

Challenges of Virtual Library Services in Academic Libraries of Federal Universities in South-Eastern Nigeria

Nwosu Judith Chioma^{1*}, Doris Chinyere Obiano, Ph.D., CLN²

¹University Library - ICT Unit, Federal University of Technology, Owerri, Nigeria

²University Library - Rare Collections Unit, Federal University of Technology Owerri, Nigeria

***Corresponding Author:** Nwosu Judith Chioma, University Library - ICT Unit, Federal University of Technology, Owerri, Nigeria

ABSTRACT

Operating a virtual library is not as easy as running the physical library due to the resources involved and the implications. This article evaluates the challenges that academic libraries of federal universities in South-Eastern Nigeria face in rendering virtual library services, and plausible solutions that can be used to solve these challenges.

Three research questions guided the study. Survey research design was adopted for the study. The population of one hundred and twenty (120) librarians from four federal universities in South-eastern Nigeria formed the respondents of the study. A structured online questionnaire containing a total of thirteen weighted questions was developed for the purpose of this study and distributed to academic librarians.

The findings from the study show that academic libraries of federal universities in South-Eastern Nigeria face a lot of challenges in rendering virtual library services, some of which are as a result of lack of the necessary skills on the part of academic librarians and some national-condition induced challenges and more.

Based on the findings, the researchers recommended that academic libraries of federal universities in South-Eastern Nigeria should ensure that students, researchers and lecturers use the virtual library in order to foster the relevance of the library's online outlook. The federal government, Universities and their Library Management should organize consistent trainings on ICT related courses for academic librarians, to enhance them with the needed skills to operate a virtual library amongst others.

Keywords: Virtual libraries, Library services, Academic Libraries, Academic Librarians, Challenges of virtual libraries.

INTRODUCTION

Knowledge is the key to human and societal development. Knowledge and information work hand-in-glove, with the right information at one's fingertips, a lot of innovative changes is bound to happen. The knowledge of Information Communication Technology (ICT) brought about a significant upgrade in the world, a lot of things changed and the traditional method stepped back for the world of technology. ICT became a trend and institutions and organizations from across the world began to appropriate its technologies in the activities and services they render, education sector inclusive, hence, teaching, learning and research were taken to another level. Gradually, the traditional way of education began to give way for a digital way. The library being an important sector of an institution of learning wasn't left out and as a medium to upgrade and advance its services in order to keep up with the

moving technological train, the library therefore began to gradually imbibe ICT services. This brought about the introduction of a 'Virtual Library'.

Virtual library is simply the online base of the physical library. It was set up with the intention of ensuring an online access to users from wherever they are and to lessen the traditional workload of librarians in the physical library. It is in other words a digital service environment which: integrates (and interfaces with) information repositories that are characterized by open-access shelving, high-density book stores, and availability via interlibrary loan, and include data services and digital archival repositories (Greenstein, 2000). With the appropriation and use of the virtual library, a library's services become more globalised than it is physically. This makes the resources of the library become available and accessible to users who do not

have to leave their comfort zones in order to use the library. It has been noted by researchers that the penetration of ICT into the library world has created a major shift from traditional set up of Library which focuses on the physical collection of information resources, to a stage where information is predominantly stored in digital formats, and the ways users access information and how libraries provide and manage resources and services, (Dang, 2018).

Virtual library or digital library is very paramount in academic environments such as universities. In this 21st century, virtual library services have advanced and grown beyond just an online access or pointer, a lot of other services such as interactive mediums between librarians and users, open access to the library resources and documents, and more have been incorporated and appropriated to enhance teaching, learning and research purposes in universities. Virtual/digital libraries in universities play a prominent role in facilitating access to required information by the users in an easy and quick manner. Digital Libraries have numerous potentials to significantly enhance a lot of benefits as means of increasing access to knowledge and gaining of needed information to improving the quality of education, (Adeniran & Unuigboje, 2018 and Igboechesi & Dang, 2019). Virtual library is a very vital section of any library, because it serves as an online outlook of the library. This is why it is not a deviation of any sort to address some of the challenges that comes with running the virtual library, as well as proffering reliable solutions to some of these challenges.

