the rigorous system of a manual catalogue search for books and authors to an easier and faster electronic retrieval process which involves only a few taps on a computer device. Thus, a good library system with e-resources will help to improve academic performance of students.

Academic performance is concerned with the outcome of an educational exercise. It demonstrates the extent to which students have attained their educational goals and can be referred to as a record of details on how students cope with or accomplish tasks assigned to them by their teachers. Undoubtedly, academic environments require continuous learning, teaching and making researches to create new knowledge through the use of the library. However, an effective use of the library requires the help of a librarian. Research has shown that librarians can influence students' performance because they stand as the road map in the use of e-libraries. A good library that is adequately staffed, resourced and funded could lead to higher students' achievement regardless of the socio-economic or educational levels of the parents (Basheer and Razzag, 2012). Thus, connecting the classroom with strong networks that are fully loaded with library resources has great impact on students' performance.

The three universities in Rivers State namely the University of Port-Harcourt, Rivers State University and Ignatius Ajuru University of Education have incorporated the use of electronic libraries in order to enhance academic performance of students in the universities. The introduction of e-libraries in state and federal universities in Rivers state, no doubt has impacted on the students and their lecturers. The present-day university library cannot function properly without the use of an e-library, which is the focus of most universities in this 21st century. Their aim is to make sure that the library system operates in such a way that information can richly be assessed in digital, electronic or virtual forms. This process can only be achieved with the help of a web technology. Ward and Mervar (2003) stated that a library website is a powerful gateway that can be used to provide information; individuals need to make good use of it rather than using Google or some other sources for information, not knowing that most library sites can provide genuine, trustworthy and organised information instead of making use of the general internet.

Diaz in Abukar, Aminu and Hatiz (2014) emphasised on one importance of library website as the default page. The default page plays an important role; it helps to show case everything about the library website and can also be called a work station, both for users and librarians. It is a platform that arouses the interest of users and improves user's knowledge by making users know all that the library has to offer electronically. It is a reference point for users; information can be retrieved just at a touch of the click button. Hence, the library website should be made easier for use and made interactive for users to get access to quality information without many problems.

Figure 1 as shown below, explains that a portal should be interactive and users should be able to interface with ease using some of the tools on the software portal such as electronic reference service (customer intelligent searchers, my bookshelf) and personalization features (chat room to ask a librarian). Author biographies and book reviews, tables of contents, jacket image and other research tools can be activated using web software.

Figure 1: Library Portal Components
Adopted from (Pasquinelli, 2002, p.23)

1.1. Library Portal Component

A portal is a specially designed website that helps to segment information from diverse sources such as emails, online platforms and search engines. Thonsett-Scott and May (2009), Low (2003) and Hony, Thong, Wong and Tam (2002) recommended that a countdown software should be created alongside with the use of web portals because most university website or portals are underutilized. Abubakar et, al (2014) conducted a study to analyze university websites in Nigeria in terms of content of the site, their study was based on ascertaining their strengths and weaknesses, with an objective to analyse the contents of the Nigerian university library websites, ten universities namely John Harris Library University of Benin (UNIBEN), University of Lagos (UNILAG)Library, American University of Nigeria (AUN)Library, Kenneth Dike Library University of Ibadan (UI)Library, University of Nigeria Nsukka (UNN)Library, Kashim Ibrahim Library Ahmadu Bello University (ABU)Zaria, Donald E. U. Ekong Library University of Port Harcourt (UNIPOINT), Festus Agagbo Nwalo Nnamdi Azikiwe University (UNIZIK)Library, Nimbe Adedipe University of Agriculture Abeokuta (UNAAB)Library and University of Ilorin (UNILORIN)Library were used for the study with forty three (43) check list to guide the study. They found out that most of the information in Nigerian university websites is inadequate. They suggested among others that universities websites should be improved; also, the information on the sites should be rich enough to sell out the activities of the library. They also believe that the university library websites should be developed by National Universities Commission (NUC) for proper analyses, while librarian staff should be skilled in terms of web development.