PROBLEM STATEMENT

Academic libraries in Nigeria and Africa at large experience a lot of challenges associated with running virtual library services because Africa is not in an enviable position when it comes to knowledge acquisition. It has struggled with the traditional (colonial) ways of knowledge acquisition for a very long time to the extent that new methods seem utopian to most, (Igboechesi & Dang, 2019). Baro et al, (2012) opined that it is important to emphasise that the e-library environment presents a challenge to librarians to see the need for training and skills upgrading. Still these challenges seem to be a part of the national problems the Nigerian education sector suffers and is unfortunately difficult to completely erase as most of them are still evident in many academic libraries in the

country, because most academic libraries are just beginning to create platforms for virtual library services, some others who already run virtual library services are experiencing a lot of shortfalls and lapses, only a few are efficiently operating a virtual library with limited challenges.

Therefore, it wouldn't be out of place to say that Nigerian universities are challenged by the patterns in the global digital society which are related with the utilization of ICTs, (Emakpor et al, 2020). There is also the problem of inadequate or lack of needed resources, network and internet problems, lack of needed digital and technological skills by librarians, inadequate funding, lack of or inadequate supply of electricity and so many others. This paper is aimed at exploring the challenges of virtual library services in academic libraries of federal universities in South Eastern Nigeria and recommending some solutions.

OBJECTIVES OF THE STUDY

The objectives of this study are as follows:

- To understand the importance of virtual library services in academic libraries of federal universities in South-Eastern Nigeria.
- To identify the challenges faced by academic libraries and academic librarians in rendering virtual library services in academic libraries of federal university in South-Eastern Nigeria.
- To identify realistic solutions to these challenges faced by academic libraries in federal universities in South-Eastern Nigeria.

RESEARCH QUESTIONS

This study focuses on the following research questions:

- How important are virtual library services in academic libraries of federal universities in South-Eastern Nigeria?
- What are the challenges faced by academic libraries of federal universities in South-Eastern Nigeria in rendering virtual library services?
- What realistic solutions are best suitable for these challenges faced by academic libraries of federal universities in South-Eastern Nigeria in rendering virtual library services?

LITERATURE REVIEW

The review of literature on key words that form the basis for this research and a few other important issues are as follows:

The Concept of Virtual Library Services

The library is an organized place where books, documents, journals, newspapers, historical documentaries, information resources & materials and others are kept for reading, reference, research and preserving purposes. It is the warehouse of all kinds of information and it makes this information available to the library users and the community at large. Without the library, an institution of learning is incomplete and lacking in knowledge and information. It is not out of place to define a library as a place where books and other information resources are kept. The place could be a room, hall; the entire building, (Edom, 2012).

Virtual library simply means an electronic library. It's a library that operates online and renders services to users without physical contact. Virtual library can then be taken to be a computerized library system which provides multiple accesses to the entire collections of a library by means of electronic media, (Fabunmi, 2009). The virtual library is paramount in universities in Nigeria because it bridges the gap between academic library users and library services, especially in situations where users are far away from the physical library.

In essence, the concept of Virtual Library is that a user who has a computer and connection to the Library networks can access not only the resources of that library but also variety of information available through National and International Networks like Internet and Intranet without being physically present in library, (Adeniran & Unuigboje, 2018).

The virtual library or digital library renders virtual library services to the online users of a library. This provides an opportunity for the resources of a library to be accessed by users from anywhere in the world. In other words, the library is able to render the same services they render in the physical library to users through a digital hitch-free method. Dhamdhare (2012) posited that, Digital Library is a collection of information which is both digitized and organized and can be searched for keywords, accessed anywhere in the world, copied without error, is service-orientated meeting the time and location needs of users and takes up very little physical space (hardware only).

Virtual library services make the work of academic librarians easy and ensure a frequent access to library services by its users. In this era of technological progression, an academic library

that doesn't have online or digital platforms where virtual library services are rendered could be said to lag behind or be in the dark. This is because virtual libraries or digital libraries do not only serve as links to other universities, libraries and librarians, but as well are minimizing the storage space and also decreasing maintenance and resource distribution cost and manpower, (Dhamdhare, 2012).

More so, the strength of any digital library depends on its digital collections, the ease to accessing them, the relationship of the librarians to develop and maintain the users who learn, use, and evaluate their resources. This underlines the glaring fact that Digital Library Services is a very essential component of a quality knowledge system, (Igboechesi & Dang, 2019). The virtual library also ensures self-education and fosters the use of E-learning in teaching and learning process in universities.

Challenges of Virtual Library Services in Federal Universities in South-Eastern Nigeria

Operating a virtual or digital library in a country like Nigeria can be challenging and highly tasking. In other words, there are certain challenges that academic libraries of federal universities in South-Eastern Nigeria face in operating a virtual library in, some of them are;

Lack of Technical Infrastructure

Academic libraries of federal universities in South-Eastern Nigeria lack the full technology needed to run an efficient and functional virtual library services. This is one of the major problems that academic libraries in Nigeria face. Some academic libraries have Information Communication Technology (ICT) centres in their libraries, while some others do not have provisions for such, therefore, there is a challenge of the lack of purpose-built library buildings. Provision was not initially made for buildings with information technological devices. But with the advent of information technology, renovation of existing library buildings will need to be done to accommodate new trends, facilities and services, (Baro et al, 2012). Few federal universities in South-Eastern Nigeria have a functional and effective technical infrastructure needed to run virtual library services in their academic libraries; some others who have ICT centres lack the infrastructures; while some others do not have such provisions at all. This poses a challenge to academic librarians who therefore find it difficult to operate a virtual library.

There are situations whereby academic librarians are not equipped with up-to-date ICT skills that will ensure the effective and efficient rendering of virtual services. A library that wants to run a virtual library should understand that so much money and resources is needed in implementing and effectively running it. Fabunmi (2009) noted that, the implementation of a virtual library implies that libraries will spend more money on computer hardware and software, licensing, training of librarians in new technologies especially in the area of texts selection, scanning, verification and indexing of the materials to be digitized as well as employment of experts with web technologies skills to support and manage them.

Inadequate Supply of Electricity

Nigeria as a country continues to face the problem of inadequate power supply. This has ridiculed some of the activities a country with an effective power supply should appropriately function in. And, the government-run establishments experience the brunt of this deficiency more. Most universities in Nigeria are public universities, which means they are government establishments and also experience this inadequate power supply, most times even more than other sectors. Academic libraries need adequate power supply to run a virtual library, to ensure that users are properly engaged and to guarantee that there are no shortfalls in meeting the learning and research needs of students. The virtual library relies on power and computer networks in order to be available for use, (Fabunmi, 2009). Therefore, the problem of inadequate power supply poses as a major challenge to academic libraries of federal universities in South-Eastern Nigeria.

Network and Internet Challenges

Network and Internet services are one of the major challenges academic libraries face in Nigerian federal universities. This has caused a lot of setback and lapses in the productivity and efficiency of academic librarians. A library with a poor network and internet finds it difficult to operate an online interactive session with users. In fact, without network and internet access, there is no virtual library. This is a major challenge facing academic libraries of federal universities in South-Eastern Nigeria, and it doesn't seem like it is being fully addressed, hence, they keep facing this major problem.

Librarians Lack of Technical Skills

This continues to be a recurring problem for academic librarians in Nigeria. This is because

of the lack of apt technological advancements in not just universities but academic libraries as well. Fabunmi, (2009) stated that, web technology skills are needed to maintain web servers that host locally digitized materials and other digital resources hosted remotely as well as maintaining proxy access to restricted resources. It is very challenging for academic libraries in federal universities in South-Eastern Nigeria to run a virtual library without the necessary and required skills and technical resources at their disposal. Baro et al, (2012) noted that, studies of libraries in general and university libraries in particular have consistently reported inadequate levels of ICT literacy as one of the major problems facing libraries in Nigeria in the 21st century. Technical skills in this time and era are paramount for people, especially librarians who are information professionals. Even though, our immediate society has imbibed the new technologies needed for adequate teaching and learning, its tenets have not been efficiently and pertinently appropriated in libraries and the services they render.

The above challenges are the major challenges academic libraries of federal universities in South-Eastern Nigeria face, there are others.