The Donald E.U. Ekong Library of university of Port Harcourt was established between 1975 and 1976 when the school was instituted. With time there was an increase of activities in its circulation, technical and administrative units. In circulation, an individual has free access to movement and ease of access to materials, technical support of librarian to researchers and better administrative approach to ease utilization of library materials. In terms of circulation and technical services, activities such as lending, reference and acquisition of materials took place. Between 2006 and 2008 most of the units became functional and expanded with more branches established. Currently, the library has access to over 10 databases which gives access to large collection of journals, and other materials. It is connected to Health Internet Works Access to Research Initiative (HIWARI) with unique peer reviewed journals, more than 8,500 journals and 7,000 electronic books with a seating capacity of more than 2,000. It also has a bank or storage point for the United Nations Publications. The introduction of this library has been of great value to the state and the Niger Delta, measuring up with the current state of a modern library, with other additional roles such as keeping historical records or documentation of the university publications and current research publications. All these functions are handled by members of staff and the university itself (KANET, 2016).

The Rivers State University which until 2017 was known as the Rivers State University of Science and Technology (RSUST) operated what would best be regarded as a Print Library. The quest for an E-proof library was blessed by an initial donation of about 25 Desk top computers with an internet access VSAT and INTERCOM but without subscription to e-Data base, e-Journals and e-Books. Overtime, the library has improved with many more computer systems having full internet access, electronic database, ProQuest with subscription which gave access to e-Journals, and e-Books. The library provides quick access to information from both National and international libraries with less cost. It also provides a gateway to information resources and the use of digital technology, to acquire, process, preserve and disseminate information resources (Central Library, 2018). This feat is being achieved through the effort of multinational companies within the state and with the help of the state government.

Librarians in e-library section are part of the school system because they stand to drive e-library departments. Agbetuyi, Adegbilero-Iwari and Subair (2017) suggested that accreditation exercise should cut across librarians because of their role in enhancing student usage of the e-library facilities, and Quality Control Division (QCD) should be introduced to improve level of student academic performance, integrity and quality. The benefits of e-libraries are huge, such that institutions should make it evenly distributed within the school system and encourage students in its use. The electronic library is not a system that runs on its own because of its distributive nature, cutting across all aspects of the school community. A situation where individuals must cover distances to the main library in other to make use of the e-resources can be discouraging. To this effect, there is need for e-libraries to be decentralized such that it can be accessed in the departments and faculty level in higher institutions, to save time and energy.

Okiy (2005) pointed out that university libraries provide e-library services within and outside the universities to enable scholars retrieve information quickly from both instant and remote database as well as creating a need for library cooperation and consortium initiatives. A good library site should be loaded with good context which should have the following attributes; good navigation links and access, catalogue access, speed response, mission statements, overall library information, collection of services and resources, electronic resources, contact information and other interactive services such as Rich Site Summary (RSS) feeds, blogs, e-mails, instant messaging, charts within the library, with Facebook and tweeter among others. Chen (2011) additionally suggested that there is need for universities web portals to be interactive so that it would be user friendly and provide users with better and easier access to quick information. Since the information is available on the web portal, users can frequently make use of the resources.

Operating an e-library system is a great task which requires a lot of communication between the users and librarian. E-library services require a lot of skills because users' need attention to solve one problem or the other. The e-library system cannot function effectively without skilled personnel and feedback mechanism, the feedback helps to give update report on the current status of a task, which gives the individuals' motivation to go on performing that job. Ross and Sennyey (2008) lamented on the need to train library staff, in other words, library staff should be given opportunities to understand the technology behind digital technology. It is a great tool that will assist librarians to understand web application because the e-library cannot stand on its own, but with the help of web services, applications, Active Servers Page (ASP), Cloud 9 Integrated Development Environment (IDE), Firepad, and Shakey application. A librarian that has the knowledge of some of these applications can technically assist students and other users in solving problems associated with e-libraries, such as when there is a breakdown of the sever or network. Instead of waiting for trained IT personnel, they can quickly attend to the issues, and this keeps the system efficient, but if it fails completely then ICT experts can attend to the problem.

The aim of e-library system is to bring the use of library to our door step so that users can easily access information which could be in form of text, audio, video tutorials, images, learning object, and database. Therefore, it takes one that is skilled to be able to manipulate some of the activities that are encountered in the use of e-libraries, which includes;

- Organizing and management of ict/digital collection;
- To plan technical architecture ict/digital library usage;
- To implement and support the innovative equipment that will enhance productivity;
- Ensuring better security to information;
- Securing network environment to be sensitive to the happenings around and
- Understanding the policy in the use of e-library.