Importance of a Virtual Library

The importance of virtual library cannot be overemphasised especially in this era of great technological advancement. Its existence has helped in solving a lot of problems encountered as a result of doing things manually or traditionally. With the existence of a virtual library, the following services are enabled in an institution's online library:

Online Public Access Catalogue (OPAC)

This is a database that offers a library automation service which aid users to have access to the library's resources from anywhere in the world, without visiting the physical library. Every library that operates a virtual library has its own designated OPAC which is peculiar to them and relevant for their virtual services. With the existence of an OPAC in an academic library, the heavy-laden duties of academic librarians are lightened, and users are as well satisfied.

Library Website or Webpage

Through a website, the library is able to showcase its services to users who can view and have access to services such as a gateway to resources for learning, teaching and research, interactive tutorials, virtual reference, library blogs and a host of others.

Access to Important Database

A virtual library as well provide access to a wide range of database which an academic library is subscribed to and also a handful of others for learning, teaching, research and reference purposes. For instance, there is Elsevier which offers a host of online journals, E-books and textbooks, indexing and abstracting, a referencing platform in all fields and many more through its solutions which are, Science Direct, Scopus, Mendeley etc. There is Research4life which offers E-books, online journals, conference proceedings and more through their designated sub-domains according to fields of study such as OARE, HINARI, PROQUEST, etc.

Ask-A-Librarian

This is an online based service that enables the users to connect and interact with a librarian on a question and answer basis. This enables the user to have a problem free and stress-free access to the academic library’s resources and services, and as well enhances a better experience and relationship between the user and the library. There are so many other services that a virtual library offers but to mention but a few.

METHODOLOGY

The study surveys the challenges that academic libraries of federal universities in south-eastern Nigeria experience in rendering virtual library services, as well as possible solutions to these challenges.

Data was collected using a four-point structured online questionnaire which is made up of two

sections; Section A and Section B; where Section A has questions bordering on the respondents’ personal information, such as gender, educational qualification/rank and institution. While, Section B has fifteen (13) well thought questions bordering on the three research questions for this study. The online questionnaire was used in order to observe Covid-19 Pandemic rules.

The point of decision is fixed at 2.5 since the questionnaire is four-point scale. Any item that attracted a mean of 2.5 and above was regarded as accepted, while any item that attracted a mean of less than 2.5 was regarded as rejected.

Data collected from the questionnaire was analysed using simple mean frequency distribution.

Formula = mean = $x = \sum f \times / n$

Where X = mean

\sum = summation

X = score of each response

n = total number of responses

Strongly Agree = 4 points

Agree = 3 points

Disagree = 2 points

Strongly disagree = 1 point

Population of Study and Research Design

The population of the study is made up of 120 academic librarians who were selected as respondents for the study using the availability sampling technique. The respondents are from four federal universities in South-Eastern part of Nigeria, which are:

S/No	Institution	No of Respondents
1	Federal University of Technology, Owerri (FUTO)	40
2	University of Nigeria, Nsukka (UNN)	35
3	Nnamdi Azikiwe University, Awka (UNIZIK)	25
4	Michael Okpara University of Agriculture, Umudike	20

Due to the nature of the objectives of this study, a survey research design was adopted.

RESULTS

The results of the findings of this study are presented below:

Personal Information

Gender

Female: 84

Male: 34

Prefer not to say: 2

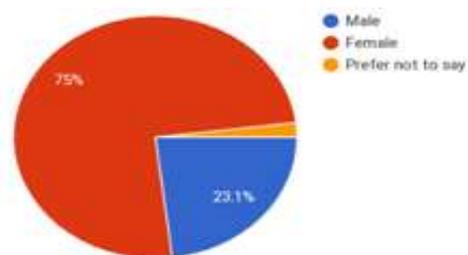


Fig1. Gender of Respondents

Educational Qualification

BLIS/B.Sc.: 12

MLIS/M.Sc.: 76

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PHD: 36

PGDE: 2

Position/Rank

Librarian/HOD: 40

Librarian: 80

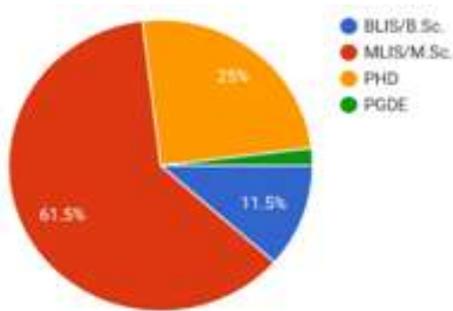


Fig2. Educational qualification of Respondents

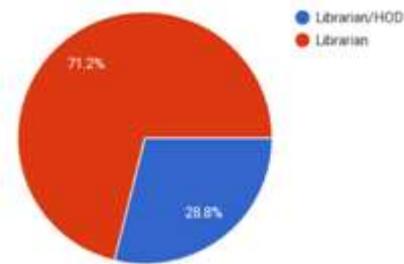


Fig3. Position/Rank of Respondents

Table1. Information on the importance of virtual library services in academic libraries of federal universities in South-Eastern Nigeria.