Conversely, e-libraries can stand as an institutional repository where digital works can be kept for reference purpose. These works include electronic dissertations, presentations, and theses, data sets, and technical reports (Belley, 2006). It does not have open assess since users must be given right to access, because it is regulated by some copyrights law. According to Suber (2005) copyright law should be attached to online materials to enable users understand the risks involved.

Baro and Eze (2013) opined that most e-libraries are short of IT experts. Several studies have proved that most e-library centres are ran with little or no IT personnel (Baro, 2010, Baro, 2011; Oketunji, 2001 & Abdulsalami, 2012). Ogedebe (2012) in his study observed that 65% of respondents that are skilled with the use of e-library had a better performance in their academics in terms of classwork and grade marks. Successively, Gudimani and Mulimani (2008) revealed that 46.46% of respondents use e-library for online database while 37% use it for electronic journals, 26% use it for Online Public Access Catalogue (OPAC), 13.33% use it to publish and 8.88% use it as a forum for discussion.

Most users are still not used to the technology rather they prefer to manually search for information from the publishers catalogue box, books-in-print, bibliographies, book reviews, list of serial holdings of libraries or access on list and many more. These processes are useful but should be taught at the backend. Majority of these practices have been transformed into digital formats like Online Public Access Catalogue (OPAC) and Machine Readable Catalogue (MARC). This method helps to simplify the cataloguing system, ensuring that users perform their search by descriptive or subjective cataloguing. Descriptive cataloguing is concerned with explaining or describing documents which have the attributes; authors, entries and access points, while the subjective content of a document can be retrieved by using chart list of subject headings or library of congress subject heading list. This process can be achieved by using the search dialog box.

One basic purpose of e-libraries is the ability for users to access information online and anywhere in the world; these information could be in digital form, which is achieved with the help of a network of database and these information are visible under the following concepts which includes interactive, multimedia form which are scalable in terms of digitalization. The e-library functions with a high level of retrieval processes, so that data can be merged easily and used for other processes. These processes are achieved with the help of network infrastructure because of its connective ability to several databases that are linked together, so that users can assess it from anywhere regardless of the distance. Thus, huge data is involved which has interactive attributes like display of text on screen, multiple books and output as voice data; e-library functions in a multimedia form such as motion video, graphics, sound, diagram and text achieved with the help of hardware, software and good data resources and storage.

Anyanwu (2016) emphasised that for e-libraries to be functional, the storage facilities should be large because it is the heart of the library system basically involved in retrieving and dissemination of information, serving as one of the basic uses of e-libraries. Ifidon and Ifidon (2008) stressed that the e-library is functional if and only if information can be retrieved and shared to improve users. The retrieval process can be in the form of bibliographic data retrieval, hypertext,

keywords retrieval, and using a hierarchical process. Bibliographic data retrieval has to do with the retrieval of information using catalogue system and online data retrieval system. It can be achieved using bibliographic data to find a book online with the following elements; name, publishing year, number of pages and sometimes journal name. All these are displayed on the cover image of the document electronically. Another retrieval function is the use of hypertext to link one library to another or groups of other data, which can be located within the document or anywhere electronically. Hypertext has the following functions:

- It helps to check the meaning of word or terms found in a book.
- It helps to jump from quoted verse to a book or paper.
- Move from bibliographical data to the main contents of the text of a book.
- It facilitates the stepping from one library to another.
- Stepping from one concept of a book to another.

All these are achieved with the help of keyword retrieval. The keyword assists users to retrieve papers and books by keying the keywords and then, displaces all words that relate to the word. These words are displaced in hierarchical structure. In general, e-library functions support simultaneous reference to multiple books, dictionaries, notes and tags, transactions and speech out.

The uses of e-libraries produce significant difference in students (Keeling, Wall, Underhile, and Dungy, 2008). Rodege cited in Basher and Razzag (2012) asserted that e-library assists users to achieve their goals and it plays an important role in students' academic achievement and curriculum utilization. Gardner and Eng (2005) noted the high quest of students to gain access to e-library in university of Southern California; the school administrator granted their plea, and after a period of time it was revealed that 99.4% of students, had access to e-library, 85% of students reported that the e-library has helped them to do their academic work better, 89% reported it helped them get better results or grades on assignments and projects; more than 75% reported that it had helped them to get better grades on classwork and class tests. Also, it improved their level of thinking that is, thinking critically and making them confident in doing their school assignments. E-library benefits are unlimited as it has increased students' efficiency, accessibility of materials and quality of learning; achieved by making good use of the e-resources and collaboration among students and users. According to Kemba as cited in Basher and Razzag (2012) the e-library has increased remote exchange and collaboration, which has an enormous role in education.