S/No	Items	SA	A	D	SD	$\sum f \times$	N	X	DECISION
1.	It is crucial for an academic library to offer virtual library services.	88	30	2	0	446	120	3.7	Accepted
2	An institution without a virtual library is somewhat incomplete.	52	60	8	0	404	120	3.4	Accepted
3	Virtual library is the online outlook of every academic library.	62	56	2	0	420	120	3.5	Accepted
4	It is the duty of academic libraries to ensure that all physical services that the library renders are as well digitalized.	48	63	9	0	399	120	3.3	Accepted
5	The virtual library services a library renders are crucial in the growth of its research and learning output.	62	56	2	0	420	120	3.5	Accepted
	Grand mean	312	265	23	0	2089	600	3.5	Accepted

Table 1 shows the information on the importance of virtual library services in federal universities in South-Eastern Nigeria.

The result revealed that virtual library services are very important in academic libraries in Federal Universities in South-Eastern Nigeria. The first,

second, third, fourth and fifth items on table 1 are on the level of satisfaction with the mean of 3.7, 3.4, 3.5, 3.3 and 3.5 respectively showing that academic librarians acknowledge the importance of running virtual library services. A grand mean of 3.4 showed a high response on the items

Table2. Information on the challenges faced by academic libraries in rendering virtual library services in academic libraries of federal universities in South-Eastern Nigeria

S/No	Items	SA	A	D	SD	$\sum f \times$	N	X	DECISION
6	Academic libraries and librarians face a lot of challenges in rendering virtual library services.	66	54	0	0	426	120	3.6	Accepted
7	Some of these challenges are as a result of lack of the necessary skills on the part of academic librarians.	30	81	9	0	381	120	3.2	Accepted
8	Academic librarians in Nigeria as well face national-condition induced challenges in rendering virtual library services.	54	64	2	0	412	120	3.4	Accepted
9	These challenges most times cause a lapse for academic librarians in maintaining a suitably functional virtual library.	50	70	0	0	410	120	3.4	Accepted
	Grand mean	200	269	11	0	1629	480	3.4	Accepted

Table 2 shows the information on the challenges faced by academic libraries of federal universities in South-Eastern Nigeria in rendering virtual library services.

The result revealed that academic libraries of federal universities in South-Eastern Nigeria face certain challenges in rendering virtual library services. The first, second, third and fourth

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items on table 2 are on the level of satisfaction with the mean of 3.6, 3.2, 3.4 and 3.4 respectively showing that academic librarians acknowledge the importance of running virtual

library services, and are as well facing challenges as regards virtual library services. A grand mean of 3.4 showed a high response on the items.

10. Some of the challenges that academic libraries of federal universities in South-Eastern Nigeria face in rendering virtual library services with the responses of respondents are listed below

S/N	CHALLENGES	No of Respondents
A	Epileptic Power Supply	104
B	Lack of Adequate Funding of Academic Libraries	106
C	Lack of Training of Academic Librarians in ICT related skills	92
D	Network and Internet Problem	105
E	Poor Technical Support from the Management	96
F	Lack of Efficient Virtual Resources	96
g	Other	Motivational factor and areas of interest

The above information shows a high agreement response from respondents as regards the challenges that academic libraries of federal universities in South-Eastern Nigeria face in rendering virtual library services as listed by the researchers in the above table, 104 respondents agreed to Epileptic Power Supply, 106 respondents agreed to Lack of Adequate Funding of Academic Libraries, 92 respondents

agreed to Lack of Training of Academic Librarians in ICT related skills, 105 respondents agreed to Network and Internet Problem, 96 respondents agreed to Poor Technical Support from the Management, 96 respondents also agreed to Lack of Efficient Virtual Resources. In addition, seven (7) respondents listed motivational factor and areas of interest as part of the challenges.