1.2. Statement of the Problem

Electronic libraries contain digital resources which are stored in computers in digitized format; these computers also help to process and transfer information through digital (binary) devices and links. It is no gain saying that the rigorous search for information in print research reports, textbooks and journals available in school libraries are not sufficient to meet students' quest for knowledge. Consequently, e-libraries are needed by lecturers and students in universities to enhance academic research. It is believed that an adequately staffed and resourced library could lead to higher students' achievement regardless of the social, economic or educational levels of the parents. However, it appears that the effort of government to establish e-libraries in universities has not culminated into a significant increase in students' academic performance, to enable them adequately access and occupy various professional fields of job opportunities as well as excel in academic research. Thus, a good library system with e-resources will help to improve academic performance of students. Therefore, the propelling question of this study is; what is the level of availability of electronic libraries in universities in Rivers State?

1.3. Aim and Objectives of the Study

The aim of this study is to examine the level of availability of electronic libraries in universities in Rivers State. In specific terms, the objectives of the study are to;

- Verify the level of distribution of e-libraries within departments and faculties in universities in Rivers State;
- Investigate the level of availability of skilled ICT personnel in e-libraries in universities in Rivers State;
- Determine the extent of functionality of e-libraries in universities in Rivers State;

1.4. Research Questions

In addressing the problem of this study, the following research questions guided the study:

- What is the level of distribution of e-libraries within departments and faculties in universities in Rivers State?
- What is the level of availability of skilled ICT personnel in the use of e-libraries in universities in Rivers State?
- What is the extent of functionality of e-libraries in universities in Rivers State?

1.5. Hypotheses

The following null hypotheses were formulated to guide this study at 0.05 level of significance:

- There is no significant difference between the mean ratings of male and female students on the level of distribution of e-libraries within departments and faculties in universities in Rivers State;
- There is no significant difference between the mean ratings of male and female students on the level of availability of skilled ICT personnel in the use of e-libraries in universities in Rivers State;
- There is no significant difference between the mean ratings of male and female students on the extent of functionality of e-libraries in universities in Rivers State;

2. Methodology

The study adopted a descriptive survey design. Population of the study was 6,419 registered students of the e-libraries in the three public universities in Rivers State. A purposive sampling technique was used to select 400 male and 350 female students as respondents. Instrument used for data collection was an 18 item questionnaire tagged – Availability of Electronic Library in Universities Questionnaire (AELUQ). It was patterned after the Likert (Modified) response scale with four options (Strongly Agree, Agree, Disagree, Strongly Disagree and Very High Extent, High Extent, Low Extent, Very Low Extent). The instrument was tested for reliability using Cronbach Alpha to establish an index of 0.89. Mean set was used to answer the research questions using a criterion mean of 2.50, and z-test was used in testing the Hypotheses. Mean values of 2.50 and above were considered high while mean values less than 2.50 was considered low, the analysis was carried out using Statistical Package for Social Sciences (SPSS) software.

3. Results and Discussion

- Research Question 1: What is the level of distribution of e-libraries within departments and faculties in universities in Rivers State?

	Level of distribution of e-libraries within departments and faculties in universities in Rivers State	Female Students			Male Students		
		$\bar{X}$	SD	Decision	$\bar{X}$	SD	Decision
1	E-libraries are centrally located	3.37	1.60	High Level	2.72	1.30	High Level
2	The e-library can be accessed at departmental and faculty levels	2.00	0.95	Low Level	1.88	0.90	Low Level
3	E-libraries are evenly distributed in the university	1.90	0.90	Low Level	2.24	1.07	Low Level
4	The internet has made the use of library system to be distributive	3.12	1.49	High Level	2.84	1.35	High Level
5	Students can gain access to the e-library without difficulty	3.59	1.71	High Level	2.56	1.22	High Level
	Aggregate Mean	2.46		Low Level	2.45		Low Level

Table 1: Analysis of Mean Score Ratings of Respondents' Opinions on the Level of Distribution of E-Libraries within Departments and Faculties in Universities in Rivers State

From the data in table 01 items 1, 4 and 5 portray high mean scores. So it is clear that e-libraries are centrally located ($\bar{x} = 3.37$ and 2.72); internet has made the use of library systems to be distributive ($\bar{x} = 3.12$ and 2.84) and students can gain access to the e-library without difficulty ($\bar{x} = 3.59$ and 2.56). However, male and female students responses on items 2 and 3 are in disagreement that the e-library can be accessed at departmental and faculty levels ($\bar{x} = 2.00$ and 1.88) and e-libraries are evenly distributed in the universities ($\bar{x} = 2.24$ and 1.90). The aggregate mean scores of 2.45 and 2.46 depicts that the level of distributions of e-libraries in departments and faculties in universities are low.

- Research Question 2: What is the level of availability of skilled ICT personnel in the use of e-libraries in universities in Rivers State?

	Availability of Skilled ICT Personnel in E-Libraries In Universities in Rivers State	Female Students			Male Students		
		$\bar{X}$	SD	Decision	$\bar{X}$	SD	Decision
6	Librarians are willing to assist student at all time they are called upon.	3.25	1.55	High Level	2.68	1.33	High Level
7	Librarians understand web application	3.31	1.58	High Level	2.96	0.86	High Level
8	Librarians are trained for e-library services	3.41	1.62	High Level	3.00	1.31	High Level
9	There are trained ICT personnel	3.24	1.54	High Level	2.64	1.31	High Level
10	ICT personnel teaches student how to make good use of information from the digital world	3.32	1.58	High Level	2.56	1.18	High Level
	Aggregate Mean	3.31		High Level	2.77		High Level

Table 2: Analysis of Mean Score Ratings of Respondents' Opinions on the Level of Availability of Skilled ICT Personnel in the Use of E-Libraries in Universities in Rivers State

Table 02 shows that the decisions were agreeably high for items 6, 7, 8, 9 and 10, indicating the availability of skilled ICT personnel in the use of e-libraries. Thus, librarians are willing to assist students at all times that they are called upon ($\bar{x}$ = 3.25 and 2.68); librarians understand web application ($\bar{x}$ = 3.31 and 2.96); librarians are trained for e-library services ($\bar{x}$ = 3.41 and 3.00); there are trained ICT personnel ($\bar{x}$ = 3.24 and 2.64) and ICT personnel teaches students how to make good use of information from the digital world ($\bar{x}$ = 3.32 and 2.56). The aggregate mean portray high mean scores ($\bar{x}$ = 3.31 and 2.77) which indicate that there are skilled ICT personnel in universities that facilitate the use of e-libraries.

- Research Question 3: What is the extent of functionality of e-libraries in universities in Rivers State?

	Functionality of E-Libraries in Universities in Rivers State	Female Students			Male Students		
		$\bar{X}$	SD	Decision	$\bar{X}$	SD	Decision
11	Boosts better information sharing	3.06	1.46	High Extent	3.12	1.49	High Extent
12	It uses a combination of images, sound, text and graphics to enhance knowledge	2.97	1.41	High Extent	3.08	1.47	High Extent
18	Through the e-library, users can access information online from anywhere in the world	3.09	1.47	High Extent	3.00	1.43	High Extent
14	There are multiple access to information on the screen	3.22	1.53	High Extent	2.76	1.31	High Extent
15	The e-library is efficient in retrieving and sharing information	3.09	1.47	High Extent	2.92	1.39	High Extent
16	The e-library makes students confident in doing their assignments.	2.97	1.41	High Extent	3.20	1.52	High Extent
17	E-library has improved quality of learning	3.00	1.43	High Extent	3.28	1.56	High Extent
18	E-library improves collaboration among students	2.72	1.30	High Extent	2.98	1.42	High Extent
	Aggregate Mean	4.02		High Extent	4.06		High Extent

Table 3: Analysis of Mean Score Ratings of Respondents' Opinions on the Extent of Functionality of E-Libraries In Universities In Rivers State

From the data in table 03, the respondents unanimously agreed to all items in 11, 12, 13, 14, 15, 16, 17 and 18 with the mean scores greater than the criterion mean scores of 2.5. The results show that e-libraries boosts better information sharing ($\bar{x}$ = 3.06 and 3.12); it uses a combination of images, sound, text and graphics to enhance knowledge ($\bar{x}$ = 2.97 and 3.08); users can access information online from anywhere in the world ($\bar{x}$ = 3.09 and 3.00) and there are multiple access to information on the screen ($\bar{x}$ = 3.22 and 2.76). Data reveal that the e-library is efficient in retrieving and sharing information ($\bar{x}$ = 3.09 and 2.92); the e-library helps students to be confident in doing their assignments ($\bar{x}$ = 2.97 and 3.20); it has improved quality of learning ($\bar{x}$ = 3.00 and 3.28) and e-library improves collaboration among students ($\bar{x}$ = 2.73 and 2.98). In addition, the aggregate mean shows high mean scores of ($\bar{x}$ = 4.02 and 4.06) which implies that e-libraries are functional in public universities in Rivers state.