Table 3. Information on realistic solutions to these challenges faced by academic libraries of federal universities in South-Eastern Nigeria

S/No	Items	SA	A	D	SD	$\sum f \times$	N	X	DECISION
11	Organizing a consistent training on how to render virtual library services is a reliable solution to some of these challenges.	68	50	2	0	426	120	3.6	Accepted
12	Encouraging students, researchers and lecturers who use the academic libraries to use its virtual library; can as well motivate academic librarians to do more.	64	54	2	0	422	120	3.5	Accepted
	Grand mean	132	104	4	0	848	240	3.5	Accepted

Table 3 shows Information on realistic solutions which are best suitable for the challenges that academic libraries of federal universities in South-Eastern Nigeria face in rendering virtual library services.

The result revealed that academic librarians agree that there are plausible solutions to these

13. Other Solutions are

Other Listed Solutions:	No of Respondents
a. Adequate Power Supply	120
b. Sufficient Funding of Academic Libraries	120
c. Organizing ICT trainings for Academic Librarians	118
d. Providing a working network and internet services	120
e. Providing the necessary Technical support to Academic Libraries	116
f. Providing up-to-date virtual resources for Academic Libraries	102
g. Other	None

The above information shows a high agreement response from respondents as regards the solutions to challenges that academic libraries of

challenges faced by academic libraries of federal universities in South-Eastern Nigeria.

The first and second items on table 3 are on the level satisfaction with the mean of 3.6 and 3.5 respectively. A grand mean of 3.5 shows a high response on the items.

federal universities in South-Eastern Nigeria face in rendering virtual library services as listed by the researchers in the above table, 120

respondents agreed to Adequate Power Supply, 120 respondents agreed to Sufficient Funding of Academic Libraries, 118 respondents agreed to Organizing ICT training for Academic Librarians, 120 respondents agreed to Providing a working Network and Internet services, 116 respondents agreed to Providing the necessary Technical Support to Academic Libraries, also, 102 respondents agreed to Providing up-to-date Virtual Resources for academic libraries.

DISCUSSION OF FINDINGS

The results presented in the previous section are discussed below:

Virtual library services are very important in academic libraries of federal universities in South-Eastern Nigeria, this is because a virtual library is the online outlook of every library and cannot be overemphasised at this period and time of technological evolution; therefore, it is clear that a library without a virtual outlook is somewhat incomplete. More so, It is the duty of academic librarians to ensure that all physical services that the library renders are as well digitalized, because as Ropa and Krishnamurthy (2005) posited, Librarians are uniquely positioned to play a major role in the digital era and they have to undergo changes in the way they operate and provide information services to users. In the same vein, Gbaje (2007) noted that, Nigerian academic librarians, like other librarians in other parts of the world, are now faced with the challenges of acquiring web technology skills to augment what they traditionally learnt, to be able to contribute to the success of the Virtual Library.

Academic libraries of federal universities in South-Eastern Nigeria face a lot of challenges in rendering virtual library services. Some of these challenges are as a result of lack of the necessary skills on the part of academic librarians and as well national-condition induced challenges in rendering virtual library services and these challenges most times cause a lapse for academic librarians in maintaining a suitably functional virtual library. It is important to address this problem in order to have a smooth delivery of library services. This is in accordance with Obaseki et al (2012) who posited that, it is therefore crucial that virtual library development be given urgent attention to enhance virtual library services.

Epileptic Power Supply, Lack of Adequate Funding of Academic Libraries, Lack of Training of Academic Librarians in ICT related skills, Network and Internet Problem, Poor Technical Support

from the Management and Lack of Efficient Virtual Resources are some of the challenges that librarians in South-Eastern Nigeria face in operating and rendering virtual library services. In addition, lack of motivation and areas of interest on the part of librarians is also a challenge.

CONCLUSION

Technological advancement and the introduction of ICT in teaching, learning and research brought about the need for Libraries all over the world to evolve and move from the traditional method of service to a digital method, in order to move in path with the advancing world and times, hence the introduction of digital or virtual space for library services.