- Hypothesis 1: There is no significant difference between the mean ratings of male and female students' opinion on the level of distribution of e-libraries within departments and faculties in universities in Rivers State.

Variables	N	$\bar{X}$	SD	Df	Cal-Z-Value	Critical Z-value	Decision
Female Students	350	16.9057	4.28561	2	.3340	±1.96	H01 Accepted
Male Students	400	12.3550	4.79285	748			

Table 4: Z-Test Analysis of the Difference between the Mean Score Ratings of Male and Female Students Opinion on the Level of Distribution of E-Libraries within Departments and Faculties in Universities in Rivers State

In table 4 the result of the z-test shows that the calculated z-value of .3340 is less than the critical value of ±1.96 at the degree of freedom 748 with 0.05 significant level of confidence. The null hypothesis is thus accepted. Therefore, there is no significant difference between the mean ratings of male and female students' opinion on the level of distribution of e-libraries within departments and faculties in universities in Rivers State.

- Hypothesis 2: There is no significant difference between the mean ratings of male and female students' opinion on the level of availability of skilled ICT personnel in the use of e-libraries in universities in Rivers State.

Variables	N	$\bar{X}$	SD	Df	Cal-Z-Value	Critical Z-value	Decision
Female Students	350	16.7714	4.36898	2	.36000	±1.96	H02 Accepted
Male Students	400	13.8800	5.35325	748			

Table 5: Z-Test Analysis of the Difference between the Mean Score Ratings of Male and Female Students Opinion on the Level of Availability of Skilled ICT Personnel in the Use of E-Libraries in Universities in Rivers State

From data in table 5 the result of the z-test shows that the calculated z-value of .3600 is less than the critical value ± 1.96 at the degree of freedom 748 with 0.05 significant level of confidence. The null hypothesis is therefore accepted. Consequently, there is no significant difference between the mean ratings of male and female students' opinion on the level of availability of skilled ICT personnel in the use of e-libraries in universities in Rivers State.

- Hypothesis 3: There is no significant difference between the mean ratings of male and female students opinion on the extent of functionality of e-libraries in universities in Rivers State.

Variables	N	$\bar{X}$	SD	Df	Cal-Z-Value	Critical Z-value	Decision
Female Students	350	26.2914	7.67877	2	.5917	±1.96	H03 Accepted
Male Students	400	24.7425	8.42339	748			

Table 6: Z-Test Analysis of the Difference between the Mean Score Ratings of Male and Female Students Opinion on the Extent of Functionality of E-Libraries In Universities in Rivers State

In table 06 the result of the z-test shows that the calculated z-value of .5917 is less than the critical value of ± 1.96 at the degree of freedom 748 with 0.05 significant level of confidence. The null hypothesis is therefore accepted. Consequently, there is no significant difference between the mean ratings of male and female students' opinion on the extent of functionality of e-libraries in universities in Rivers State.

4. Discussion of Findings

Finding from the study in table 01 shows that e-libraries are centrally located, internet has made the use of the e-library system to be distributive, and students can gain access to the e-library without difficulty. Even distribution of e-libraries in the universities can increase students' access to information. It will also ensure that scholars have quick and equal opportunity to information. Respondents had negative views on the items which state that e-libraries can be assessed in department and faculty levels and that e-libraries are evenly distributed in the university. Amusan and Umma (2009) in agreement with the present study discovered that the university library has provisions for students to use e-library resources and there is a computer section with internet connectivity for accessing the resources. Iwighrehweta and Igere (2014) findings does not agree that e-libraries are evenly distributed in the university, as they found out that the students frequently accessed the internet from Cyber Cafés. Also, contrary to the findings of Negahban and Talawar (2009) all the social science faculty members in the participating universities have been provided with computers and net facilities. However, Hypothesis 1 in table 04 was accepted which means that there is no significant difference between the mean ratings of male and female students opinion on the level of distribution of e-libraries within departments and faculties in universities in Rivers State.