But in recent times, virtual library services have advanced and grown beyond just an online access or pointer, it has become more important than the physical library services, due to the advance in technology, industrial revolution and the shift to a more elevated digital teaching, learning and research, thereby posing more challenges those libraries and librarians who are not fully resourceful and skilled enough to join the speeding train of events. Most academic libraries of federal universities in South-Eastern Nigeria and Nigeria at large fall in the above category.

In as much as the challenges that academic libraries of federal universities in South-Eastern Nigeria face are huge and highly tasking, they are not impossible to solve, since they are practical problems. Therefore, they require actionable plans and strategies to solve. It is recommended that, academic librarians, universities management and the Nigerian government see it as a crucial obligation to fight these problems urgently, to achieve the core purpose of an academic library which is to serve the teaching, learning, research and academic purpose of an institution, to ensure the satisfaction of users and help foster the growth of the institution, no matter the situation.

RECOMMENDATIONS

From the findings of the study, it could be recommended that the following actionable measures can be taken to solve these problematic challenges.

- Academic Libraries should ensure that students, researchers and lecturers use its virtual library in order to foster the relevance of a library's online outlook.
- The government, Universities and their Library Management should organize consistent

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trainings on ICT related courses for academic librarians; to enhance them with the needed skill to operate a virtual library.

The government and Institution Management should ensure the following needs are met in academic libraries of federal universities in South-Eastern Nigeria, adequate power supply, sufficient funding of academic libraries, provision of a working network and internet services, provision of the necessary technical support to academic libraries, and as well, provision of up-to-date virtual resources for academic libraries, amongst others.

REFERENCES

- Adeniran, P.O. & Unuigboje, B.O. (2018). The role of virtual library in learning environment. *Information and Knowledge Management* 8 [2] 2224-5758
- Baro, E. E., Eze, M. E. & Nkanu, W. O. (2012). E-library services: Challenges and training needs of librarians in Nigeria. *Emerald Insight*. Available on <https://bit.ly/3uxQTcp> (Accessed on January 8, 2021).
- Dang, T. (2018). Evaluating the use and level of user's satisfaction with the digital Library at Federal University Dustin-ma Katsina, Faculty of Education Journal, Federal University Dustin-ma. Volume 1.
- Dhamdere, S. (2012). Digital library service and practices: an online survey. *IJLS* 6 [2] 0975-7546 Available on <https://bit.ly/3sarLap> (Accessed on January 8, 2021)
- Edom, B. O. (2012). *Principles of the use of the library*, Nigeria: Springfield Publishers Ltd.
- Emakpor, P. C., Yakubu, S. & Moses, T. A (2020), A Review of information and communication technology (ICT) facilities for the implementation of virtual library Management System. *IJSER* 11 [7]2229-5518 Available on <https://bit.ly/3dQPcAp> (Accessed on January 8, 2021).
- Fabunmi, B. A. (2009). Challenges and prospects of virtual libraries in universities in Nigeria. *EJSR* 33 [1] 1450-216X Available on <https://bit.ly/3wHg7qE> (Accessed on January 8, 2021).
- Gbaje, E. S. (2007). Implementing a national library for higher institutions in Nigeria. *LIBRES* 17 [2]1058-6768 Available on <https://bit.ly/3t10yYU> (Accessed on January 20, 2021)
- Greenstein, D. (2000). Digital libraries and their challenges. *Library Trends* 49 [2]. Available on <https://bit.ly/3uEEtjf> (Accessed 8th January, 2021).
- Igboechesi, G. P. & Dang, T. L. (2019). Challenges of digital library in Nigeria: An overview of the University of Jos, Nigeria. *PCSME* 978-81-942413-2-4 Available on <https://bit.ly/3sY22D4> (Accessed on January 8, 2021).
- Obaseki, T. I., Maidaino, A. A. & Makama, F. H. (2012). The development and challenges of virtual library services in Nigeria colleges of education. *TRIM* 8 [1] 09734163 Available on <https://bit.ly/2PFCBYK> (Accessed on January 20, 2021).
- Roopa, E. & Krishnamurthy, M. (2005). Perspective of digital library services: A review. *IJNGLT* 1[1] Available on <https://bit.ly/3e1qfSX> (Accessed on January 20, 2021).

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