From table 02, the findings revealed that librarians are willing to assist students at all times when they are called upon, librarians understand web application and are trained for e-library services. Also, there are trained ICT personnel to give students adequate support in the use of e-libraries. Respondents also agree that ICT personnel teach students how to make good use of information from the digital world. The findings are confirmed by Mulla (2011) that students make good use of the internet and take guidance from the library staff regarding the use of electronic resources. Librarian undergoes training which is in agreement with the findings of Baro and Eze (2013) that librarians who participated in the workshop were exposed to new skills in the use of database searching, using different search engines.

On the contrary Ganiyu, Airen and Oluwafemi (2014) found out that students experience lack of assistance from librarian staff, also they lack ICT skills which stand as barrier to the use of the e-library. This was supported by Tiemo (2016) that librarians in the federal and state universities may not be well exposed to free based database that can be used to develop their e-resources for teaching, learning and research work. Finally, Urhiewhu, Joseph and Aji (2015) in their findings expressed that the library has more paraprofessional and supporting staff than professional librarians who are supposed to carry out professional duties in the library for the members of the community. The test of hypotheses in table 05 showed that there is no significant difference between the mean ratings of male and female students' opinion on the level of availability of skilled ICT personnel in the use of e-libraries in universities in Rivers State.

From the analysis in table 03, it is obvious that respondents generally agree to items on the extent of functionality of e-libraries in universities such as boosting better information sharing, combining images, sound, text and graphics to enhance knowledge through the e-library, ensuring that users can access information online from anywhere in the world, as well as retrieve and share information efficiently. The respondents also come to an understanding that e-library makes

students confident in doing their assignments; e-library has improved quality of learning and improves collaboration among students.

Agboola and Bamigboye (2011) support the findings that quality of services provided by the librarians is encouraging because there are more collaboration with students and librarians; therefore users are satisfied with the level of resources provided because it assists them to achieve their task. This is in line with the findings of Toyo (2017) and Basheer and Razzaq (2012) that the use of e-library support students to complete their academic work within a limited time with limited resources. This is further supported by Uwaifo and Eiriemiokhale (2013) that electronic information resources are predominantly used for research, and in preparing lectures/teaching notes. But Ganiyu, Airen and Oluwafemi (2014) had a different view that students are faced with some problems of inability to access the available electronic database, mal-function of computers and poor access to e-resources. Hypothesis 3 in table 06 was accepted which means that there is no significant difference between the mean ratings of male and female students' opinion on the extent of functionality of e-libraries in universities in Rivers State.

Figure 1: University E-Library Ranking of Three Public Universities in Rivers State
Source: The Researcher's Field Study, 2019

The graph on figure 2 was obtained from the researchers observations. It explains that in terms of sitting capacity, University of Port-Harcourt takes lead, followed by Rivers State University, then Ignatius Ajuru university of Education coming behind. In terms of Wireless Areas Network (WAN) Rivers State University takes the lead, seconded by university of Port-Harcourt and Ignatius Ajuru university of Education ranking the least. Generically University of Port-Harcourt ranks highest followed by Rivers State University and Ignatius Ajuru University of Education.

5. Conclusion

At present, digitalization is gradually taking over the traditional library system because with an electronic library, a person is able to capture, distribute, retrieve and disseminate information, thus user friendly. Electronic library has become an integral part of the university system, playing important roles which cannot be overemphasised in teaching, learning and research. E-libraries have helped to ease up students efforts in their quest to source for materials to attend to their academic needs. For the e-library to be functional, information should be up to date with a good database, so that information can be easily accessed within the shortest possible time. In like manner, for students to achieve high academic performance there is need to have functional e-library systems equipped with modern facilities to enable students and researchers achieve their goals. The benefits of the e-library in tertiary institutions are enormous; however, there is need to ensure its sustainability and upgrade from time to time to meet users' needs. Based on findings that the level of distribution of e-library within the departments and faculties is not encouraging, there is need for universities to have functional e-libraries in departments and faculties, so that students can be encouraged to use the e-library facilities more often. However, the study needs to be extended to more tertiary institutions such as the private and public polytechnics, health institutions and private universities in Rivers state.

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